

## The Mechanisms of Object-Oriented Programming (in Java)

---

**Subject area:** Computer Science/ICT

<b>University:</b>	L'X
<b>Level:</b>	BA2, BA3, BA4, MA1
<b>Teaching mode:</b>	Hybrid mode, EuroteQ students can attend the class fully online and asynchronously.
<b>Instructor(s):</b>	Benjamin Werner

### Short description

In this course, we see how the Java programs are translated into a simple machine language in order to be executed.

### Full description

We present, use and study the Java programming language. The features on the language are presented, and then used in programming exercises. The originality of this course is that we see how the Java programs are translated into a simple machine language in order to be executed. This allows to better understand the features of the language, especially the object-oriented ones. This course thus goes further than the mere learning of Java, explaining features shared with other programming languages, and opening up on computer architecture.

### Learning outcomes

Java programming language

### General information

<b>Contact hours per week:</b>	2 - 3
<b>Total workload:</b>	4 hours per week on average. A total of about 40 hours for the whole course (in student hours for the whole course)
<b>ECTS credits:</b>	5
<b>Language:</b>	English

<b>Course start date:</b>	03 April 2023
<b>Course end date:</b>	30 June 2023
<b>Add. info about start date:</b>	
<b>Weekly teaching day/time:</b>	
<b>Time zone:</b>	CET (Denmark, Germany, France, Netherlands, Switzerland, Czech Republic)
<b>Further information:</b>	Remote students will have to use their own computer and install a Java Programming environment on it (help provided).  A forum (probably slack) allows all students to discuss and interact with the teaching staff asynchronously.
<b>Prerequisites:</b>	Some familiarity with programming  Knowledge of basic algorithms and time complexity
<b>Activities and methods:</b>	Lectures, Lectures: every week about 6 videos (amounting to 60 to 80mn weekly); programming exercises (one or two weeks long); Course Notes
<b>Presence on campus:</b>	no

## Final examination

<b>Form:</b>	More information at the start of the course
<b>Date:</b>	
<b>Location/format:</b>	online
<b>Re-sit possibility:</b>	no
<b>Transcript available:</b>	end of the semester and generally 8 weeks after the exam.
<b>Add. info/requirements:</b>	

## Registration

To register for this course, follow the registration requirements of your **home university** as specified here: [www.euroteq.eu/courses-registration](http://www.euroteq.eu/courses-registration).

## Administration

<b>Number of places:</b>	24 - 30
<b>Minimum participants:</b>	
<b>Internal course code:</b>	INF371

**Contact:** euroteq-mobility@polytechnique.fr

---

*This course is part of the EuroTeQ Engineering University joint course catalogue 2023. This is a collaborative activity of the partner universities DTU, L'X, TU/e, TalTech, CTU, TUM as well as Technion. Students from these universities can participate in the offered courses. It is the responsibility of the student to check if you fulfil the requirements to participate in a specific course. Students are also advised to check with their home institution how to get recognition of the ECTS credits gained in courses of the EuroTeQ course catalogue. For further information about EuroTeQ Engineering University, visit [www.euroteq.eu](http://www.euroteq.eu) or get in touch with the above-mentioned point of contact.*