III. Biological Bases of Behavior (8–10%)

An effective introduction to the relationship between physiological processes and behavior — including the influence of neural function, the nervous system and the brain, and genetic contributions to behavior — is an important element in the AP course.

AP students in psychology should be able to do the following:

- Identify basic processes and systems in the biological bases of behavior, including parts of the neuron and the process of transmission of a signal between neurons.
- Discuss the influence of drugs on neurotransmitters (e.g., reuptake mechanisms, agonists, antagonists).
- Discuss the effect of the endocrine system on behavior.
- Describe the nervous system and its subdivisions and functions:
  — central and peripheral nervous systems;
  — major brain regions, lobes, and cortical areas;
  — brain lateralization and hemispheric specialization.
- Discuss the role of neuroplasticity in traumatic brain injury.
- Recount historic and contemporary research strategies and technologies that support research (e.g., case studies, split-brain research, imaging techniques).
- Discuss psychology's abiding interest in how heredity, environment, and evolution work together to shape behavior.
- Predict how traits and behavior can be selected for their adaptive value.
- Identify key contributors (e.g., Paul Broca, Charles Darwin, Michael Gazzaniga, Roger Sperry, Carl Wernicke).