Master of Science (M.S.) Degree in Neuroscience Handbook

Program Director:
Bernard Schreurs, PhD
8 Medical Center Drive
Morgantown, WV 26506
304-293-0497
bschreurs@hsc.wvu.edu

Associate Director:
Zachary Weil, PhD
108 Biomedical Road
Morgantown, WV 26506
304-293-7674
Zachary.weil@hsc.wvu.edu

Program Administrative Support:
Cassandra George
64 Medical Center Drive
Morgantown, WV 26506
304-293-4771
Cgeorge2@hsc.wvu.edu

Updated 05/15/2025

TABLE OF CONTENTS

I.	Introduction	3
II.	Neuroscience Master's Student Training Goals	3
III.	The Neuroscience Program Curriculum	3-5
	A. Curriculum	3
	B. Program Milestones	4
	C. Individual Development Plan	4
	D. Neuroscience Graduate Program Curriculum and Benchmarks Chart	5
IV.	Work Schedule, Sick Leave, Vacation, and Leave of Absence Policy	6-7
	A. Work Schedule	6
	B. Sick Leave	6
	C. Vacation	6
	D. Leave of Absence Policy	6-7
	E. Mental Health Resources	7
V.	Academic and Professional Standards	8-10
VI.	Graduation Requirements	10-11

Neuroscience Master's
Degree Handbook

I. Introduction

Neuroscience research at West Virginia University takes place in over 50 laboratories across campus, utilizing animal, human, and computer model systems. Research topics encompass neural development, sensory, motor, and cognitive function, nervous system diseases and disorders, injury and stroke, typical aging, sleep and circadian rhythms, and neurodegeneration. Neuroscience investigators at West Virginia University strive to expand knowledge of brain function and improve the lives and health of citizens of the state, the country, and the world. We welcome students to the Neuroscience Master's Degree Program as they join us in developing their skills toward careers requiring neuroscience knowledge.

II. Neuroscience Master's Student Training Goals:

- Gain an understanding of the functional complexities of systems neurobiology, including motor and somatosensory systems, behavior, cognitive function, developmental biology, and diseases of the nervous system;
- Develop skills to acquire and integrate knowledge in molecular and cellular structure and function of the nervous system
- Demonstrate ability to design and conduct experiments involving brain and behavior.
- Be highly competitive for PhD programs in Neuroscience.
- Communicate effectively in written and oral forms.
- Apply fundamental principles of strong inference to the scientific enterprise.
- Understand a variety of state-of-the-art neuroscience techniques.
- Demonstrate entry level knowledge for a laboratory technical position.

III. The Neuroscience Master's Program Curriculum

The curriculum provides foundational knowledge in Neuroscience*.

Year 1

Fall

• NSCI 752 – Experimental Design & Analysis
• NSCI 774 - Fundamentals of Neuroscience (4 hours)
• NSCI 760 - Neuroscience Journal Club (1 hour)
• BMS 700 - Scientific Integrity (1 hour)
• NSCI 761 - Neuroscience Research Forum (1 hour)
• Attend Neuroscience Seminar

Spring

• NSCI 764 - Functional Neuroanatomy (3 hours)
• Proseminar - (4 hours) (e.g., NSCI 756 Proseminar in Behavioral Neuroscience, or NSCI 748 Proseminar in Neural Circuits, NSCI 750 Proseminar in Neuroendocrinology, NSCI 754 Proseminar in Neurodegenerative diseases, NSCI 758

Bench to Bedside to Community, NSCI 793C Immune System's Effect on the Brain)
• NSCI 760 - Neuroscience Journal Club (1 hour)
• NSCI 761 - Neuroscience Research Forum (1 hour)
• NSCI 797 - Research Experience (3 5-week rotations) (4 hours)
• BMS 701 - Scientific Rigor and Ethics (1 Hour)

