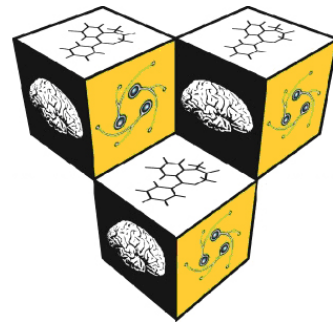


Neuroscience Ph.D. Program

IOWA

**Interdisciplinary Graduate
Program in Neuroscience**



Daniel Tranel, PhD
Program Director

Maggie Grell-Davis, MA
Program Administrator

Michael Dailey, PhD
Associate Program Director

HANDBOOK

(May 9, 2024)

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I. Program Administration

A. Contacts:

Program Website: <https://neuroscience.grad.uiowa.edu/>

Daniel Tranel, PhD, Program Director

Professor of Neurology and Professor of Psychological and Brain Sciences
Associate Dean of Graduate & Postdoctoral Studies, Carver College of Medicine
2155 Roy Carver Pavilion
University of Iowa
Iowa City, IA 52242
E-mail: daniel-tranel@uiowa.edu, Office phone: 319-384-6050

Michael E. Dailey, PhD, Program Associate Director

Associate Professor of Biology
369A Biology Building
University of Iowa
Iowa City, IA 52242
E-mail: michael-e-dailey@uiowa.edu, Office Phone: 319-335-1067, Fax: 319-335-1069

Maggie Grell-Davis, MA, Program Administrator

Neuroscience Interdisciplinary Graduate Program
356 Medical Research Center
University of Iowa
Iowa City, IA 52242
E-mail: maggie-grell@uiowa.edu, Office Phone: 319-384-4470, Fax: 319-335-7656

Britt Hokanson, BLS, Program Associate

Neuroscience Interdisciplinary Graduate Program
357 Medical Research Center
University of Iowa
Iowa City, IA 52242
E-mail: britt-hokanson@uiowa.edu, Office Phone: 319-467-4217, Fax: 319-335-7656

East Side Office

The Program has access to shared office space in the Biology Building. If you work on the East campus, and you need an appointment with Maggie, she will gladly meet you in 314 BB.

Neuroscience Interdisciplinary Graduate Program
314 Biology Building
University of Iowa
Iowa City, IA 52242

B. When are You Required to Contact the Program Office?

Educational Milestones

Students need to contact the Program Office (copy both Maggie and Britt) at each of these milestones:

- Anytime your name, address, home phone number, cell phone number, or office/lab contact information changes
- When you make rotation mentor choices
- When you begin and complete TAs
- When you choose your mentor
- Anytime your funding source changes
- When you choose your committees
- When you have changes in your committee membership
- When you need Britt to schedule committee meetings
- If you prefer to schedule your committee meetings independently, immediately upon scheduling the meetings
- As soon as you know your comps date
- As soon as you know you plan to defend in a particular semester
- As soon as you know your defense date
- Alumni—whenever you have a change of position, institution, name, or other contact information

Noteworthy Accomplishments

For website updates and to assist the Program Administration with other Neuroscience Program public relations, promotional, and training grant goals, please contact the Program Office when:

Students

- You receive fellowships, grants, or other monetary awards
- You publish papers or chapters
- You receive any honors or awards
- You receive any positive media attention
- Anything else you think may be announcement worthy

Faculty

- You receive major accolades of any sort
- You receive any positive media attention
- You receive any award related to your teaching
- You publish something particularly noteworthy
- You receive noteworthy grants or other monetary awards

C. Whom Should You Contact?

Although the Program Administrator and the Program Associate are both happy to assist you or guide you in the right direction, the table below lists the task distribution for some common Program Office requests.

First Contact	Question or Request
Maggie	Registration changes (adds, drops, and change of hours forms)
Britt	Website updates and corrections
Britt	Research rotations and rotation evaluations
Britt	Room reservations
Britt	Travel arrangements and reimbursements
Britt	Meeting arrangements
Britt	Invoice payments (e.g. restaurant or supply bills)
Britt	Reports for Committee meetings
Britt	Reports for Comprehensive Committee meetings
Britt	Poster printing
Maggie	Course evaluations
Maggie	Budget questions
Maggie	Policy questions
Maggie	Stipend questions
Maggie	U-Bill questions
Maggie	Grant and fellowship questions
Maggie	Complaints/concerns/problems
<i>Both</i> Maggie and Britt	At educational milestones listed above

II. Financial Support (stipend, tuition, covered fees)

Graduate students in the Neuroscience Program at the University of Iowa are normally fully supported (stipend, tuition, covered fees) throughout their training in the Program, contingent on satisfactory progress, for a period that normally runs 4 to 6 years (total expected training time). Support commitments are reviewed annually, and are normally renewed each year if the student is making satisfactory progress. Whether the student is making satisfactory progress is determined by the student's mentor, the Student Advisory Committee, and the Program Director.

Graduate student appointments include a stipend, which is subject to change each year commensurate with the recommendation of the Office of the Associate Dean for Graduate and Postdoctoral Studies of the College of Medicine. The stipend is set to be competitive with peer institutions. Stipends for students appointed to federal training grants (T32s, F31s, see below) are typically capped at levels below the University of Iowa biomedical stipend level, and in such cases, the difference is made up by the Program, mentor, or from other funds. For students appointed to the Neuroscience Training Grant (appointments normally run from 9/1 through 8/31), the stipend difference will normally be paid by the Program through July of the relevant year, and the August difference will be the responsibility of the mentor.

Tuition and covered fees include the following: (1) Base tuition and associated mandatory fees (technology fee, student activities fee, student services fee, student union fee, building fee, recreation facility fee, arts & cultural events fee, professional enhancement fee for graduate students, student health service fee); (2) All fees associated with core, required, and directly relevant elective coursework; (3) All fees associated with registration changes, credit hour changes, and other changes that occur in connection with required and directly relevant courses; (4) Summer recreation facility fees (if student is not registered for the summer term and desires access to the recreation facility). The Program will cover the mandatory one-time University Records and Documents Fee (for domestic students) or the International Student Matriculation Fee (international students) at the time of student matriculation. The Program will cover the EPE testing fee for international students. For international students, the Program will cover the International Student Fee in the first year, and the PI will cover this fee in subsequent years.

Fees that are NOT covered by the Program include: (1) Key deposits; (2) Fees associated with extracurricular or other elective courses not relevant to the program of study in Neuroscience; (3) Fines, penalties, parking tickets, and other such violation-associated fees; (4) Mandatory fees associated with submitting a dissertation, including a degree application fee, a publication and binding fee, and a thesis fee; (5) Fees and regalia rental charges associated with participating in commencement.

Stipend, tuition, and covered fees are paid by either University and/or departmental funds, and/or by extramural sources. Graduate students receive support through the following mechanisms:

A. Training Grants

Students in the early years of training may be appointed to federal traineeships, including the Neuroscience Training Grant (T32). Such appointments are based on merit, and thus are considered honorific.

Eligible first-year (and occasionally second-year) students may be appointed to the Neuroscience Training Grant. Second-year (and occasionally third-year) students may be eligible for other T32s (training grants), such as the Interdisciplinary Training Program in Pain Research and the Predoctoral Training in Pharmacological Sciences. Applications to training grants normally require submission of specific materials by certain deadlines, and interested students are encouraged to consult with their mentor, the Neuroscience Program Director, and Program Directors of other potential T32s.

B. Neuroscience Program Graduate Research Assistantships

Students in the first year of training may be appointed to graduate research assistantships and awarded tuition scholarships, from funds allocated to the Neuroscience Program by the Graduate College. On occasion, second-year students may be appointed to such graduate research assistantships.

C. Other Graduate Research Assistantships

Students in the second and subsequent years of training may be appointed to a graduate research assistantship from a research grant, or may receive funding from the department in which their research is being performed, or may be awarded support from funds provided by the Graduate College.

D. Teaching Assistantships

Students in the second and subsequent years of training may be appointed to a graduate teaching assistantship from funds provided by the Graduate College. Such appointments may take place directly through the Neuroscience Program, or indirectly through affiliated Departments and Programs (e.g., Psychology, Biology).

E. Other Means of Support

Students may receive support from other sources, including University of Iowa Graduate Recruitment Fellowships and a variety of nationally competitive NIH, NSF, and other individual awards.

F. Summer Registration

Graduate students in the Program normally do not register for summer term. There are four exceptions to this: (1) Some first-year students who may take courses during their first summer; (2) Students taking the Comprehensive Examination during the summer term; (3) Students who are defending their PhD during the summer term; and (4) Students who have a summer fellowship (e.g., from the Graduate College). Outside of these exceptions, students will not register for the summer. (This policy is broadly in effect for all of the biomedical science advanced degree programs at the University of Iowa.)

G. Tax Information

Students should be aware that IRS regulations may require FICA withholding for summer stipend checks for students not registered for the summer term. This can amount to an income loss of about \$500, depending on the student's particular circumstances. Neuroscience faculty mentors have the prerogative to pay their student an extra \$500 (or whatever the FICA withholding amounts to) for the summer, to offset the withholding. An agreement about this, one way or another, should be reached between the student and faculty mentor at the beginning of the academic year (normally July or August), for the following summer.

For students who are on a federal fellowship (e.g., T32, F30/F31, NSF), it is strongly recommended that the student reviews UI Payroll Services [Fellowship Payment Rules](#), check for a [Fellowship Payment form](#) in Year-End Tax Information in Self-Service, and contact [UI Payroll Services](#) with questions.

III. Academic Standards

To be eligible for continuation of stipend support and tuition scholarships, graduate students must satisfy the following minimum conditions of satisfactory performance.

A. Registration

The student must pursue continuous, full time studies (9-15 semester hours per semester prior to passing the Comprehensive Examination, then post-comp registration after completion of the Comprehensive Examination). The Graduate College has a specific definition of "continuous, full time studies," with which Neuroscience students must be in compliance, and students are encouraged to consult with the Graduate College for further information.

B. Coursework

The student must complete coursework in a timely manner. Core and elective courses for the Neuroscience Program are normally completed by the end of the second year (or by the end of the first year for MSTP students; see section III.J below).

C. English Proficiency

For students whose first language is not English, the Graduate College specifies that a matriculating graduate student who's TOEFL score is below the required level must take the English Proficiency Examination (EPE). The EPE is usually taken prior to the student's initial registration for courses. The student is required to enroll in and complete English as Second Language (ESL) course(s) as prescribed by the results of the EPE. All ESL course(s) should be completed within the first year.

D. Academic Standing

Program Requirements

The student must maintain a cumulative grade point average (GPA) of 3.0 in coursework. No research or independent study taken during a student's graduate training counts in the GPA for this purpose.

