Memory 1

1. Describe three processes that must work correctly for information to be learned and then subsequently recalled. What problems can interfere with each of these processes?
2. Be prepared to identify and correctly use the following terms for describing brain locations: anterior, posterior, superior, inferior, dorsal, ventral, medial, and lateral.
3. Be prepared to locate and, in broad terms, characterize the function of each of the four cortical lobes, the brain stem, and the cerebellum.
4. What happened to H.M. that made the case study of him so important? Summarize how his mental function was changed by his surgery and the inferences that were suggested this pattern of results.
5. Gary Lynch and his colleagues at UCI have visualized LTP occurring in rat hippocampus. Why was this research important? What are some of its limitations?

Memory 2

6. Compare and contrast *explicit memory* and *implicit memory*.
7. Compare and contrast *semantic memory* and *episodic memory*.
8. Compare and contrast the roles of the hippocampus and the left inferior frontal gyrus in episodic memory creation and recall.
9. Both the medial temporal role and the hippocampus play an important role in long-term memory. Compare and contrast these roles. Give examples of the types of memory supported by each structure.
10. Using an example, describe the difference between a storage mechanism and a storage code?
11. What does it mean to say that semantic memory is associative? Give an example. How might the associations in semantic memory be studied?
12. A friend suggests that the brain uses neurons for nodes and synapses for links to represent the associative network of semantic memory. Describe possible evidence either for or against this suggestion.
13. How might the brain learn the association between seeing a cat and hearing the sounds used in the family's language to mean "cat"?
14. What are priming and spreading activation? What evidence is there for them?

Memory 3

15. What is transience? Describe how it depends on the length of the retention interval.
16. Summarize the contributions made by Ebbinghaus to the study of memory.
17. Using examples, distinguish internal and external validity.
18. Given the figure showing the Talarico & Rubin (2003) data, be prepared to describe what the figure shows and what this says about the phenomenon of transience.
19. What are the benefits for memory retention of distributed practice (spacing) in learning? Describe an important, practical implication of this phenomenon.
20. Summarize effects of aging on memory.

Memory 4

1. What is adrenaline? Describe the behaviors it triggers, its effect on memory, and how it is affected by beta blockers.
2. James McGaugh and his colleagues have argued that adrenaline marks events as important for memory. Outline the logic of this research.
3. Describe the roles that the amygdala plays in learning and memory.
4. Use the research of James McGaugh looking at the role of adrenaline in memory to discuss the difference between internal and external validity.
5. Describe *blocking* using for an example the differences in performance in a free recall and a cued recall task.
6. How does the incidence of blocking depend on materials and age? What methods were used by the Burke et al. (1991) study that reported these differences? What is a possible weakness of this study?
7. Describe how Cohen (1990) used distinctions like that between the proper name "Baker" and the adjective "baker" to study the tip-of the tongue effect.
8. What does it mean to say that the name "Baker" is only denotative, but the adjective "baker" is connotative? Why does this matter for memory.
9. What is anomia? Why is it an important exception to the generalization that memories are not localized in the brain? Describe the evidence supporting the claim that anomia is usually because of damage to the left temporal pole of the brain.
10. What are binding errors? Describe a real-life example. How might binding errors be created in the laboratory?
11. What roles do processes in the hippocampus, the medial temporal lobe, and the frontal lobe play in the production of binding errors?
12. How is *familiarity* different from *episodic recall*?
13. (This might be covered in the next lecture) What is the distinctiveness heuristic? How does this heuristic explain the problems that many elderly people have as their episodic memory fails? Why is this strategy not particularly useful in the DRM paradigm?

Memory 5

14. What are source confusion errors? How are they related to binding in memory?
15. How might brain imaging be useful as a way of distinguishing false memories, such as those created by the DRM task, from true memories? Why might this technique not be very useful generally as a way to distinguish true and false memories?
16. Why are misinformation errors a type of intrusion error? Why are they often considered separately?
17. Describe three ways that suggestive questioning can influence memory.
18. What are procedures, which often lead to memory errors, that have been used routinely in eye-witness identification? What steps can be taken to avoid or minimize these problems?
19. Why might children be particularly susceptible to misinformation effects? Give examples of research that demonstrate this.