Year 2

Fall

• Proseminar - (4 hours) (e.g., NSCI 756 Proseminar in Behavioral Neuroscience, or NSCI 748 Proseminar in Neural Circuits, NSCI 750 Proseminar in Neuroendocrinology, NSCI 754 Proseminar in Neurodegenerative diseases, NSCI 758 Bench to Bedside to Community, NSCI 793C Immune System's Effect on the Brain)
NSCI 760 - Neuroscience Journal Club (1 hour)
• NSCI 761 - Neuroscience Research Forum (1 hour)
• NSCI 797 - Research Experience (4 hours)

Spring

• Proseminar - (4 hours) (e.g., NSCI 756 Proseminar in Behavioral Neuroscience, or NSCI 748 Proseminar in Neural Circuits, NSCI 750 Proseminar in Neuroendocrinology, NSCI 754 Proseminar in Neurodegenerative diseases, NSCI 758 Bench to Bedside to Community, NSCI 793C Immune System's Effect on the Brain)
NSCI 760 - Neuroscience Journal Club (1 hour)
• NSCI 761 - Neuroscience Research Forum (1 hour)
• NSCI 797 - Research Experience (4 hours)

* Please note that the curriculum may change to accommodate the timing and frequency of required courses.

A. Program Milestones

- Coursework: Successful completion of coursework with at least a B average.
- Research Experience: Students will be required to write a 2-page report for each research rotation for research experience.
- Teaching: participation in teaching is not a requirement of the program. However, students are encouraged to gain experience in teaching. One possible teaching opportunity available for neuroscience students is to participate as a graduate assistant.

B. Individual Development Plan (IDP)

The IDP provides resources to help students evaluate skills and interests in:

- Scientific Knowledge
- Research Skills
- Communication (writing and speaking)

- Professionalism
- Management and Leadership
- Responsible Conduct of Research
- Career advancement

This information will help the student build the necessary skill set to achieve career success and to make decisions regarding future career options. The role of the dissertation mentor is to help the student to achieve these skills. Students need to review their IDP annually with their advisor.

All Biomedical Sciences Graduate programs will use the IDP template found at (https://sole.hsc.wvu.edu/): Health Sciences Center Graduate Programs SOLE site…Content…FORMS-HSC Graduate Students. All incoming Biomedical students will complete this IDP and discuss it with a faculty advisor during Orientation, the week before fall semester begins. The IDP needs to be reviewed annually and reported using the IDP Annual Review form (available under Forms). Once the form has been submitted, it will be filed in the student's file in the Office of Research and Graduate Education.

A timeline of the standard Neuroscience Curriculum requirements is provided on the next page:

Neuroscience Master's Program Curriculum				
Curriculum	Year 1		Year 2	
	Fall	Spring	Fall	Spring
	Exp Design & Analys	Functional Neuroanatomy	Proseminar	Forum
	Forum	Proseminar	Forum	Seminar
	Seminar	Forum	Seminar	Journal Club
	Journal Club	Seminar	Journal Club	Research Experience
	BMS 700 Scientific Integrity	Journal Club	Research Experience	Proseminar
	Fundamentals of Neuroscience	Research Experience		
		BMS 701 Sci. Rigor and Ethics		

REGISTERING FOR CREDITS: Students are required to register for a minimum of 9 credits for the fall and spring semesters.

IV. Work Schedule, Sick Leave, Vacation and Leave of Absence Policy

The MS degree is awarded based on completion of coursework not on time served in the program. Undue time spent away from the University will hamper your progress.

A. Work Schedule

The first year of study focuses primarily on didactic education. In the fall semester, students can expect to follow the academic calendar of the University for the holidays that take place within that semester. After the first semester, expectations vary between laboratories; students and mentors should discuss this at the beginning of the rotation. Students are entitled to days off when the university is closed, but when the university is open and there are no classes, the student should still be present or have an alternate plan. Those are not automatic days-off.

