

**NOVA Information Management School**

**NOVA IMS**

<b>Course</b>	Computation III
<b>Coordinator:</b>	Mauro Castelli
<b>ECTS</b>	6
<b>Objectives:</b>	<p>The aim of this course is to get the basic elements of object-oriented programming.</p> <p>Java will be the basic reference language.</p> <p>At the end of the course the student is expected to master the major abstraction mechanisms useful in the analysis and design of software applications.</p> <p>S/he will be capable of designing, developing and testing Java programs.</p>
<b>Attending requirements:</b>	Basic knowledge from the high school, in particular mathematical and logical issues and the basic knowledge of imperative programming is required.
<b>Curricular Unit Contents:</b>	<ul style="list-style-type: none"> <li>- Classes and objects in Java</li> <li>- the concept of reference: basics on memory management in Java</li> <li>- Methods with complex data types: definition and invocation</li> <li>- Array of reference</li> <li>- Information hiding and encapsulation. Visibility modifiers on methods</li> <li>- Inheritance and polymorphism in Java</li> <li>- Constructors</li> <li>- Overloading and overriding</li> <li>- Class methods and class attributes</li> </ul>
<b>Teaching methods:</b>	Theoretical classes will be held using the blackboard and projecting slides. Practical classes will be held in computer rooms and laboratories, allowing the students to apply the concepts that have been explained previously by solving programming exercises.

<b>Grading methods:</b>	The examination consists in a written test that will contain both theoretical questions and the implementation of some Java programs.
<b>Bibliografia:</b> <b>Bibliography:</b>	<ul style="list-style-type: none"><li>• Java – The Complete Reference. Herbert Schildt</li></ul>