UCLA

Student Learning Outcomes for the B.S. in Psychobiology

Students must:

- demonstrate the ability to use their working knowledge of the nervous system to deduce the consequence of nervous system dysfunctions.
- demonstrate their understanding of molecular events at a cellular level by describing the physiological consequences of such events in both qualitative and quantitative terms.
- demonstrate the ability to utilize their knowledge of sensory systems by describing their processes in both quantitative and phenomenological terms.
- demonstrate the ability to choose and apply the appropriate quantitative analysis tools to a data set and meaningfully interpret the results of the analysis.
- demonstrate the ability to read primary literature in the field and evaluate the validity of conclusions in light of the methodology and statistical analyses used as well as the logic of assertions presented.
- demonstrate the ability to communicate the results of their own laboratory work either orally or in writing with appropriate graphic depictions of the data. Students should be able to also relate their work to the literature in meaningful ways, explaining the motivation for the study as well as the interpretation of the results.
- demonstrate thorough knowledge of:

  --neuroanatomy, including the lobes of the brain, major anatomical landmarks, cranial nerves, and major subcortical structures.
  --the sequence of events that results in an action potential and neural transmission.
  --sensory systems, including signal transmission, neuroanatomical connections, and response properties of neurons in primary cortical areas.
  --principles of associative learning, mechanisms of neuroplasticity, and properties of different memory systems and the brain systems that support them.

- be able to analyze the behavior of neurons in circuits, and be able to predict how other neurons in the circuit will react when other neurons are depolarized or hyperpolarized.