Time spent on research will vary depending on the other courses the student is taking and other programmatic activities. The work schedule is agreed upon by the student and laboratory. These schedules will vary between laboratories and the nature of the research.

B. Wellness & Illness

The health and wellness of students, faculty, and staff is a priority of WVU's Health Sciences Center. While graduate school is a full-time investment of substantial time and work, sometimes students may face situations where they feel unwell. This may not require seeking medical attention but rather taking-off a half or full day from work to alleviate this situation. We expect mentors to be flexible when students need to take time off for both wellness related issues and illness. These may be referred to as Mental Health Days or Sick Days.

Absenteeism from classes, graduate program activities, and the laboratory must be considered carefully, as it can interfere with progress in the graduate program and time to degree. Keeping an open dialogue between mentor and mentee around strategies to maintain progress is critical. Absenteeism from classes and other events needs to be communicated to each faculty member coordinating a class or event.

C. Personal Leave

All graduate students may take up to 2 weeks of personal time-off per calendar year; these are in addition to the standard University holidays (when the university is closed). Personal leave may include time away for illness, vacation, or any other reason that the student needs time away from their graduate program responsibilities. The implementation and timing of the personal leave should be discussed with the primary advisor such that arrangements can be made for laboratory activities in the student's absence. These expectations are likely to vary among research laboratories, so it is important to establish these expectations upon entry in the laboratory. Students on a VISA and leaving the country are to schedule a meeting at least one month prior to departure with Joe Andria (jandra@hsc.wvu.edu) to ensure that all paperwork and assurances have been completed and to receive a letter requesting their return.

D. Leave of Absence

The Health Science Center has a defined policy to deal with extended periods outside of the laboratory or class, generally greater than 2 weeks. Termed a leave of absence, a student may need to take such a leave due to issues, such as grave illness, pregnancy or family crisis. Students should consult this policy * (https://sole.hsc.wvu.edu/): Health Sciences Center Graduate Programs SOLE site...Content...FORMS-HSC Graduate Students when considering such a leave. In some circumstances, the leave may be imposed upon the student administratively due to academic issues or policy violations. Procedures for this are detailed in this policy, and there are forms for documenting all types of leave and any expectations or requirements upon the student's return.

Grading and handling of courses during a leave of absence

When a student goes on a leave of absence, issues develop regarding the grading of courses when the leave begins mid semester. Largely, this will need to be handled on a case-by-case basis. For defined courses, the student will need to work with the instructor to come up with a strategy and generally will need to take an "I" (Incomplete). Courses like research and seminar (when used to monitor attendance) generally do not have a mechanism to fulfill an incomplete. If the length of the leave is known and it is before the deadline to withdraw, it would be best for the student to withdraw from these courses during the semester. If that deadline has past, a student in good standing should be able to receive a grade reflecting their participation prior to the leave, especially when the course is graded S/U (Satisfactory/Unsatisfactory) or P/F (Pass/Fail). Journal clubs can be handled by having the student write summaries of papers that were missed. If the student is having a major medical crisis and cannot work during the leave, then the student should be graded for the time in the course or given an incomplete and a protocol developed for making up missed work.

Mental Health Resources

College students commonly experience difficulties that may interfere with academic success. Stress, sleep problems, relationship and social concerns, adjustment to college, financial problems, family issues, discrimination, or anxiety and depression all affect one's ability to remember, learn and perform. If you or a friend is struggling, we strongly encourage you to seek support. Supportive, confidential resources are available on campus, and most are at no-charge. The BeWell office is the counseling hub for all Health Sciences students. BeWell offers short-term individual counseling, consultations and various other mental health services.

- You can schedule an appointment with BeWell by emailing the BeWell Coordinator, Layne Hitchcock, at Layne.kehl@mail.wvu.edu.
- You can also schedule by calling 304-293-1292 or 304-293-1353.
- You can request an appointment online at health.wvu.edu/bewell/request-an-appointment.
- Feel free to visit BeWell's website for more information at health.wvu.edu/bewell.