Graduate College Policy

The student shall be placed on academic probation by the Graduate College if, after completing 9 hours of graded (A, B, C, D, F) graduate work at The University of Iowa, the student's cumulative grade-point average falls below 3.00. A student will be returned to good standing when his or her cumulative grade-point average becomes equal to or greater than 3.00. If, after completing 9 more semester hours of graded (A, B, C, D, F) graduate work at this University, the student's cumulative grade-point average remains below 3.00, the student shall be dropped from the degree program and denied permission to reregister within any Graduate College doctoral degree program. The student may apply for and be accepted into a nondoctoral degree or certificate program.

E. Laboratory and Seminar

The student must maintain satisfactory laboratory and seminar performances as evidenced by grades of "S" or "P" in NSCI:7305, Neuroscience Research, and NSCI:6265, Neuroscience Seminar.

IV. Curriculum

The Graduate College requires the satisfactory completion of 72 semester hours in order to obtain a Ph.D. These hours are obtained through a combination of Core and Elective courses, and seminar and research hours accumulated throughout graduate training.

A. Required Core Neuroscience Courses

Graduate students are required to complete the Neuroscience Program core courses (listed below) prior to taking the Comprehensive Examination. (On rare occasions, core courses may be completed after the Comprehensive Examination; e.g., if a course is not available in a feasible manner. The student should make such arrangements in consultation with their mentor and the Program Directors.) Graduate students must achieve a grade of “B” or better in core courses in order to satisfy this requirement. If a student receives a grade of less than a “B” in a core course, the course may have to be repeated or a student may have to perform remedial work as specified by the Program Directors and mentor.

Based on courses undertaken prior to entering the Neuroscience Program, some core Neuroscience course requirements may be waived. Students have the prerogative to request such waivers from Program leadership (Directors). The Directors will review such requests, and may ask for documentation such as a syllabus and transcript in order to reach a decision.

<u>Core Courses</u>	
PSY:6370	Principles of Neuropsychology, 3 s.h.
ACB:6252	Functional Neuroanatomy, 4 s.h.
BIOL:5653/5658	Fundamental Neurobiology I, 3 s.h., with Discussion (2 s.h.)
BIOL:5654/5659	Fundamental Neurobiology II, 3 s.h., with Discussion (2 s.h.)
NEUR:7235	Neurobiology of Disease, 3 s.h.

B. Elective Neuroscience Courses

In order to provide training both in an area of specialization and in related areas of neuroscience, students are required to take at least 3 semester hours of Elective Courses.

A representative list of approved electives is provided below. New courses may be added, courses may be discontinued, changed, renamed etc., each year, and thus, this list is approximate and the actual courses offered in any given semester will need to be determined from the listings on MyUI. Selection of Elective Courses should be done in consultation with the student’s Advisor/Mentor and the Program Directors.

Many students with an interest in cellular/molecular/ developmental neuroscience take BMED:5207 Principles of Molecular & Cellular Biology. Many students with an interest in systems/behavioral/cognitive neuroscience take NSCI:5212 Foundations in Behavioral & Cognitive Neuroscience (please note that NSCI:5212 is currently only offered every other spring semester in the even years). These courses are designated with an * in the list below. The elective requirement is normally satisfied prior to taking the Comprehensive Examination.

(Spring/Fall indicate when these courses have been offered in the past. As noted above, students should consult with MyUI to confirm when the course(s) of interest are *in fact* being offered.)

Elective Courses		Fall	Spring
BIOL:3343	Animal Physiology	✍	
BIOL:2254	Endocrinology	✍	
BIOL:3212	Bioinformatics for Beginners	✍	
BIOL:5199	Critical Readings in Biology	✍	✍
BIOL:6188	Seminar: Writing in the Natural Sciences	✍	
BMED:5207	Principles of Molecular & Cellular Biology	✍	
CSD:2110	Phonetics: Theory & Applications	✍	
CSD:2111	Basic Acoustics for Sp & Hrng	✍	
CSD:6230	Psychoacoustics	✍	
CSD:5234	Acquired Cognitive-Communication Disorders	✍	
HHP:6300	Motor Control Seminar	✍	✍
IMMU:6241	Writing a Scientific Proposal	✍	
MATH:5750	Mathematical Biology I	✍	
PCOL:5135	Principles of Pharmacology		✍
PCOL:5137	Neurotransmitters (1 s.h., module 3)		✍
PCOL:6207	Ion Channel Pharmacology (1 s.h., module 2)		✍
PCOL:6225	Growth Factor Receptor Signaling, 1 sh (1 st module)		✍
PSY:1001	Elementary Psychology	✍	✍
PSY:3320	Psychopathology	✍	✍
PSY:5610	Proseminar in Cognition and Perception	✍	
PSY:7210	Advanced Topics in Behavioral & Cognitive Neuroscience: Neuroscience of Learning & Memory	✍	
RHET:7940	Public Speaking for Academics	✍	
GENE:6200	Current Topics in Genetics		✍
NSCI:5212	Foundations in Behavioral & Cognitive Neuroscience (offered even numbered years)		✍
NSCI:5365	Seminar: Neuropsychology and Neuroscience ("Morning Meeting") (same as PSY:5365; NEUR:5365)	✍	✍
STAT:6300	Probability and Stochastic Processes I	✍	
MMED:6220	Mechanism of Cellular Organization, 3 s.h	✍	

MMED:6226	Cell Cycle Control, 1 s.h. (2 nd module)		✍
MMED:6227	Cell Fate Decisions, 1 s.h. (3 rd module)		✍

All students register for NSCI:6265 Neuroscience Seminar and NSCI:7305 Neuroscience Research each semester until they reach the minimum number of semester hours needed to graduate (72 s.h.). Once 72 s.h. is reached, students must register for NSCI:6265 Neuroscience Seminar each semester until they graduate.

C. Quantitative Methods, Statistics, and Programming

Required coursework

The Neuroscience Program requires a one-semester course (≥ 3 s.h.) in quantitative methods/statistics. This course will normally be completed before the Comprehensive Examination. Students with an extensive background in statistics can petition the Program for an exemption to this requirement (see IV.A. above). (As an introductory primer, students may also be interested in: PCOL:5204, "Basic Biostatistics and Experimental Design." This is a 1-2 s.h. module offered in the Fall semester, appropriate for biomedical graduate students.)

To satisfy the statistics requirement, students may take one of the following:

PSY:5050, "Quantitative Methods in Psychology," taught by Professor J. Toby Mordkoff in the Department of Psychology. Professor Mordkoff normally offers this course in the Fall semester. This is a 4 s.h. course.

BIOS:4120, "Introduction to Biostatistics," 3 s.h. This course has traditionally been offered in both Fall and Spring semesters.

Recommended coursework

A second course in quantitative methods/statistics is strongly recommended, depending on students' needs for such coursework given the nature of experimental designs and datasets they are likely to utilize in their research. Potential options for such advanced coursework are listed below. Additional statistics courses can be counted towards elective requirements. Students are encouraged to consult with their Mentor and with the Program Directors to determine whether additional statistics courses might be useful for their program of study.

BIOS:5510	Biostatistical Computing, 2 s.h. each module, R (Aug-Oct), SAS (Oct-Dec)
BIOS:6210	Applied Survival Analysis, 3 s.h., SP
PSQF:6243	Intermediate Statistical Methods, 4 s.h., FA & SP
PSY:5055	Mixed-Effects Modeling in Psychology, 4 s.h., FA

STAT:6560	Applied Time Series Analysis, 3 s.h., SP
STAT:4540	Statistical Learning, 3 s.h., FA

Training in computer programming and data analysis

Students who are interested in expanding their exposure to computer programming outside of the scripts used in their mentors' labs (e.g., MATLAB) are encouraged to take courses in versatile languages such as Python or R. For example, a listing of regularly offered courses using Python appears below:

CS:1110	Introduction to Computer Science, 3 s.h., FA & SP
CS:2110	Programming for Informatics, 4 s.h., FA
CS:5110	Introduction to Informatics, 3 s.h., FA

In addition, UI's Information Technology Services (ITS) occasionally offers workshops that introduce participants to "R," a programming language for statistical computing and graphics (e.g., "Introduction to R," or "Data Visualization Using R"). Future workshops are posted on the ITS Research Services' Events page (<https://hpc.uiowa.edu/events>) as they are scheduled.

UI students also have access to an on-line training environment ("LinkedIn Learning") that provides access to thousands of online courses on programming, coding, statistics, productivity, web design, graphic design, and more. The site has training in the installation and use of tools such as "R" and programming languages such as "Python," as well as courses in statistics, data analysis, data visualization, Excel, SPSS, etc. For available courses, see: <https://its.uiowa.edu/linkedin-learning>.

D. Seminar (NSCI:6265)

The Neuroscience Seminar Series provides a weekly forum for research presentations by faculty and students of the Program, and by invited guest speakers. The Seminar is attended by all students in the Program, by Program faculty, and by faculty and guests from other Departments and Programs on campus.

Graduate student attendance is required. Each semester, students will be allowed up to 2 unexcused absences from Seminar. Students with more than 2 unexcused absences in a semester will receive an Unsatisfactory (U) grade for that semester. Acceptable excuses for missing Seminar include: attending a required class (e.g., Principles of Scholarly Integrity); attending research conferences, out-of-town meetings, or interviews; religious holidays; family emergencies. Examples of absences that will not normally be excused include: testing research participants; running late on research testing with an animal or participant; being tied up with an experiment; illness. Some of these events may not be avoidable, but that is why students are permitted 2 unexcused absences per semester. If students are unsure about whether a particular reason for being

absent will be considered excused or unexcused, they should check well in advance with the Chair of the Seminar Committee (**Dr. Marco Hefti; marco-hefti@uiowa.edu**). In all cases, students should email the Chair of the Seminar Committee well before any expected absences. Student attendance at Seminar is of paramount importance.

Attendance is tracked by a sign-in sheet that students should sign at the beginning of Seminar, as soon as they arrive. Students who do not sign in will be counted as absent and unexcused (unless they had prior permission as above), no matter whether they were physically in attendance or not. Also, punctuality is required. Students who are more than 10 minutes late will receive a warning the first time, and will be counted as absent and unexcused on subsequent occasions.

High-spirited discussions are encouraged. Presentations are monitored to ensure a high level of quality. The format encourages student-faculty interactions. Invited speakers are introduced by a neuroscience graduate student. Invited speakers are scientists with national and international prominence. The Seminar meets throughout the Fall and Spring semesters.

Graduate students in the Program present at Seminar according to the following schedule:

1. First year students give a Rotation Talk, usually at the end of the Spring semester of their first year (ca. April/May). First-year students select one of their three rotation projects and describe the goals and results of the research in a brief (approximately 10 minute) presentation. Typically, four first-year students split a one-hour seminar slot. Each Rotation Talk is followed by a brief question-and-answer follow-up. Rotation Talks should include an "Elevator Talk" portion (see below), adjusted in length to be proportionate to the length of the presentation (e.g., a shorter presentation, on the order of 10 minutes, would have a briefer Elevator Talk than a presentation 2-3 times that long).
2. From the second year on, students give a 25-minute presentation (including time for questions), once per year. Two students split a one-hour seminar slot. Each presentation is followed by a short question-and-answer session.
3. Students in the last semester of the Program are not required to give a Seminar presentation. Of note, all students are required to attend Seminar until they officially graduate (including after they have had their final defense).

