Proposed Learning Goals for B.S. in Neuroscience

I. CONCEPTUAL KNOWLEDGE:

- 1. Basic understanding of the development, structure, and function of the nervous system
- 2. Basic understanding of the cellular and molecular biology of the nervous system
- 3. Basic understanding of systems and behavioral approaches to neuroscience
- 4. Broad-based and integrated knowledge acquisition in fields that intersect with neuroscience

II. ANALYTIC AND SCIENTIFIC THINKING:

- 1. Ability to collect, analyze, and interpret quantitative information
- 2. Abilities in scientific inquiry, such as hypothesis development, experimental design, and data analysis and interpretation
- 3. Ability to read and critically analyze a primary research paper

III. RIGOROUS AND RESPONSIBLE CONDUCT OF RESEARCH:

- 1. Basic understanding of scientifically rigorous experimental design and execution, as well as data analysis and interpretation
- 2. Basic understanding of research ethics, such as:
 - Research misconduct and research integrity, including data falsification or manipulation
 - Policies regarding human subjects, live vertebrate animal subjects in research, and safe laboratory practices
 - Responsible authorship, peer review, and publication processes

IV. COMMUNICATION SKILLS:

- 1. Ability to present scientific information orally in an organized and coherent manner
- 2. Ability to communicate scientific information in written format for scientific publication
- 3. Ability to communicate scientific information to the lay public in both oral and written formats
- 4. Listening carefully and asking pertinent questions
- 5. Visual presentation of data and preparation of figures

V. INDIVIDUAL DEVELOPMENT AND PROFESSIONALISM:

- 1. Responsible and ethical behavior
- 2. Teamwork and professional interpersonal skills
- 3. Exposure to the cultural diversity of the neuroscience community
- 4. Advocacy and community outreach
- 5. Awareness of career opportunities and the paths to achieve career goals