

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

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 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

- 7. One approved 100-level HEB, MCB, OEB, or SCRIB 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.
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