Students are required to give a brief "Elevator Talk" at the beginning of their presentations in Seminar. This is a short, several-sentence summary of their research, in lay language suitable for an educated but non-scientific audience. The Elevator Talk is also required for the short Rotation Talks (see #1 above), adjusted to be proportionate in length.

E. Data Blitz

One Seminar slot, late in the academic year (normally during the Spring semester), will be reserved for a Data Blitz. The Data Blitz is one hour of brief, intense data presentations by neuroscience graduate students, using the following procedures:

1. Graduate students who are post-comps are eligible to participate.
2. A maximum of 10 presentations is allowed. Securing a slot in the Data Blitz is on a first-come, first-serve basis, and students self-nominate to participate.
3. Formal and strict presentation rules are followed, including:
 - a. Three slides are required (typically an Introduction/Background slide, Data slide, and Interpretation/Conclusions slide);
 - b. There is 5-minute maximum time per presentation;
 - c. Any questions must be within the 5-minute time window.
4. If there are more than 10 eligible and interested students, a second Seminar slot will be devoted to another Data Blitz.

F. Scholarly Integrity / Responsible Conduct of Research

First year students must complete web based training modules of Collaborative Instruction Training Initiative (CITI). Students must complete with a passing grade of 80% or higher four modules in the fall semester (August) and four modules in the spring semester (January).

Second year students will enroll in a 0 semester hour course, which includes the following elements (both include four 90-minute small group sessions):

1. BMED:7270 Scholarly Integrity/Responsible Conduct of Research 1 (fall)
2. BMED:7271 Scholarly Integrity/Responsible Conduct of Research 2 (spring)

In addition, students continue to participate in education in Scholarly Integrity and Responsible Conduct of Research throughout their graduate training. This is accomplished via special presentations during Seminar, laboratory-specific training and education, and instruction delivered in NSCI:6265, Neuroscience Seminar.

G Laboratory Rotations

In order to gain more widespread experience in neuroscience research and to aid in selecting a laboratory home and thesis project, students perform three laboratory rotations prior to selection of a thesis advisor. The laboratory rotations are normally carried out in research laboratories of Neuroscience

Program faculty. (A rotation can be completed with a faculty person outside the Neuroscience Program, with special permission of the Student Advisory Committee and Program Director.)

The length of a lab rotation is flexible and can vary from 10 to 16 weeks. Two lab rotations may be completed in the same laboratory with the approval of the Program Director and Associate Director. During the first week of each rotation, students discuss the goals and expectations (for example, hours in lab, readings, mastery of techniques, and anticipated progress on a project) with the lab advisor.

Lab rotation performance is evaluated as satisfactory/unsatisfactory (S/U), and written evaluations of student performance are completed by the lab rotation advisors. The students also fill out a written evaluation of the lab rotation. Modification of the lab rotation requirement is at the option of the Program Director and Associate Director.

Dates for lab rotations are approximately as follows (exact dates for a particular academic year are available through the Neuroscience Program Office): 1st Rotation: late August (beginning of Fall semester) through early November; 2nd Rotation: early November through late January; 3rd Rotation: early February through mid May. For each academic year, the official rotation schedule and dates will follow the schedule set by the Research Training Group and Office of Graduate and Postdoctoral Studies, with the understanding that the Neuroscience Program retains the prerogative to maintain flexibility and accommodations in the schedule so that rotations can be completed in the most effective and productive manner possible.

H. Teaching

During the course of their graduate studies, students are expected to gain experience in teaching and to establish their credentials in teaching excellence. Students are required to serve at least one semester as a teaching assistant. This requirement can be met by serving as a teaching assistant in a neuroscience-related course such as Functional Neuroanatomy (small groups and lab), Fundamental Neuroscience, Neurophysiology, Neurobiology of Disease, Principles of Neuropsychology, or a related course. Funded or partially funded teaching assistantships may be available either through the Neuroscience Program or through related Departments and Programs (e.g., Psychological & Brain Sciences, Biology, Anatomy & Cell Biology).

Students normally pursue funded teaching assistantships after they have completed the Comprehensive Examination. Such teaching assistantships must have prior approval from the Program Director and Associate Director.

In addition to serving in a formal teaching assistantship, students gain teaching experience through presentations in Seminar, participation in journal clubs, and participation in lab meetings during their rotations and thesis research.

Additional instruction in teaching, designed specifically for graduate students, is offered through the [Office of Graduate Teaching Excellence](#) (OGTE), which operates under the auspices of the College of Education (COE). In partnership with the COE and the Graduate College, OGTE enables all University of Iowa doctoral students to complement their home discipline's curriculum and research training with the development of effective teaching skills. OGTE provides doctoral students with the knowledge and skills needed for success in the classroom when they accept academic positions upon graduation and/or after completion of post-doctoral training. OGTE's goal is to provide students who intend to enter academia with the tools and preparation to be effective teachers.

The Graduate Certificate in College Teaching is available to all University of Iowa PhD students enrolled under the Graduate College (including all Neuroscience Program students). In order to earn a Graduate Certificate in College Teaching, the coursework requirements from each of the 3 Categories listed below must be completed. A minimum of 12 semester hours is required for the Graduate Certificate in College Teaching. Previous teaching experience will not be permitted to waive any of these requirements. Interested students should consult the Graduate Certificate in College Teaching website at: <https://education.uiowa.edu/services/office-graduate-teaching-excellence-ogte/graduate-certificate-college-teaching> .

Formal approval in writing from the student's mentor and the Neuroscience Program is required for students who wish to pursue the Graduate Certificate in College Teaching (see **Appendix 3**).

Category 1 - Minimum of 6 s.h. required.

Choose TWO:

- Teaching and Learning in Higher Education (3 s.h.) GRAD:7385, EPLS:7385
- Seminar in College Teaching (1-3 s.h.) PSQF:6217
- Teaching in Epidemiology EPID:7200
- Teaching Sociology (3 s.h.) SOC:7010
- Design of Instruction (3 s.h.) PSQF:6205

Category 2 - Minimum of 3 s.h. required.

Must enroll twice, under the supervision of TWO different professors.

NOTE: Teaching Assistantship duties may not be used to satisfy the teaching experience requirement.

- Enroll in EDTL, EPLS, PSQF, RCE, U:7380 Practicum in College Teaching (1-3 s.h.) when supervised by a College of Education faculty member.
- Enroll in GRAD:7400 Practicum in College Teaching, (1-3 s.h.) when supervised by a faculty member in a College other than Education.

Category 3 - Minimum of 3 s.h. required.

•PhD ePortfolio in College Teaching (3 s.h.) EALL:7475 / 07X: 475

For additional information and to enroll in the certificate program, please contact [Dennis R. Maki](#), Director, or [Mitchell Kelly](#), Associate Director.

Teaching completed under the auspices of the Certificate in College Teaching may be used to satisfy the Neuroscience Program's teaching requirement. This will be determined on a case-by-case basis by the Program Director and Associate Director. Students who wish to request that their Certificate teaching experience be counted as their Program-required teaching experience should submit the request in writing to the Program Director and Associate Director.

I. Timetable for Course of Study

In consultation with the Program Director and Student Advisory Committee, each student's program of study is designed individually in relation to prior undergraduate training and graduate research goals. Prior to beginning studies in the Neuroscience Graduate Program, each student meets with the Program Director to prepare a program of study.

Thereafter, the Student Advisory Committee meets with each student on a regular designated schedule, to plan for course registration, assist with the selection of faculty mentors for lab rotations, and assess the student's progress in the program (see Section V.C below). Students normally choose a thesis lab by the end of their first year.

J. Medical Scientist Training Program

Students matriculate into the Neuroscience Program from the MSTP to pursue their PhD training. MSTP students typically complete a somewhat abridged curriculum of pre-comprehensive examination instruction and coursework, due to their having already satisfied a number of core requirements. Specifically:

1. Coursework: MSTP students normally can complete necessary coursework within one year, and can then sit for the Comprehensive Examination. MSTP students have normally completed some core and eligible elective coursework prior to matriculating into the Neuroscience Program.
2. Laboratory Rotations: MSTP students normally can opt for fewer than 3 laboratory rotations, and may only do 1 or 2 lab rotations prior to choosing a mentor (some matriculating MSTP students will have already selected a home lab). MSTP students have normally completed some laboratory rotation work prior to their joining the Neuroscience Program.

3. In most cases, MSTP students are eligible to perform the Comprehensive Examination in the summer following their first year in the Neuroscience Program.
4. Decisions about coursework, laboratory rotations, and choosing a mentor are made in consultation with the Student Advisory Committee, the Training Mentor, and the Program Director, along with the Directors of the MSTP.

V. Plan of Study for the Neuroscience Program

A. Coursework

First Year:

Fall

Principles of Neuropsychology (3 s.h.)
 Fundamental Neurobiology I (3 s.h.) with Discussion (2 s.h.)
 Neuroscience Seminar
 Neuroscience Research
 Lab Rotations

Spring

Functional Neuroanatomy (4 s.h.)
 Statistics and/or Elective(s)
 Neuroscience Seminar
 Neuroscience Research
 Lab Rotations

Selection of a PhD mentor (thesis advisor) is normally finalized by around the end of the spring semester of the First Year.

Students may take an Elective course during the summer of the first year. Some students may find it beneficial to take a Statistics course during the summer of the first year.

Second Year:

Fall

Neurobiology of Disease (3 s.h.)
 Statistics and/or Elective(s)
 Neuroscience Seminar
 Neuroscience Research

Spring

Fundamental Neurobiology II (3 s.h.) with Discussion (2 s.h.)
 Statistics and/or Elective(s)
 Neuroscience Seminar
 Neuroscience Research

The Comprehensive Examination is typically completed during the second summer. The deadline for completing the Comprehensive Examination is September 15, at the end of the second summer.¹

B. The Comprehensive Examination

1. Students take the Neuroscience Program Comprehensive Examination during the second summer of their program of study (except for MSTP students; see Footnote 2). The normal time frame for completing the Comprehensive Examination is from mid-May through the end of August (students may complete the Exam earlier, with Program approval). The deadline for completing the Comprehensive Examination is September 15, at the end of the second summer.

