**Aggregation Exercise**

You are to redesign the classes that we have been using in our discussions using the following descriptions and restrictions:

Each course information (CourseInfo) consists of a 7-character course code, a course title, a number of units, term when it is offered, and academic year it is offered. The number of units may only be 0.5, 1.0, 2.0, 3.0, or 4.0.

Each course offering (Section) has a CourseInfo, a room, a section, a Teacher, and a set of students. By default the maximum number of student in this section is 45, unless otherwise stated so during creation. A section cannot exist without a course information. The teacher and actual students in the class can be set later on. A student is added in one at a time.

A name (Name) consists of the first name, last name, and middle initial. All of these should be specified upon instantiation.

Each student (Student) has a Name, an ID number, and a set of CourseInfo serving as courses currently enrolled in. A student should always have a name and ID number. Once assigned these cannot be changed.

Each teacher (Teacher) has a Name, an ID number, and a set of areas of expertise. A teacher should always have a name and an ID number. The ID number cannot be changed, but the name can be changed later.

**Tasks:** [You may use existing classes and modify them for this activity, but make sure to save these into new files.]

1. Draw the UML class diagram following the specifications indicated.
2. Implement each of the classes, providing the appropriate constructors, setters, and getters. Note that in the class Section, you are to implement the set of students as an ArrayList, rather than an array.
3. Create a Driver class that provides a menu to simulate getting input for sections to be opened, getting input for students, getting input for teachers, simulate the enrollment of students into the sections, assign teachers to the class, modifying teacher’s name, and to display each of the entries in the sections. Again, for the set of students and for the set of sections in this Driver, use ArrayList, instead of arrays.