**PSYCH 511 Quiz 3  
November 16, 2018**

Answer the questions in the spaces provided on the question sheets using short sentences wherever appropriate. If you run out of room for an answer, continue on the back of the page or add lines to the Word document.

The quiz is due **Friday, November 30, 2018 by 2:30 pm**. You may submit via Canvas or email.

**Main**

1. The NMDA receptor is thought to be a component of the brain's associative learning system. What features of the NMDA receptor enable it to signal that **both** the sending and receiving cell are co-active?

2. Briefly describe one other facet of the NMDA receptor's role that recent research into the neurobiology of psychiatric disease has revealed.

3. What part of the human forebrain is most closely linked to cognitive processing? What evidence from comparative neuroanatomy (humans vs. other animals) supports this link?

4. Name a brain area that is a central node in the brain's reward processing system.

5. The hippocampus appears to specialize in storing particular kinds of information. Give an example.

6. Do problems of reproducibility in psychological science or neuroscience constitute a 'crisis' in your view? Why or why not?

7. Both the autonomic and neuroendocrine systems are controlled by this brain area in the diencephalon. What is it? Which two 'axes' originate here?

8. True or false: The topographic arrangement of neurons found in many sensory systems extends to the motor system, including the spinal cord. Explain your answer.

9. True or False: Sensitivity to a particular type of stimulation is **uniform** across sensory surfaces like the retina, skin, or cochlear membrane. Support your answer.

10. What change in brain structure appears common to chronic stress and major depressive disorder?

11. What does ketamine do? Why is it the target of such intensive research interest?

12. Choose the answers below that best fit the following statements. The \_\_\_\_\_\_\_ cranial nerve conducts visual information; the \_\_\_\_\_\_ cranial nerve conducts auditory information; the \_\_\_\_\_ cranial nerve conducts olfactory information; the \_\_\_\_\_\_ or vagal nerve provides the bulk of parasympathetic nervous system output.

I (1st)  
II (2nd)  
III (3rd)  
XIII (8th)  
X (10th)

**Bonus**

13. The hypothalamus releases \_\_\_\_\_\_\_\_\_\_\_\_\_ into the posterior pituitary, thereby influencing \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, and other functions associated with reproductive and affiliative behavior.

14. How does the myotatic (stretch) reflex circuitry avoid tremor caused by competition between the agonist and antagonist muscles that control a joint like the elbow?