Students are eligible to take the Comprehensive Examination when the following minimum requirements are met:

- a. The student is in good academic standing as defined by the Graduate College. Students who are not in good academic standing per Graduate College policy are not eligible to take the Comprehensive Exam.
 - b. The student has completed all required Neuroscience Program core courses with a grade of at least “B” in each course. Students failing to achieve a “B” grade in such courses may have to retake the course and achieve a grade of “B” or higher or may have to perform remedial work as specified by the Student Advisory Committee and Program leadership. Based on courses undertaken prior to entering the Neuroscience Program, the Student Advisory Committee may waive some core Neuroscience course requirements. It is to be understood that material presented in these courses may be included in the Comprehensive Examination, and students must demonstrate competence just as if they had taken the University of Iowa Neuroscience Program course(s).
 - c. In addition to the required coursework, it is strongly recommended that academic preparation prior to taking the Comprehensive Examination include at least one course on statistics.
2. A goal of the Comprehensive Examination is to ensure that the students have a broad knowledge of the field of neuroscience so that
 - a. the students can be conversant with neuroscientists in any area of the field, and
 - b. the students can bring a broad interdisciplinary perspective to their own research. The examination provides a means of assessing whether students have obtained the requisite broad knowledge. In addition, preparing for the examination is intended to be a useful

¹ Students who matriculate into the Neuroscience Program from the MSTP are exceptions: for these students, coursework is normally completed after one year, and the Comprehensive Exam is taken after the first year.

educational experience for the students.

3. The student, in consultation with their advisor, shall select a Comprehensive Examination Committee by the beginning of the Spring semester (before MLK day in January) of their second year.

The proposed Committee must be submitted to the Chair of the Standing Comprehensive Examination Committee for approval. The Comprehensive Examination Committee for each student shall consist of 5 Faculty members (at least 4 members must be tenure track) who will usually be the same as members of the Thesis Committee (see Section IV.C below), with the exception that the thesis advisor is replaced by a member of the Standing Comprehensive Exam Committee. (The thesis advisor does not participate in the Comprehensive Examination.)

The member from the Standing Committee will serve as Chair. The student may request a specific member of the Standing Committee as potential Chair, with any member eligible to serve as Chair of the examination. The final determination of Chair will be made by the Standing Committee and its Chair. At least 3 of the 4 members chosen by the student and advisor must be members of the Neuroscience PhD Program. The Committee may include up to 2 additional members (excluding the student's mentor) recruited for their expertise in the student's research area. This is at the Committee's discretion, although students may be given the opportunity to suggest 2 such additional members for their Committee. To represent a reasonable diversity of research interests, no more than 3 of the Committee members may be from any one department.

The Comprehensive Examination Committee's actions and decisions are made objectively and autonomously. Exam outcomes will be reported to the Graduate College (cc'd to the Program Director) using standard Graduate College exam report procedures. Appeals of the Committee's decisions must follow procedures outlined in Section VII-B.

4. Students will be required to write a proposal for the Research Plan of an NRSA grant.
 - a. **Topic.** The topic can be related to work that is currently being conducted in the student's home lab, but must involve a novel component, for example one Specific Aim which is different from other aims that the lab has researched or proposed research on; some preliminary data collection, or analysis of existing data, by the student. The options for introducing novelty will be fairly flexible to accommodate the variety of research and mentoring styles within the Neuroscience Program. The committee will judge the proposal following guidelines similar to those followed by grant or article reviewers, e.g., the proposed work may extend existing findings or on-

going work to some extent but must propose to advance the field in some way.

- b. **Scope.** A meritorious proposal will demonstrate the student's awareness of the implications of the proposed work at several levels, for example, the relationship between molecular/cellular and systems-level functioning, the impact of neurophysiology on cognition and behavior.
 - c. **Format.** The format of the written proposal will be based on the NIH format for a PHS SF424 (R&R) Individual Fellowship Application. Specific instructions will be provided by the Committee and will be closely modeled on the prevailing NIH format.
 - d. Students must carefully and thoroughly address NIH guidelines for promoting scientific reproducibility, rigor, and transparency.
5. The proposal must be the primary work of the student. The application may be prepared with reasonable assistance and guidance from the student's mentor. The student may seek advice and guidance from other faculty, as well, on an ad hoc basis. This typically would take the form of discussion of any aspect of the proposal (e.g., aims, hypotheses, background, methods, analyses, ethics, feasibility) with experts in that area. This could include members of the student's comprehensive exam committee. The proposal should be written solely by the student and not edited by anyone else.

The proposal must be accompanied by a letter from the student (and signed by the mentor), detailing the mentor's degree and nature of involvement, including which parts or aspects of the proposal and work were conducted independently, as well as any significant input from other individuals. This is analogous to the "Respective Contributions" portion of the NRSA application, which requires a description of the role played by the PI in writing the proposal.

6. The student must submit the proposal (a written document) to all committee members at least two weeks prior to the scheduled exam. Also, at least two weeks prior to the scheduled exam the student must submit to the Neuroscience Program office the date/time/location of their exam so that the Program office can complete and submit the Graduate College Request for Doctoral Comprehensive Examination form.
7. Once the written proposal is submitted and reviewed, the student will be required to defend it orally. The oral exam takes place approximately two weeks after submission of the written proposal. The oral defense is approximately two hours in duration and it is conducted by the Comprehensive Examination Committee.
8. A purpose of the oral exam is to determine whether the student's written submission adequately represents the student's knowledge. For example, a student's proposal may seem to be unsatisfactory due to unclear writing, and

it may become clear during the oral exam that the student’s knowledge is satisfactory. Or, if a student has included material in the proposal but does not actually understand the material, this may become apparent during the oral exam. At the oral defense, the student may be queried on issues beyond the scope of the written proposal (e.g., farther-reaching implications of the study; broader issues in neuroscience more generally).

9. By at least the last 15-minute block of the oral Comprehensive Exam session, the Comprehensive Examination Committee will dismiss the student from the room, and then evaluate the student’s performance. The student's performance on the combined written and oral examination is graded as follows: **Pass**, **Reservations**, or **Fail**. Assuming a 5-person Committee (for Committees of other sizes, see Table below), a **Pass** performance requires at least 4 positive votes. If 2 or more members of the Committee judge the student’s performance unsatisfactory and report negative votes, the student will be graded as **Fail**. If there are 2 or more votes of reservations, and less than 2 negative votes, the Committee will report an outcome of **Reservations** (see #10 below).

Committee Member Votes and Results Based on Committee Size

Committee Membership	Pass	Still pass, if:	Fail	Reservations
Seven Members	5 positive votes	2 negative votes*	3 negative votes	3 reservations votes
Six Members	4 positive votes	2 negative votes*	3 negative votes	3 reservations votes
Five Members	4 positive votes	1 negative vote*	2 negative votes	2 reservations votes
Four Members	3 positive votes	1 negative vote*	2 negative votes	2 reservations votes

*Or a member who is unable to attend

10. A vote of **Reservations** occurs when a Committee member judges that the deficiencies displayed by the student were modest and can be readily rectified. An overall grade of **Reservations** occurs when 2 or more Committee members vote “Reservations” (and there are less than 2 negative votes). In the event of a grade of **Reservations**, the Comprehensive Examination Committee will report these reservations to the student, and to the Program Director and Graduate College. Feedback from the Comprehensive Examination Committee will be provided within one week of the Comprehensive Exam stipulating what actions the student must take to have the Reservations removed.
 - a. The student must satisfy the stipulated actions within four months of the original exam, or at an otherwise specified deadline mutually agreed to by the student and the Comprehensive Exam Committee.
 - b. At the discretion of the Comprehensive Examination Committee, remedial work may include revision of the written proposal, assignment of specific readings, further in person oral examination in a particular area, additional coursework, or other procedures as appropriate.

- c. The Comprehensive Examination Committee will determine whether or not the student has satisfactorily completed the actions stipulated for removal of the Reservations. In the event that the Reservations have been removed, the student will have passed the comprehensive examination, and the outcome will change from **Reservations** to **Pass**.
 - d. If a student does not satisfy the stipulated actions adequately and by the specified time, the outcome of the examination will change from **Reservations** to **Fail**.
11. In the event of a report of **Fail** of either the first examination or the Reservations, the student may request a reexamination. The second administration of the comprehensive examination cannot occur earlier than four months after the completion of the first examination. A second grade of **Fail** will result in dismissal of the student from the Program for failure to make satisfactory progress.
 12. For all outcomes (**Pass, Reservations, Fail**), the Comprehensive Exam Committee will provide a written summary of feedback to the student, in a timely manner. This summary may vary in scope, depending on the nature of comments and student performance, and feedback is generally expected to be more detailed for **Reservations** and **Fail** outcomes.
 13. **Food and beverages:** The Neuroscience Program endorses the March 18, 2020 resolution passed by the Graduate Student Senate that eliminates the expectation placed on graduate students to provide food and beverages at comprehensive exams, committee meetings, or thesis seminars and defenses. Providing food and beverages is strictly optional. This policy also applies to Parts V.C (Prospectus Meeting) and V.D (Final Exam/Thesis Defense) below.

C. Thesis Committee and Prospectus Meeting

1. The student shall select a **Thesis Committee** after successful completion of the Comprehensive Examination. The Thesis Committee shall consist of members of the graduate faculty (normally five in number, although a higher number is permissible in special circumstances) who are particularly competent to advise the student during the thesis research phase of training and to evaluate the dissertation in its final form.

The student's Thesis Committee will normally overlap substantially with the student's Comprehensive Exam committee, with the exception that on the Thesis Committee, the student's advisor will replace the standing member of the Comprehensive Exam committee. At least four Thesis Committee members must be members of the Neuroscience Program faculty. The composition of the Thesis Committee can deviate from these rules, with special permission of the thesis advisor and Program Director. Deviations must have approval from the Graduate College as well.

All Thesis Committees must be approved by the Program Director. Students and their Thesis Committees are required to meet at least once per year after the Prospectus Meeting.

2. **Prospectus Meeting:** By May 1st at the latest after successful completion of the comprehensive examination, the student shall hold a Prospectus Meeting. The Prospectus Meeting is a formal meeting in which the student defends the research proposal that will be the subject of the student's dissertation. The meeting is held with the student's Thesis Committee and is chaired by the student's PhD advisor.
 - a. The student will prepare a written document (this is often an expanded version of the document used for the Comprehensive Examination). This "**prospectus document**" will consist of:
 - i. Introduction: This is a scholarly, broad and reasonably deep lead-in to the proposed research. The Introduction should be approximately 25 pages in length (double-spaced with .5 to 1.0 inch margins, 11 point font), although it is understood that some Introductions may be longer or shorter than this benchmark, depending on the specific topic and situation. Regardless of actual page length, the Introduction should clearly and comprehensively summarize previous literature on the topic, identify open, unanswered questions and/or deficiencies in the extant literature, and set up the proposed research questions, objectives, and hypotheses. The Introduction will address the scientific premise of the research by comprehensively summarizing previous work on the topic (helping to address the issues of rigor and transparency in research). The Introduction will indicate how the proposed research will address open questions and contribute to existing work.
 - ii. Methods: The prospectus document should include a Methods section that has detailed, comprehensive information about quantitative approaches, issues of adequate power, and plans for statistical analyses of the data. This may go beyond the scope of what would be normally included in an NRSA-type document, due to space constraints of the NRSA format and the potentially expanded scope of the prospectus proposal. The Methods section should address fully the issue of scientific rigor, viz., the strict application of the scientific method to ensure robust and unbiased experimental design, methodology, analysis, interpretation, and reporting of results. There are no page limits for the Methods section of the prospectus, and the Methods should in general resemble the scope and detail that one would normally find in normal-length articles in peer reviewed specialty journals (not high profile journals with highly restrictive word counts).
 - iii. Preliminary data (if applicable).