BeWell is an extension of WVU's main counseling center. Please note that if you or a friend is experiencing a more urgent or crisis situation, the Carruth Center for Counseling and

Psychological Services at WVU provides crisis consultation and counseling during normal business hours (8:30 a.m. – 5 p.m.) as well as after hours.
You can access these services 24/7 by calling 304-293-4431. Crisis services are also available through text: Text WVU to 741741 for support 24/7 from a trained crisis counselor.

For more mental health resources and information, visit the Carruth Center website at carruth.wvu.edu.

V. Academic and Professional Standards

A. Academic Standards

1. Standards

It is expected that students will perform satisfactorily on all required courses. To remain in good standing in the MS program, a student is required to maintain the following standards:

- An overall grade point average of 3.0 in graduate level coursework. Note that this is higher than the university standard of 2.75;
- Removal of any incomplete grades within one semester of receiving it unless the Neuroscience Graduate Program Director grants special permission. Failure to remove an incomplete within one semester results in a permanent F on the student's transcript and this F figures into the GPA; and
- Satisfactory written comments describing the student's performance in short rotations and a written 2-page report for each rotation.
- Students have one semester to raise their overall GPA to 3.0 or higher.

Failure to comply with these standards will result in the student being placed on academic probation and may result in dismissal from the graduate program.

2. Grading System and Reporting of Grades

Graduate courses are graded as follows: A, B, C, or F, and P (pass) or F (fail). The course coordinator may submit letter grades with + or -, but the grade point average (GPA) is calculated using the basic letter grade. Grades of F are not acceptable for course credit toward a graduate degree but are used in calculating the GPA. Letter grades are given for the Biomedical lab experience – also known as rotations) in Year 1. Research NSCI 797 is graded S/U; U's in research are not counted for the calculation of the GPA. The first unsatisfactory (U) grade for NSCI797 results in placement of the student on probation; a second U in research NSCI 797 is grounds for dismissal from the graduate program.

The grade of Incomplete (I) is given when the instructor believes that the course work or other required programmatic activity is incomplete. All incompletes must be removed within the next semester of the calendar year; however, an individual instructor may require their removal within a shorter period. Students who receive an incomplete grade must contact the faculty member who issued the incomplete to discuss its removal. If an incomplete is not rectified within the next semester, it will be changed to a grade of F (IF).

NOTE: Students cannot graduate with an F grade on the Plan of Study. The course must

be retaken, and the grade brought into the acceptable range. Both grades will count toward the GPA on the transcript, and the higher grade will be placed in the Plan of Study.

B. Professional Standards

Graduate students in the MSN are expected to adhere to the following standards of behavior throughout their tenure in graduate school. This code governs student behavior in classrooms, research endeavors, academic and professional gatherings, travel and in their daily conduct outside of the University. In addition to the code outlined below, all students will uphold the WVU Student Conduct and Discipline Policy. This code can be found at: https://studentconduct.wvu.edu/campus-student-code

1. Academic Integrity

Student Expectations:

- Students will not plagiarize the work of others, either by directly copying that work or by summarizing the thoughts of others as their own;
- Students will not cheat on any examinations, on academic assignments and activities, not use any form of natural language processing tool driven by artificial intelligence technology (e.g., ChatGTP) unless explicitly allowed by the course instructor, and will not provide unauthorized help to others during an examination or graded academic assignment;
- Students will not alter examination scores, answer sheets, other graded materials or their academic record;
- Students will adhere to the University policies on academic integrity, found at: (http://catalog.wvu.edu/graduate/enrollmentandregistration/#academicdishonestytext)

2. Scientific Integrity

Students will:

