

6.0 credits

30.0 h + 30.0 h

1q

Teacher(s) :	Pecheur Charles (coordinator) ; Bonaventure Olivier ;
Language :	Français
Place of the course	Louvain-la-Neuve
Main themes :	<p>Main Themes Basic concepts of object-oriented programming; the Java programming language; problem analysis; specification and implementation of solutions; linear data structures, including dynamic implementations.</p> <p>Content and teaching methods Interface, class, object, instance Primitive types, values, variables, assignment Expressions Instruction types Methods, parameters, results, and method calls Specifications Creation of instances, object references Class variables, instance variables, local variables and their scope Polymorphism Visibility attributes of classes and variables Class extension and inheritance Exception mechanisms Files and input-output operations on files Arrays : linear and multi-dimensional Variable-length arrays Linked list implementations Use of packages Graphical user interfaces and event-driven programming</p> <p>The chosen teaching method relies on active student participation in their own learning process. The specific modalities of the active learning approach used in the course are left to the initiative of the course teachers, within the framework of the pedagogical choices made by the school of Engineering.</p>
Aims :	<p>AIMS</p> <p>At the end of this course, students should be able</p> <ul style="list-style-type: none"> - to demonstrate their understanding of the basic concepts and the methodology of object-oriented programming - to use the major elements contained in an object-oriented language such as Java in an appropriate way - to analyze a simple problem, to propose an algorithmic solution for this problem and to program the solution in Java. <p><i>The contribution of this Teaching Unit to the development and command of the skills and learning outcomes of the programme(s) can be accessed at the end of this sheet, in the section entitled "Programmes/courses offering this Teaching Unit".</i></p>
Content :	<p>Main Themes Basic concepts of object-oriented programming; the Java programming language; problem analysis; specification and implementation of solutions; linear data structures, including dynamic implementations.</p> <p>Content and teaching methods Interface, class, object, instance Primitive types, values, variables, assignment Expressions Instruction types Methods, parameters, results, and method calls Specifications Creation of instances, object references Class variables, instance variables, local variables and their scope Polymorphism Visibility attributes of classes and variables Class extension and inheritance Exception mechanisms Files and input-output operations on files Arrays : linear and multi-dimensional Variable-length arrays</p>

	<p>Linked list implementations Use of packages Graphical user interfaces and event-driven programming</p> <p>The chosen teaching method relies on active student participation in their own learning process. The specific modalities of the active learning approach used in the course are left to the initiative of the course teachers, within the framework of the pedagogical choices made by the school of Engineering.</p>
<p>Other infos :</p>	<p>The course Web site : http://www.info.ucl.ac.be/notes_de_cours/FSAB1401/ contains a wealth of information related to the course, most of which is required or recommended reading for students.</p> <p>The course relies on the following English-language text book : J. Lewis et W. Loftus Java Software Solutions - Foundations of Program Design (3rd Edition) Addison-Wesley, 2003, Paperback - 924 pages. ISBN: 0201781298</p> <p>The end-of-term evaluation aims to assess both the understanding of the course material and the capacity to apply it to correctly write simple Java programs.</p>
<p>Cycle and year of study :</p>	<p>> Bachelor in Engineering > Preparatory year for Master in Actuarial Science</p>
<p>Faculty or entity in charge:</p>	<p>BTCI</p>