**BNS- PRELIMINARY EXAM CHECK SHEET:**

A student should meet with her/his mentor within two months of defending the master's degree to formulate the tactical approach for the preliminary qualifying exams. This sheet should be handed into the BNS area head and then filed in the student’s folder.

**Preamble:** Successful completion of this exam is required prior to initiation of research for the Ph.D. dissertation. The purpose of the exam is to allow students to demonstrate expertise in their chosen field within Behavioral Neuroscience. In preparing for this exam, students are expected to become immersed in the literature that defines their research domain. The goal is to acquire expertise in their area equivalent or superior to that of any faculty member and thus develop into research colleagues. The guidelines were designed to allow this difficult task to have considerable individual tailoring that will allow students to express their expertise, as well as provide consistency in both effort and evaluation.

Student: ________________________________________________

Faculty Member: ____________________________________________

Master’s defense Date: _______________________________________

Today's Date: ______________________________________________

**Committee Members (all BNS members):**

1. Chair (Mentor): ____________________________
2. ___________________________________________
3. ___________________________________________

**Documents will be evaluated based on demonstration of (A) Theoretical mastery, (B) Critical analysis, (C) Experimental design**

**Part I: Functional Capstone Project**- The goal of this exercise is for the student to demonstrate expertise, within a specific research area, as reflected by a critical review of data and theory, as well as proposed the future experiments or direction.

- Critical Review Paper
  - (25-30 text pages + refs)
- Grant Proposal (NRSA + extra background [10 pages])

*The quality of work should be appropriate for submission to a granting agency or journal-- regardless of intent to submit. *Mentor can only help with the outline. Drafts will not be read by the mentor or other faculty. Furthermore, help from other students/individuals is not acceptable (beyond a simple proof-read for typos) and would be considered academic dishonesty. *Documents will be processed through turnitin.com

*If a student receives a fail, he/she must rewrite the document. If a student fails the second attempt he/she is dismissed from
the doctoral program, but will have the opportunity to receive a terminal master's degree.

Part 2: Demonstrate breadth across multiple levels of analysis within an Area of Behavioral Neuroscience (Examples: Developmental psychopharmacology/psychobiology, Neural coding, Neuroendocrinology, Neurodegeneration, Addiction, Neural plasticity/adaptation, Learning and Memory, Neuropharmacology)

Choose a broad topic within behavioral neuroscience (examples above) and within that topic focus on the following issues/levels of analysis. We expect you to learn how other scientists outside of Binghamton and your mentor's laboratory approach issues within your research area.

Note: You can cover one of these issues in your grant or review paper of part 1

1. Broader Implications (Translational/Evolutionary /Theoretical Context or Perspective)
   Topic: _______________________________________________________
   □ Incorporate within Review paper □ Written Exam □ Mini review paper
   □ Appendix in grant

2. Mechanistic: Computational, Molecular or Cellular aspects of Neural, Behavioral or Disease processes:
   Topic: _______________________________________________________
   □ Written Exam □ Oral Exam □ Oral Presentation □ Mini review paper
   □ Incorporate within Review paper □ Appendix in grant

3. Experimental Methodology: Critique modern approaches/techniques in Behavioral Neuroscience
   Topic: _______________________________________________________
   □ Written Exam □ Oral Exam □ Oral Presentation □ Mini review paper
   □ Incorporate within Review paper □ Appendix in grant

* Timed Written Exam: Topic specified by a reading list & detailed outline (typically 3-4 questions in a single 8-hr period).
* Oral Exam: Topic specified by a reading list & detailed outline (1-2 hours).
* Oral presentation: Topic specified by reading list (Detailed lecture: 45 min + 15 min of questions).

* If a student fails one section of Part 2, he/she is required to be retested on that topic, but with a different format. If a student fails two or more sections, or fails the retest, he/she is dismissed from the doctoral program, but the option for a terminal Master's remains.