- Accurately report how experiments were conducted;
- Represent their best understanding of their work in their descriptions and analyses thereof;
- Accurately describe methods used in experiments;
- Abstain from falsely representing the work of others as if it were their own;
- Adequately summarize previous relevant work in their publications;
- When acting as reviewers, students will treat submitted manuscripts and grant applications confidentially and avoid inappropriate use; and
- Disclose financial and other interests that might present a conflict-of-interest in their various activities, such as reporting research results, serving as reviewers and mentoring students;
- Adhere to the University Research Integrity Procedures that can be viewed at: https://oric.research.wvu.edu/files/d/a6c5bbb8-f806-489a-b16b-e0da5f81970d/research-_integrity_policy_amended_6-13-16_final-2.pdf

3. Scientific citizenship

Students will:

- Strive to provide timely, efficient and high-quality work;
- Function as an effective and respectful team member in the performance of collaborative research;
- Strive to always acknowledge the contributions of their co-workers;
- Strive to keep all work areas clean, organized and conducive to high-quality research;
- Respect shared work areas and reagents and ensure that steps are taken to replenish reagents when they are in low supply;
- Refrain from activities that might be disruptive to the work of others, including playing music, conversation and telephone calls;
- Be attentive in presentations by colleagues and provide constructive criticism as appropriate;
- Seek and accept criticism without reprisal or defensiveness;
- Strive to address and remedy situations as they arise and follow through on all promises and commitments to co-workers;
- Wear appropriate clothing in the laboratory and other research settings that is consistent with federal, state, and University regulations;
- Speak-up and report any practice, condition or situation that may cause harm or that is against federal, state and University regulations;
- When traveling as a representative of the University and laboratory, the student will behave in a professional manner, uphold the rules of the laboratory with respect to the sharing of data, report expenses in a truthful manner, and refrain from frivolous use of travel funds for meals or modes of transportation that are unnecessary.

4. <u>Professional interactions</u>

Students will:

- Strive to increase their knowledge and expertise to maintain qualifications consistent with the highest standards available in their discipline;
- Accept and adapt to the continual change inherent in the creation and delivery of knowledge;
- Be appropriate in dress, language, and demeanor and avoid language and dress that is offensive to others;
- Respect and protect the rights to privacy and confidentiality of all students, staff, faculty, study participants, and patients;
- Minimize personal text messaging, e-mailing, telephone calls, and social media while at work;
- Respond to all communications in a timely manner;
- Listen carefully and be thoughtful and respectful in all forms of communication and during the attendance of seminars;
- Provide training and experience to advance the scientific skills and knowledge of ethical research practices for any trainee under their supervision;
- Treat all individuals in a caring, respectful, professional, and empathic manner.

5. <u>Student Review and Appeals Policy</u>

Students have the right to due process in all decisions regarding their grades, evaluations, and status in graduate school. Appeals regarding the above must follow a standard set of procedures. Procedures for student appeals can be found in the Graduate Catalog http://catalog.wvu.edu/graduate/

1. **Graduation Requirements: the following is a list of requirements for graduation.**
   - **A.** 3.00 GPA, no D's or F's, and no U's in research;
   - **B.** Proper registration and payment of fees. The student must be registered for a minimum of 9 credit hours. Credit hours exceeding 16 require prior approval by the program. Students can visit the Revenue Services website to learn more about the fee amounts for each semester (https://revenueservices.wvu.edu/tuition-and-fees).
   - **C.** Annual reports of completion of the IDP and advisory committee meetings.

2. **Deadline for completion of the degree**
   Students should complete their degree within 2 years provided they have demonstrated a strong work ethic in both academics and research. Students who fail to complete the degree within this timeline will be recommended for dismissal. In extraordinary circumstances, students can petition for an extension of the time to degree. The graduate program director must approve the petition. Only one extension will be allowed and will not exceed 1 year.

I have read, I acknowledge, and I agree to abide by the provisions of this Master's Degree in Neuroscience Handbook*.

_____

Name

_____

Signature

_____

Date

* The handbook is subject to change by West Virginia University Board of Governors, University administrators, and the faculty. It is for informational purposes and is not intended to be a contract.