Instructional Objectives for Statechart Diagrams

The student should be able to do the following after completing the statechart diagram portion of the text, lecture, and homework:

1. Define, apply in the proper form, and give examples of the following terms related to transitions:
   - Event;
   - Guard;
   - Action;
   - Source state;
   - Target state
2. Define, apply in the proper form, and give examples of the following terms related to states:
   - Initial state;
   - Final (termination) state;
   - Entry actions;
   - Exit actions;
   - Internal transitions;
   - Activities;
   - Deferred events
3. Define, apply in the proper form, and give examples of the following terms related to substates:
   - Sequentially nested;
   - Concurrently nested
4. Define, apply in the proper form, and give examples of history states:
   - Shallow nesting;
   - Deep nesting
5. Given an understanding of the behavior and context of a moderately complex "system", model the state behavior using correct UML statechart diagram notation.
6. Choose, and justify choice, between known behavioral models (statechart, activity, use case, interaction diagram) to model the described context (system, class, use case).
7. Given two, slightly different, statechart diagrams for the same system describe any subtle behavioral differences indicated by the diagrams.
8. Compare the content of states and state transitions in a statechart diagram, and use them to populate the attributes and operations of a corresponding class diagram.