Instructional Objectives for Class Diagrams

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

1. Define, apply in the proper form, and give examples of the following forms of classes:
    *   Class name only;
    *   Class name and responsibilities;
    *   Class name, attributes, and operations;
    *   Class name, attributes, operations, and responsibilities.
2. Define an attribute in the proper form:
    *   **`vis attributeName:type = initVal{constraint}`**
3. Define an operation in the proper form:
    *   **`vis operationName(argName:argType = defVal, …): retType{constraint}`**
4. Define, apply in the proper form, and give examples of the following relationships between classes:
    *   Association;
    *   Inheritance/Generalization;
    *   Aggregation;
    *   Composition;
    *   Dependency.
5. Define, apply in the proper form, and give examples of the following adornments to relationships between classes:
    *   Multiplicity;
    *   Roles;
    *   Names.
6. Given a description of a moderately complex "system", model the classes and relationships with correct UML class diagram notation. That is, student must be able to draw a class diagram.
7. Given a class diagram and a supporting set of UML diagrams, use the supporting diagrams to populate the attributes and operations of the class diagram.
8. Given a class diagram and a related set of UML diagrams, use all diagrams to derive a correct set of UML diagrams that fully describe the system.