Computational Neuroscience Track Worksheet

(14 requirements or 15 for Honors)

Math and Statistics (3 courses)

- ☐ **1.** *Multivariable Calculus:* *Math 19a**, Math 21a, 22b, 25b, 55b, or LS 50
- ☐ **2.** *Linear Algebra:* Math 21b, 22a, 25a, or 55a, Applied Math 22a
- ☐ **3.** Statistics 110 or Eng-Sci 150

* *Math 19a is not recommended* for students planning to take additional Math/Applied Math courses (or Modeling/Analysis electives with higher math pre-reqs).

Computer Science (2 courses)

- ☐ **4.** CS 32, 50, or Applied Math 10
- ☐ **5.** CS 51 or 61. The following courses accepted by petition: CS 1090A, 1060, 1650, and 1780.

Foundational Biology (2 courses)

- ☐ **6.** Any one of the following (courses with labs are underlined):

LS 1a/LPSA Chemistry, Molecular/Cell Bio, **LS 1b** Genetics, Genomics, Evolution, **LS 50** Integrated Science, **LS 2** Evolutionary Human Physiology and Anatomy, **HEB 10** Biology of Human Health **HEB 50** Human Metabolism, **HEB 55** Human Anatomy**, MCB 60** Cell Biology, **MCB 63** Biochemistry**, MCB 65** Physical Biochemistry**, MCB 66** Cell Biology, **MCB 68** Cell Bio & Microscopy, **OEB 50** Population Genetics**, OEB 53** Evolutionary Biology, **SCRB 50** Building a Body, **Eng-Sci 53** Quantitative Physiology

- ☐ **7.** One approved 100-level HEB, MCB, OEB, or SCRB course (or any second course from the box above)

Neuroscience (5 courses)

- ☐ **8. Neuro 80: Neurobiology of Behavior**
- ☐ **9. Neuro 120: Introductory Computational Neuroscience**
- ☐ **10. Advanced Quantitative Neuroscience Course:**

APMTH 226 Neural Computation, **BME 129** Intro to Bioelectronics **BME 130** Neural Control of Movement, **BME 131** Neuroengineering **Neuro 105** Systems Neuroscience, **Neuro 115** Cellular Basis of Neuronal Function **Neuro 231** Computational Neuroscience, **Neuro 240** Artificial and Biological Intelligence **Neuro 141** Physics of Sensory Systems, **Neuro 1401** Cognitive Computational Neuro **Psych 1406** Biological and Artificial Visual Systems, **Psych 1451** Debugging the brain

- ☐ **11. Advanced Neuro #1 –** Tutorial (Neuro 101) or Neuro Elective
- ☐ **12. Advanced Neuro #2 –** Neuro Elective

Modeling and Analysis **(2 courses)** Any two courses from our approved list**.**

- ☐ **13. Modeling and Analysis #1**
- ☐ **14. Modeling and Analysis #2**

Research and thesis courses – optional

- ☐ **15. Neuro 91** Neuroscience Research**, LS100** Experimental Research**, or Neuro 99** Thesis Research. In certain cases, independent research outside of a course can also count for Honors. See the Neuro Honors page for more information.