Working within the overall three-part structure described above, and using the recommended guidelines as a starting point, the Thesis Committee will have the prerogative to set the exact formula for the prospectus document according to the Committee's consensus about best practices for the particular situation. This may necessitate that the student and advisor consult with members of the Thesis Committee prior to finalizing the prospectus document for the Prospectus Meeting.

- b. The written prospectus document shall be distributed to the members of the Thesis Committee at least two weeks prior to the Prospectus Meeting.
 - c. In the Prospectus Meeting, the student and the Thesis Committee will reach a consensus regarding the planned dissertation project. In short, the meeting should provide a venue for the student and faculty to reach a consensus about the scope of the proposed work. The timeline should be spelled out and agreed upon, so that there is consensus and transparency in expectations for meeting deadlines and finishing the dissertation. Revisions may be necessary. A follow-up meeting may be necessary on occasion.
 - d. When all of the Thesis Committee members have formally approved the Prospectus, the student and mentor should notify the Program Office that the Prospectus has been defended successfully. The Program Office will record and track this information.
 - e. The prospectus is, in a nutshell, a blueprint for what the student will actually do in terms of their dissertation research. This is distinct from the comprehensive exam, which is an NRSA-style proposal that may or may not be (or may be only in part) what the student intends to do for their dissertation research.
3. In addition to the Prospectus Meeting, the Thesis Committee has three principal roles.
 - a. To review the organization and progress of thesis research.
 - b. To review the written thesis.
 - c. To conduct the PhD Thesis Defense (Final Examination).
 4. The Thesis Committee shall meet with the student on a regular basis and at least once per year after the Prospectus Meeting, to review the research plans and progress of the student and suggest and approve modifications as appropriate.

D. Final Examination (Thesis Defense)

1. The work for the PhD degree culminates in a final oral examination (Thesis Defense) administered on campus.

2. In accord with Graduate College rules, the Final Examination may not be held until the next session after satisfactorily completing the comprehensive examination; however, a student must pass the final examination no later than five years after satisfactorily completing the comprehensive examination. Failure to meet this deadline will result in a reexamination of the student to determine his or her qualifications for taking the final examination.

The procedures to be followed are the same as those for the comprehensive examination (see Section IV.B. above).

3. The Final Examination is open to the public. Members of the faculty of the Graduate College are especially invited to attend and, subject to the approval of the Thesis Chair, to participate in the examination.
4. Thesis Defense (Final Examination): The student is required to present to each member of the Thesis Committee a complete copy of the thesis at least two weeks prior to the final defense date.

At least two weeks prior to the scheduled exam, the student must submit to the Neuroscience Program office the date/time/location of their exam so that the Program office can complete and submit the Graduate College Request for Final Examination form. The student should keep in mind that the date of final deposit for each semester (including summer semesters) is set by the Graduate College and is the deadline for receipt of the thesis in order to graduate in that semester. Students who are in the final stages of preparing their thesis should check with the Neuroscience Program Office for important Graduate College deadlines.

5. After a formal Thesis Seminar by the student, the thesis committee shall conduct the Thesis Defense as described below.
 - a. The student, through the Neuroscience Program Office, should file an Application for Degree in the Office of the Registrar.
 - b. The Thesis Defense shall be scheduled, publicized, and conducted in accordance with procedures set forth in the Manual of Rules and Regulations of the Graduate College of The University of Iowa. The Thesis Defense will be conducted immediately following the Thesis Seminar presented by the student. The Defense is an oral examination administered on campus.
 - c. During the Thesis Defense, the student will answer questions relating to the thesis work. These questions can cover a wide range of topics including the development of the hypotheses in the thesis, the relevant literature, experimental procedures, interpretation, and future directions. Intensive questioning on areas of knowledge constituting the immediate context of the investigation is expected.
 - d. Report of Final Examination (Thesis Defense): The final examination will be evaluated as **Pass** or **Fail**. For the standard 5-person committee, 2 or more negative votes will make the grade a **Fail** (see

Table under section B.9 for other committee sizes and voting outcomes). In case of a **Fail** outcome in the Final Examination, the candidate is not eligible for reexamination until the next academic session. The examination may be repeated only once, at the option of the Neuroscience Program.

E. Publication Requirement

Students are required to have a minimum of one first-author publication in a peer-reviewed journal prior to graduating with the PhD degree in Neuroscience. The article must be formally accepted and “in press” or published prior to graduation. A co-first-authored peer-reviewed publication will count towards this requirement.

VI. Program Committees

Program Committees provide guidance and execution of the policies and procedures of the Program in all major areas that comprise a PhD training program. The Committees operate autonomously from the Program Director, with the Chair of each Committee serving as a liaison between the Committee and the Program Director.

Committee membership is guided by several principles: (1) There is multi-departmental representation, from both basic science and clinical departments; (2) Faculty members are qualified to serve and are interested in participating; (3) Committee membership is rotated (on a 3-year cycle; see below) so that there is a mixture of more experienced and less experienced members, ensuring continuity of committee purpose and function; and (4) There is student representation on all appropriate committees (students have 1- or 2-year cycles). Faculty and students are invited (or volunteer) to participate on committees by the Program Director.

Additional specific term policies, which apply to faculty members on the Recruitment & Admissions Committee, Seminar Committee, Diversity, Equity, and Inclusion Organizing Committee, Outreach Committee, Comprehensive Exam Committee, Awards Committee, and Evaluation and Tracking Committee, are as follows: (1) A term is 3 years. (2) It is expected that after serving a term, the faculty person will rotate off the Committee. (3) With appropriate justification and at the discretion of Program Leadership, a faculty person may serve a second term on a Committee. (4) Committee Chairs will be selected from amongst Committee members, by the Committee members, and/or by Program Leadership, and with final approval by Program Leadership. (5) For Committee Chairpersons, the outgoing Chair will remain on the Committee for one additional year as ex officio, in order to provide the new Chair with advice and guidance.

A. Executive Committee

The **Executive Committee** sets overarching agenda and policy for the Program. The Executive Committee meets approximately once every two months, and more often as necessary, to review and discuss issues of general program importance. Membership is comprised by the Program Director, Associate Director, Chairs of other Program committees, and a student representative.

B. Recruitment & Admissions Committee

The **Recruitment & Admissions Committee** is responsible for all activities related to recruitment and admissions. A major function is the annual review of applicants, including selection of applicants for on-campus interviews, admission recommendations, and recommendations for nominations for special fellowships (e.g., Presidential, Dean's). Another vital function is participation in recruitment efforts, such as attending fairs and promotional activities at colleges and universities throughout the nation in order to promote our Program to undergraduates. The Committee meets frequently during the admissions "season" (about once every two weeks during the December-through-March period), and on a couple of other occasions throughout the year.

C. Student Advisory Committee

The **Student Advisory Committee** (SAC) is responsible for advising students, for monitoring student progress in the Program, and for timely identification of students who are not making reasonable progress. The mission of the SAC is to enhance the graduate student experience and facilitate successful and timely completion of the PhD degree in Neuroscience. The SAC monitors principal facets of student progress, including coursework, laboratory rotations, thesis and research progress, and career development. In the post-comprehensive examination phase, the SAC facilitates student productivity by focusing on progress in publications, grant applications, and postdoctoral training opportunities.

The SAC is comprised by approximately 4 faculty members who represent the diverse topics and expertise of the Program (covering the range from cellular/molecular to behavioral/systems neuroscience). The SAC meets with all students in the Program on a regular basis according to the schedules outlined below, in order to monitor progress, provide guidance and feedback, and identify potential problems that threaten progress. In cases in which students are not making satisfactory progress, and/or in which major problems are evident, the SAC will bring the situation to the attention of the Program Director, and make recommendations for intervention.

Specifically, the SAC:

- Provides a formal process to monitor and track students' progress and achievements
- Provides opportunities for setting milestones and acknowledging accomplishments
- Provides help setting goals and expectations
- Identifies challenges and issues that threaten progress
- Provides assistance to clarify the graduation process
- Promotes skill development
- Oversees professional development
- Provides faculty feedback from a neutral perspective
- Deals with issues that are essential for students' academic and professional success

Many of these objectives will be explicitly addressed via the tool known as the "Individual Development Plan" (IDP). This tool (available from the office of the Associate Dean for Graduate and Postdoctoral Studies in CCOM and from the Graduate College) facilitates mentee-mentor discussions around the bullet points outlined above. The IDP must be completed annually (by July 15 each year) by all students in the Program. The Program Office will assist the SAC in monitoring compliance with this requirement.

The SAC will meet with students in the Program according to the following schedule:

Pre-comprehensive Exam Students:

1. First-year Students:

Around November 1, the Chair of the SAC will be provided a midterm grade report for all first year students (by the Program Coordinator). For any student who is evidencing academic difficulties (grades below B in any course), the Chair will arrange a meeting with the student, to discuss the situation, identify problems and challenges, and recommend solutions.

Around January 1, the Program Coordinator will provide the SAC Chair with the final Fall semester grade reports and all available laboratory rotation evaluations for all first year students. For any student who is evidencing difficulties, the Chair will arrange a meeting with the student, to discuss the situation, identify problems and challenges, and recommend solutions.

Around April 1, the SAC will meet with all the first-year students, to review their progress. Prior to this meeting, students will complete a Progress Report, focused on their progress in coursework and laboratory rotations. Progress Reports will be made available to the SAC for all first-year students, prior to the April 1 meeting.

2. Post-comprehensive Exam Students:

a. Third-year Students:

Around September 15 following successful completion of the comprehensive exam, all third-year students will complete a Progress Report in which they provide the following information: (i) A short summary of the outcome of the Comprehensive Exam process; (ii) Plans for forming a thesis (PhD) committee; and (iii) Plans for a Prospectus Meeting. This Progress Report will be made available to the SAC, and individual SAC meetings will be scheduled for each student. The meetings should be completed between September 15 and October 15 of the beginning of the third year.

b. Fourth-year Students:

Around July 15, the SAC will meet with all the rising fourth-year students to review their progress. Prior to this meeting, students and their Thesis Advisors will complete separate Progress Reports, focused on the student's progress on their thesis and research (including presentations at scientific meetings, publications, and grant submissions). Progress Reports will be made available to the SAC for all rising fourth-year students, prior to the July 15 meeting.

c. Fifth-year (and beyond) Students:

Annually around July 15, the SAC will meet with all the rising fifth-year (and beyond) students to review their progress. Prior to this meeting, students and their Thesis Advisors will complete separate Progress Reports, focused on the student's progress on their thesis, research (including presentations at scientific meetings, publications, and grant submissions), and career planning (e.g., finding a postdoctoral training opportunity). These Progress Reports will be made available to the SAC for all rising fifth-year (and beyond) students, prior to the July 15 meeting.

