OO COURSE OUTLINE
A Constructivism Based Approach
The "Lego-Construction" Approach

Define Developer's expectations for:
- integrating existing components
- building new components

A. Basics of integrating existing components
1. Provide a library of predefined object-types.
2. Provide means to exploit predefined components.
   - Send messages to objects.
   - Create instances of an object-type.

The Java Basic Library.
Reference to selected Library components. (DOUBLE, INTEGER, STACK, …)

Use BlueJ to exercise with the above components. Send messages to objects. Create instances of Object-types (classes).

Case Study:

B. Basics for building new components
1. Define an object-type, i.e., the structure and the behaviour of its instances.
2. Define the interface as well as the implementation part of objects.
3. Define an object as a composition of its components.
4. Define an object as a specialization of another object.

In more detail
1. Define an object-type, i.e., the structure and the behaviour of its instances.
   Introduce Java constructs for the definition of class, attribute, method, instance and class data members, instance and class methods, …
   The main method.

2. Define the interface as well as the implementation part of objects.
   Define the implementation of methods. Operators. Control statements.

3. Define an object as a composition of its components.
   Implementing Aggregation.

4. Define an object as a specialization of another object.
   Introducing inheritance.

(in Greek)
Ένα περιβάλλον ανάπτυξης αντικειμενοστρεφών εφαρμογών πρέπει να παρέχει
- Μηχανισμούς για δημιουργία νέων τύπων αντικειμένων
  - Ορισμό κλάσης δηλαδή ορισμό δομής (structure) και συμπεριφοράς (behavior) στιγμιοτύπων
  - Ορισμό διεπιφάνειας και υλοποίησης των αντικειμένων
- Μηχανισμό για ορισμό αντικειμένου σαν συνάθροιση των μερών του

- Μηχανισμό για ορισμό αντικειμένου σαν εξειδίκευση άλλου αντικειμένου