D. Comprehensive Examination Committee

There are two components to the **Comprehensive Examination Committee**: a) the Standing Committee, and b) the unique student-proposed Committee, assembled individually by each student.

The Standing Committee is charged with setting the format and agenda for the Comprehensive Examination (offered annually in the summer), and with Chairing each student's Examination Committee. The Standing Committee consists of a Chair and a Vice-Chair, one of whom is from the Cognitive Track and one of whom is from the Cellular/Molecular Track. Each will normally serve as Chair of the Comprehensive Exam Committees for students in their respective Track, although either could serve as Chair for any student. Each will normally serve a 2-year term. The Vice-Chair will then become the Chair, and a new Vice-Chair will be appointed from the same Track as the retiring Chair. The Standing Committee meets around the first of the calendar year to finalize plans for the examination.

Each student selects 4 of the 5 members of their Comprehensive Examination Committee in consultation with their advisor. The Committee shall consist of 5

Faculty members who will usually be the same as members of the Thesis Committee, with the exception that the thesis advisor is replaced by a member of the Standing Committee. The thesis advisor does not participate in the Comprehensive Examination. At least 3 of the 4 Committee members proposed by the student and advisor must be members of the Neuroscience PhD Program. To represent a reasonable diversity of research interests, no more than three members may be from any one department.

Each student's Comprehensive Examination Committee will be Chaired by a member of the Standing Committee. The Chair is responsible for conducting the Examination, assimilating feedback from the Committee and communicating this to the student and the Graduate College.

E. Seminar Committee

The **Seminar Committee** is responsible for overseeing the Neuroscience Seminar, which is a flagship seminar series that blends inside and outside speakers. This Committee handles the invitation of special outside speakers for the Seminar Series, and sets up the itineraries for those speakers. The Committee also monitors faculty and student attendance at the Seminar (attendance is mandatory for all students). This Committee also plans our annual Neuroscience Research Day.

F. Diversity, Equity, and Inclusion Committee

The **Diversity, Equity, and Inclusion (DEI) Committee** is responsible for developing, promoting and integrating DEI initiatives into the Neuroscience Program, using a comprehensive approach to diversity, equity, and inclusion at Iowa. (It should be noted that the DEI Committee does not manage instances of specific acts of racism and/or discrimination that violate University rules or civil or criminal statutes. Such incidents should be reported directly to immediate supervisors, the Program Director, a departmental Human Resources representative, and/or the police.)

The Committee meets as needed to promote the following goals with respect to faculty, students and staff in the Program:

1. Enhancing recruitment, retention, and placement of a diverse pool of students:
 - Supporting the Admissions and Recruitment Committee and the Student Advisory Committee in efforts to recruit underrepresented minorities (URMs) and members of other underrepresented groups into the Neuroscience Program, including recruitment of promising UI undergraduates.
 - Providing off- and on-line access to information about support resources available on campus, in coordination with the CCOM Office of Cultural Affairs and Diversity Initiatives and the UI Diversity Office.

- Obtaining financial support when possible for students from underrepresented backgrounds, and identifying mechanisms for funding and career development for such students.
 - Supporting student-led initiatives aimed at the high school and UI undergraduate levels to widen the pipeline of underrepresented students into Neuroscience.
2. Supporting faculty in their diversity, equity, and inclusion efforts:
- Supporting mentoring relationships between faculty and underrepresented student trainees, including providing guidance and resources for meeting challenges.
 - Supporting faculty in diversifying their syllabi and increasing awareness of relevant neuroscience research by underrepresented researchers.
 - Identifying faculty needs and ideas for enhancing diversity, equity, and inclusion in the Program and in improving the DEI Committee's mission and actions.
 - Providing support for identifying and applying for sources of funding to support trainees (e.g., adding NIH diversity supplements to existing grants).
3. Broadly promoting a culture of diversity and inclusion throughout the Program:
- The committee will seek opportunities that encourage individuals throughout the program (faculty, students, and staff) to personally engage in learning, thinking, and acting in ways that promote diversity and inclusion.
 - The committee will seek opportunities for reducing influences of systemic racism and systemic discrimination throughout the Program.
 - The committee will seek opportunities for reflecting images, language, and behaviors promoting diversity and inclusion outside our Program to the broader community.

G. Outreach Committee

The **Outreach Committee** is responsible for organizing and implementing activities associated with community outreach (e.g., Kids GoSTEM, Iowa State Fair). This includes the annual Brain Bee; specifically, members of the Outreach Committee are responsible for organizing and implementing activities associated with the annual Iowa Brain Bee.

H. Evaluation and Tracking Committee

The **Evaluation and Tracking Committee** is responsible for monitoring the quality of the training program, soliciting systematic feedback from faculty and trainees regarding the strengths and weaknesses of the training program, and monitoring the progress and outcomes of students who graduate from the training program (we keep track of our graduates for 10 years, and longer in most cases). The committee meets twice annually, or more frequently as needed, and reports on its findings and makes recommendations to the Program Directors and Executive Committee regarding changes, problems, or aspects of the program that are

particularly effective. The Committee reviews and monitors all aspects of the training program.

With regard to faculty, the Committee monitors faculty participation in program activities and committee work, conducts periodic faculty evaluations and makes recommendations for re-appointment, and monitors compliance with implicit bias training by admissions committee members. The Committee also monitors all aspects of the admissions process as well as timely progression of students through the program. This includes evaluation of the applicant pool, interview and matriculation process, and student success in meeting benchmarks including the comprehensive exam, prospectus, submission and success of fellowships (both intramural and extramural), time-to-degree, and outcomes. The Committee works with the Admissions Committee and the DEIOC to provide feedback annually to Program Directors about progress in meeting diversity and inclusion goals.

I. Awards Committee

The **Awards Committee** is responsible for overseeing all procedures associated with the Neuroscience Graduate Student Awards (see section VII below). This Committee selects faculty and students for judging various nominees, and makes recommendations to the Program Director for award winners.

J. Graduate Student Wellness Committee

The **Graduate Student Wellness Committee** is responsible for monitoring and promoting physical and mental health in our graduate students. This is accomplished via formal and informal programming and activities. This Committee is entirely student run and student populated.

K. Committee for Camaraderie in Neuroscience

The **Committee for Camaraderie in Neuroscience** is responsible to foster a sense of community and facilitate interpersonal relationships by organizing, planning, and executing extracurricular and community events for students, faculty, staff, and families of the Neuroscience PhD Program. This committee has representation from each cohort (different class years), with two students serving as a chair and co-chair. This committee meets as a whole at least once a semester to discuss upcoming events, ideas, and logistics.

VII. Neuroscience Graduate Student Awards

Neuroscience graduate students are eligible for a number of important merit-based awards, as outlined below. Several ground rules for these awards are in place, including:

1. The Young Investigator Award and Rotation Talk Award are specific to a cohort of students (3rd year and 1st year, respectively).
2. For all other Awards, a student can only win the award once during their tenure as a graduate student in our Program. Multiple nominations are allowed.
3. As required by federal regulations, financial prizes to students will be routed through the Office of Financial Aid as a credit to a student's U-bill.

A. Gloria Lee Student Service Award

This award is given to up to two neuroscience graduate student(s) who have displayed exemplary efforts in service to the Neuroscience Program in the previous year. "Service" is broadly defined, and includes contributions to the Program per se (e.g., serving on core Program committees) and contributions to the broader community (e.g., Brain Bee, Research Day, outreach).

Nominations for this award are made by individual faculty, and the award may be given to a graduate student(s) of any year in the program. The awardees are selected from the nominees by a committee of three faculty members. The Service Award carries a financial prize of \$200 each. In 2019, this award was re-named in honor of 20-year faculty member, Gloria Lee, PhD, whose long-standing exemplary contributions to the Program truly define service, as consistently going above and beyond.

B. Publication Award

This award is given to a neuroscience graduate student for the best primary research article within the past year. The graduate student must be the 1st author (or joint 1st author) on the publication, and the article must be published or accepted for publication at the time of nomination. Articles submitted for this award should come from the graduate student, and the nominated articles will be evaluated by a committee of three faculty members. The Publication Award carries a financial prize of \$500.

C. Young Investigator Award

This award is given to the neuroscience graduate student who, during their first two years in the Program, has shown the greatest promise for a future career in neuroscience, as demonstrated by their performance in the laboratory and in classes. All students in their third year who have successfully completed their comprehensive exams will be considered (this would include MSTP students who may be in their second year, but are post-comps). The awardee will be selected by a committee of three faculty members. The Young Investigator Award carries a financial prize of \$100.

D. Rotation Talk Award

This award is given to the 1st year graduate student who gives the best rotation talk at the end of their first year. “Best” is defined as the presentation per se (including the quality of slides, presentation style), not the data per se. All 1st year students giving a rotation talk will be considered for the award. The awardee will be selected based on peer and faculty evaluations made during the rotation talks. The Rotation Talk Award carries a financial prize of \$25.

E. Best Elevator Talk Award

This award is given to the student who gives the best Elevator Talk at Seminar, during a Fall-Spring cycle of seminar talks. All students who presented at Seminar during the two semesters will be eligible. The awardee will be selected based on peer review, which will be implemented via a Likert-scale rating completed by students immediately after the seminar. The Best Elevator Talk Award carries a financial prize of \$25.

F. Poster Award for Research Day

This award is given to the neuroscience graduate student with the best poster and poster presentation made during Research Day (both the quality of the poster and the quality of the presentation are factored into this award). A committee of three faculty will select the awardee. The Poster Award carries a financial prize of \$300.

G. Data Blitz Award

This award is given to the neuroscience graduate student who gives the best data blitz presentation at the annual neuroscience Data Blitz. A committee of graduate students and postdoctoral fellows will select the awardee. The Data Blitz Award carries a financial prize of a \$25.

VIII. Petitions, Appeals, and Academic Grievances

A. Petitions

Requests for waiver or deferment of a requirement may be submitted in writing to the Program Director. The request letter should be prepared by the student, in conjunction with the student’s Advisor/Mentor, and should be signed by both. The letter should provide clear justification for the request. The Program Director will act on the request, by either making a decision directly or passing the request along to the Student Advisory Committee for a recommendation.

B. Appeals

All actions of the Neuroscience Program, the Program Director, the Student Advisory and other Committees, and other program units and staff are subject to appeal by the following procedure.

1. The student must specify in writing the action that is being appealed. This is to be in the form of a letter addressed to the Program Director.
2. After reviewing the letter of appeal, the Program Director shall appoint a committee of three members from the Neuroscience Program faculty. The committee members shall have no direct involvement in the action or incident that is being appealed, and shall be reasonably expected to render an unbiased opinion on the matter at issue.
3. This committee will examine all documentary information available to it, including items provided by the student and contained in the student's academic file and other Program files as appropriate.
4. This committee may meet with the aggrieved party or parties for oral discussions of the appeal, and may also meet with other individuals involved in the dispute.
5. Within one month of being convened, this committee shall present a written report to the Program Director, which will include recommendations for resolution of the appeal.
6. The Program Director shall report these recommendations to the Program Steering Committee and/or the Dean of the Graduate College.
7. The Program Steering Committee shall be the final arbiter on all appeals relating to Program Policies within its purview. The Dean of the Graduate College shall decide all appeals arising from rules and regulations of the Graduate College.
8. The Program Director shall inform the student(s) within one week following decisive action on the appeal.

C. Academic Grievances

The grievance procedure to employ for a complaint will depend on the area involved (student life, academic difficulties, employment, faculty). Generally, students first explore how to pursue a grievance with their mentor or with program leadership (Program Director, Associate Director, Program Administrator). An attempt should be made to resolve grievances at the lowest level, before escalating to higher levels. However, if students are uncomfortable

or dissatisfied using this route, the Associate Dean for Academic Affairs in the Graduate College will counsel them on options available.

1. [Informal Academic Complaint Procedure of the Graduate College](#)
2. [Formal Academic Grievance Procedure \(AGP\) of the Graduate College](#)

In addition, the [Counseling Service](#), the [Office of the Ombudsperson](#), and the [Office of Civil Rights Compliance \(OCRC\)](#) will counsel graduate students on a confidential basis and will assist students in selecting an appropriate grievance procedure.

IX. Scientific Ethics: Guidelines and Other Resources

A. Policy on Authorship of Publications

To merit authorship, an individual should:

- Contribute significant ideas and experimental design to the project,
- Take part in the actual experimentation and data analysis,
- Be able to present and defend the work at a scientific meeting. (Exceptions may be made when one author has carried out a unique, sophisticated study or analysis.)

Students should also read "Ethical Obligations of Authors" in *Accounts of Chemical Research* 18(12), pp. 356-57 (1985).

B. Scientific Misconduct

The U.S. Public Health Service has a formal policy dealing with misconduct. It is described in a special July 19, 1985, issue of the NIH Guide to Grants and Contracts. At the very least we must respect this statement. It says in part:

It is the policy of the PHS to maintain high ethical standards in research and to investigate and resolve promptly and fairly all instances of alleged or apparent misconduct.

As defined by the policy, "misconduct" is: (1) Serious deviation from accepted practices in carrying out research or in reporting the results of research. This includes fabrication, falsification, or plagiarism of data. (2) Other examples include material failure to comply with Federal requirements affecting specific aspects of the conduct of research; e.g. the protection of human subjects and the welfare of laboratory animals.

Misconduct does not include errors of judgment, errors in the recording, selection, or analysis of data or differences in opinions involved in the interpretation of data.

Scientific misconduct is grounds for immediate dismissal from the Neuroscience Ph.D. Program.

C. Academic Misconduct

Any form of cheating or plagiarism in respect to curricular requirements is grounds for dismissal. Plagiarism is taking another's ideas, words, or creative works and presenting them as your own, or presenting them without proper attribution (giving credit to the original source).

D. Sexual Harassment

The University of Iowa has clearly stated guidelines and regulations pertaining to sexual harassment. A copy of these rules is available from the Graduate College and the University of Iowa, and is required reading for all incoming students.

E. Counseling Resources

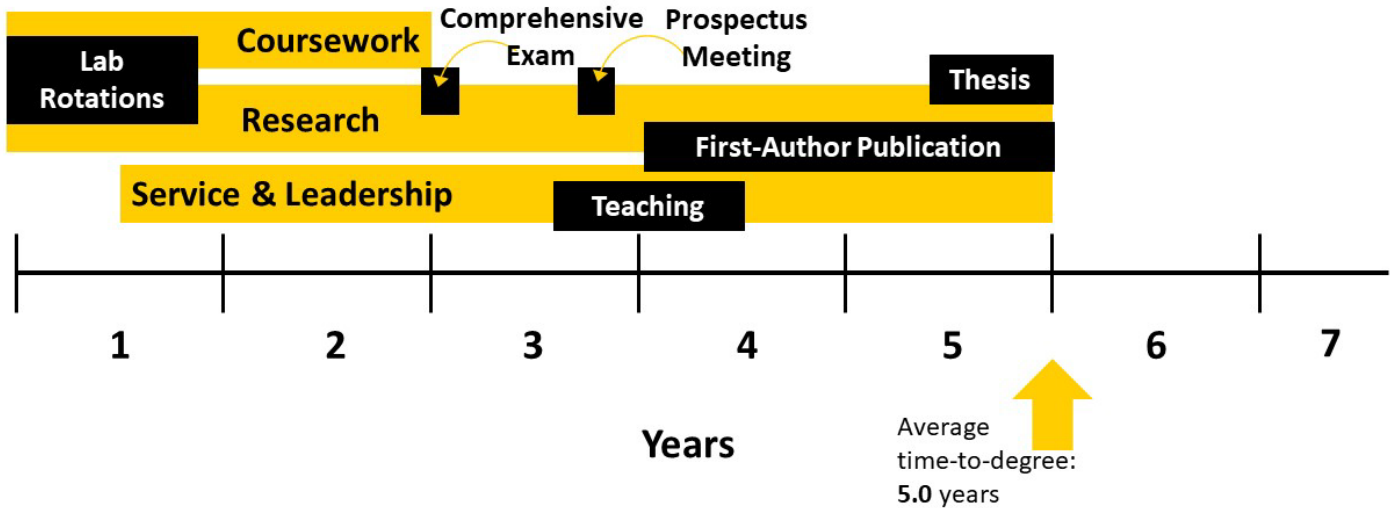
We need to be constantly vigilant about not only the scientific health and status of our students and faculty, but also about their mental health. Graduate school can be extremely stressful for students and faculty alike. We would like to remind our students and faculty that if concerns arise about their mental health status, for whatever reason, it is appropriate to seek help. The University offers counseling services for students at University Counseling Service (3223 Westlawn, 335-7294) and for faculty at Faculty Services (5101A D, 335-2085). Individual faculty or students should feel free to contact those services directly or, if they feel it appropriate, to talk with the Program Director about the possible need for interventions.

F. Office of the Ombudsperson

The Office of the Ombudsperson (3rd floor of Jefferson Building, 129 East Washington Street) provides conflict management and problem solving to the entire campus community. Their services are confidential, neutral, informal, and independent. Appointments are suggested and can be scheduled by phone, 319-335-3608, or by email, ombudsperson@uiowa.edu. Detailed information is available on their website: <https://uiowa.edu/ombuds/>.

Appendix 1: Timeline to PhD

Timeline to PhD



IOWA

Interdisciplinary Graduate Program in Neuroscience

- **First year coursework** - see Section V. A.
 - Principles of Neuropsychology
 - Fundamental Neurobiology I
 - Functional Neuroanatomy
 - Elective
 - Neuroscience Seminar
 - Neuroscience Research
- **Second year coursework** – see Section V. A.
 - Neurobiology of Disease
 - Statistics/Quant Lit
 - Scholarly Integrity/RCR - I
 - Fundamental Neurobiology II
 - Elective
 - Scholarly Integrity/RCR – II
 - Neuroscience Seminar
 - Neuroscience Research
- **Comprehensive exam** – see Section V. B. (summer after 2nd year for PhD students & summer after 1st year for MSTP students)
- **Prospectus meeting** – see Section V. C. (by May 1st after comprehensive exam was completed)
- **TA requirement** – see Section IV. H. (typically done in 3rd or 4th year)
- **Annual thesis committee meetings** – see Section V. C.
- **Annual meetings with Student Advisory Committee** – see Section VI. C.
- **Service/Leadership:** To create well-rounded professionals, the Program expects a level of service/leadership to the Program and/or University from all students (typically beginning after the first semester of studies) – see Section VI. E. to I.
- **First-author publication** – see Section V. E. (typically done 3rd year+)
- **Thesis seminar, dissertation defense, and deposit of thesis** – see Section V. D.

Appendix 2: Guidelines for Faculty Membership

I. Definition

Faculty members may hold appointments as either **Core Faculty** or **Affiliate Faculty**. Core Faculty serve as the primary training mentors for graduate students in the Program. Core Faculty participate fully in the Program activities, including Program committees, courses, Seminar, and supervision of lab rotations by neuroscience students. Many of the Core Faculty serve as training mentors on the Neuroscience Training Grant, and have sufficient funding to support graduate students in their laboratories.

Criteria for being appointed to the Neuroscience Faculty at Core or Affiliate levels are outlined below.

II. Criteria for Membership as Core Faculty

1. Serve as the PhD thesis advisor for a Neuroscience graduate student
2. Chair a Program committee
3. Organize and/or serve as the instructor of record for a required neuroscience course
4. Participate in at least 3 of the following activities:
 - Lecture for a required neuroscience course
 - Serve on a Program committee
 - Sponsor a lab rotation by a neuroscience graduate student
 - Attend faculty meetings
 - Serve on the dissertation committee of a neuroscience graduate student
 - Serve as the faculty advisor to a first-year neuroscience graduate student
 - Attend the Neuroscience Seminar regularly
 - Present at the Neuroscience Seminar within the past 2 years
5. Promote diversity, equity, and inclusion in our local, national, and global neuroscience communities, by participating in one or more of the following activities:
 - Attend an ICTS Iowa Mentorship Academy training: <https://icts.uiowa.edu/workforce-development/mentor-training-and-development>
 - Take BUILD Program training modules, which can lead to earning a BUILD certificate: <https://diversity.uiowa.edu/build-program>
 - Participate in events, programs, committees, and activities sponsored by Diversity, Equity, and Inclusion @ Iowa: <https://diversity.uiowa.edu/faculty-staff-and-postdocs-get-involved>
 - Provide encouragement and guidance for students to participate in the Neuroscience Scholars Program (SfN): <https://www.sfn.org/initiatives/diversity-initiatives/neuroscience-scholars-program>
 - Build Program awareness of DEI-related research and researchers, such as by suggesting papers for inclusion in the DEIOC database, editing syllabi to include DEI-related topics and/or authors, or leading a DEIOC journal club session

- Attend Diversity Seminar Series events:
<https://diversity.uiowa.edu/about/diversity-seminar-series>
- Encourage and support graduate student applications for funding from the Graduate College: <https://www.grad.uiowa.edu/funding/fellowships/internal>
- Participate in a recruitment event (e.g., with Psychological and Brain Sciences or Biomedical Sciences)

It is required that Core Faculty participate in Activities #1, #2, or #3 at least once during any given five-year period of faculty membership.

It is required that Core Faculty meet Criteria #4 and #5 at all times in order to maintain faculty membership.

III. Criteria for Membership as Affiliate Faculty

The specific requirements for maintaining Affiliate membership are the same as those enumerated above for Core Faculty, except that Affiliate Faculty are not required to meet Criteria #1, #2, or #3.

IV. Protocol for Addition of Faculty to the Neuroscience Program

1. Applications for faculty membership will be reviewed as they are received.
2. Initial appointment criteria to the Program Faculty include:
 - An interest in the field of neuroscience
 - An active research program that involves neuroscience-related research
 - A record of peer-reviewed publications, at least some of which pertain to neuroscience
 - Evidence of capacity to attract extramural funding
 - Promise of ability as a teacher
 - Promise of ability as a mentor
3. Interested faculty candidates will start by contacting the Program Director, who will meet with the applicant in person for an interview and discussion of the applicant's reasons and justification for becoming a Neuroscience faculty member. The Program Director and applicant will discuss the appropriate level of membership (Affiliate v. Core), and implications thereof. If the Program Director approves, the application will move forward.
4. Applications will consist of:
 - a) Letter of Interest from the applicant briefly describing his or her background and interest in neuroscience research, teaching and mentoring
 - b) Curriculum Vitae (CV) or NIH-type or NSF-type Biosketch
 - c) The Letter of Interest and CV/Biosketch must include a statement of commitment to promoting diversity, equity, and inclusion, including how the applicant foresees doing so within the Program. Anticipated activities outside the Program are also relevant.

5. Following the in-person meeting and approval (see #3), application materials should be submitted to the Program Director and Associate Director (electronically, as separate PDF files, is preferred), who will evaluate the materials and, upon approval, forward the materials to the Program Administrator. The Program Administrator will distribute the application materials to the Core Faculty of the Neuroscience Program for a vote (indicating Affiliate or Core level for the proposed applicant). A positive endorsement of 60 percent of responding faculty will be required for membership. Voting will be conducted by e-mail.
6. If the vote is positive, then the Program Administrator will request a letter of support from the faculty person's DEO. This letter should indicate briefly that the DEO supports the candidate's involvement in Neuroscience Program activities, such as serving on committees, teaching, supervising students (lab rotations, possible mentoring of PhD students), attending seminars, and promoting diversity. Upon obtaining the DEO letter of support, the Program Director will convey a recommendation for faculty membership to the Graduate College, where the formal appointment will be made.
7. Appointments will be for 3 years. New members will be asked to prepare a brief paragraph of research interests for inclusion in the Program brochure and website. They will also be asked to designate an association with one of the Program tracks:
Molecular/Cellular **OR**
Cognitive/Systems

V. Re-appointment of Program Faculty

1. Upon expiration of each term of appointment, the Evaluation and Tracking Committee will review the participation of each faculty member in the activities of the Program.
2. In order to be eligible for reappointment, each faculty member is expected to meet the minimum requirements for the appropriate level of membership, as delineated above.
3. The Evaluation and Tracking Committee will make a recommendation for or against reappointment. Recommendations for reappointments may be at the Affiliate or Core level, depending on the faculty person's extent of participation in the Program.

VI. Changes in Status

An Affiliate member may request a change to Core status at any time, through the Director. The Director will present the request to the Core Faculty and a positive endorsement of 60 percent of responding faculty will be required for a change in status. The recommendation of change of status will then be conveyed from the Director to the Associate Dean of the Graduate College.

Appendix 3: Best Practices for Graduate Students and their Research Advisors

The progress, development and success of a graduate student hinges on the commitment of both the student and the research advisor. Basic principles of best practices in mentoring and graduate student life appear in the two lists that follow. Graduate students should be aware of what is necessary for their success and their advisors likewise should be aware of practices that promote their students' best interests.

Although the concepts of commitment and responsiveness underlying the lists of expectations apply to all disciplines, the specifics of these principles vary considerably among the biological sciences, physical sciences, social sciences, and humanities. The following guidelines are generally construed and are generally appropriate for students in the Neuroscience Program, but not every detail will apply to every student.

Expectations of Graduate Students

1. A graduate student has the primary responsibility for successful completion of his or her degree. A graduate student should be committed to his or her graduate education and should demonstrate this by efforts in the classroom and in research. A graduate student is expected to maintain a high level of professionalism, self-motivation, engagement, excellence, scholarly curiosity, and ethical standards.
2. A graduate student should meet regularly with the research advisor and provide updates on the progress and results of ongoing research.
3. A graduate student should be knowledgeable of the policies and requirements of the graduate program, the graduate college, and the institution. The student should strive to meet these requirements, including teaching responsibilities.
4. A graduate student should work with the research advisor to develop a thesis/dissertation project. This will include establishing a timeline for each phase of the work. The student should strive to meet the established deadlines.
5. A graduate student should work with the research advisor to select a thesis/dissertation committee. The student should meet with this committee at least annually (or more frequently, according to program guidelines) and be responsive to the advice of and constructive criticism from the committee.
6. A graduate student should discuss policies on authorship and attendance at professional meetings with the research advisor. The student should work with the advisor to submit all relevant research results that are ready for publication in a timely manner prior to graduation.

7. A graduate student should attend and participate in meetings, seminars and journal clubs that are part of the educational program.
8. A graduate student should contribute to maintaining a research environment that is intellectually stimulating, emotionally supportive, safe, and free of harassment.
9. A graduate student should participate in the institution's Responsible Conduct of Research Training Program and practice those guidelines in conducting thesis/dissertation research.
10. A graduate student should discuss policies on work hours, sick leave and vacation with the research advisor or graduate director. The student should consult with the advisor in advance of any planned absences.
11. A graduate student should acknowledge primary responsibility to develop a career following the completion of the doctoral degree. The student should seek guidance from available resources, including the research advisor, career counseling services, thesis/dissertation committee, and any other mentors.
12. A graduate student should comply with all institutional policies, including academic program milestones. The student should comply with both the letter and spirit of all best practices and policies of the institution.

Expectations of Research Advisors

1. The research advisor should be committed to the education and training of the graduate student as a future member of the research community.
2. The research advisor should meet one-on-one with the student on a regular basis. The advisor should provide timely feedback on the student's written work to facilitate ongoing progress on the thesis/dissertation.
3. The research advisor should be knowledgeable of the requirements and deadlines of his/her graduate program as well as those of the institution, including teaching requirements and human resources guidelines. The research advisor should guide the student in these areas to ensure academic and professional success.
4. The research advisor should help to plan and direct the graduate student's project, set reasonable and attainable goals, and establish a timeline for completion of the project. The research advisor should anticipate conflicts between the interests of externally funded research programs and those of the graduate student, and should help keep these interests from interfering with the student's thesis/dissertation research.
5. The research advisor should help a graduate student select a thesis/dissertation committee. The advisor should assure that the committee meets at least

annually (or more frequently, according to program guidelines) to review the graduate student's progress.

6. The research advisor should discuss authorship policies regarding papers with the graduate student. The advisor should acknowledge the graduate student's contributions and work with the graduate student to present and publish his/her work.
7. The research advisor should encourage the graduate student to attend scientific/professional meetings and make an effort to secure and facilitate funding for such activities.
8. The research advisor should provide an environment for his/her graduate students that is intellectually stimulating, emotionally supportive, safe, and free of harassment.
9. The research advisor should discuss intellectual policy issues with the student regarding disclosure, patent rights and publishing research discoveries.
10. The research advisor should not require the graduate student to perform tasks unrelated to his/her academic and professional development.
11. The research advisor should provide career advice and assist in finding a position for the graduate student following his/her graduation. The advisor should provide honest letters of recommendation and be accessible for advice and feedback on career goals.
12. The research advisor should lead by example and facilitate the training of the graduate student in complementary skills needed to be a successful researcher, such as oral and written communication, grant writing, lab management, animal and human research policies, the ethical conduct of research, and scholarly professionalism. The advisor should encourage the student to seek opportunities in teaching, if not required by the student's program.
13. In disciplines where it is customary, the research advisor should provide financial resources for the graduate student to facilitate the student's thesis/dissertation research. Advisors have the prerogative to pay their student's mandatory fees associated with submitting a dissertation, including a degree application fee, a publication and binding fee, and a thesis fee. However, they are not required to do so.

Appendix 4: Graduate Certificate in College Teaching (GCCT) Agreement for Neuroscience Program Students

Student: _____

Research Mentor: _____

Students should submit this completed form to the Program prior to starting coursework.

For details of the Certificate, the student and mentor should consult the GCCT website: <https://education.uiowa.edu/services/office-graduate-teaching-excellence-ogte/graduate-certificate-college-teaching>

The student plans to complete the Graduate Certificate in College Teaching by enrolling in the courses checked below.

Part 1: Coursework (minimum 6 sh required)

At least one of the following courses **MUST** be taken:

- EDTL/EPLS/GRAD/RCE/PSQF:7385 Teaching and Learning in Higher Education 3 sh
- GRAD/PSQF:6217 Seminar in College Teaching 3 sh
- EPID:7200 teaching in Epidemiology 3 sh
- SOC:7010 Teaching Sociology 3 sh
- PSQF:6205 Design of Instruction 3 sh

One of the following courses **MAY** be taken:

- PSQF:6211 Universal Design and Accessibility for Online Learning 3 s.h.
- PSQF:6215 Web-Based Learning 3 s.h.
- PSQF:6216 Tools and Utilities for Online Teaching 3 s.h.

Part 2: Required Teaching (minimum of 2 practica and 3 sh required)

Please fill out the semester hours you plan to take for each practicum (1 - 2 sh per practicum).

- EDTL/EPLS/RCE/PSQF:7380 Practicum in College Teaching, supervised by a College of Education faculty member.
Number of practica: _____, Total sh: _____
- GRAD:7400 Practicum in College Teaching, supervised by a faculty member outside of the College of Education.
Number of practica: _____, Total sh: _____

Part 3: Required Portfolio (3 sh minimum)

- EALL:7475 PhD ePortfolio in College Teaching 3 sh

Tuition Agreement

Tuition for Teaching Certificate Coursework will be paid by:

- Student
- Mentor
- Other (describe) _____

By signing below, I agree to complete the Graduate Certificate in College Teaching as prescribed above.

Student Signature: _____

Date: _____

By signing below, I agree to the student completing the Graduate Certificate in College Teaching as prescribed above.

Mentor Signature: _____

Date: _____

The Neuroscience Graduate Program approves this plan and consents to student completion of the Graduate Certificate in College Teaching.

Program Director Signature: _____

Date: _____