# AI & Computer Science

## Key Facts:

**Age range :**
13-17

**Location:**
d'Overbroeck's

**Class size:**
12

**Certificate:**
External industry
certificate from
trusted UK provider

**Minimum language level:**
B1 (intermediate)

**Tuition content**
Academic subject studies,
Industry workshops and
Capstone Industry Project

**Weekly excursions:**
2 full-day, 1 half-day

**Hours per week:**
25

**Dates:**
8 July - 5 August

**Duration:**
2 weeks

The course is intended to provide a comprehensive foundation in both artificial intelligence (AI) and computer science. Students will gain a solid understanding of AI concepts and techniques, as well as develop essential programming and problem-solving skills necessary for building intelligent systems. The course will foster creativity and innovation by encouraging students to explore and develop their own AI projects.

### Learning outcomes

- Develop knowledge of reading, writing and debugging code using programming software such as Java and Python

- Learn systematic approaches to problem solving, including analysis techniques and how to implement data structures and code problems in a way that computers can understand and process.

- Explore different approaches in machine learning and developing an understanding of stochastic algorithms, game theory, automated theorem proving, computer and human learning, and more.

### Example Industry Workshops

**The National Museum of Computing** – Located in Bletchley Park, the principal centre for Allied code-breaking during the Second World War, the National Museum of Computing is home to the world's largest collection of functional historic computers. Machines. Students will take part in a full-day activity schedule such as Robotics & AI which explores the ethical implications of AI programming and barriers to inclusive legislation. Students will also have the opportunity to build their own 8-bit computer in the practical physics workshop.

**Horizon of Khufu  VR Experience -** Students will embark on an engaging VR experience and explore one of the Seven Wonders of the Ancient World – an archaeological treasure trove and a monumental testament to Egyptian architectural genius. Students will interact within a shared virtual reality space, providing a deeply emotional and engaging dive into the heart of Egyptian culture.

### Capstone Industry Project

The AI & Computer Science industry project is developed, delivered and assessed by ComputerXplorers, a dedicated computer education company delivering engaging computer lessons across schools in the UK.

The project provides students with an opportunity to leverage the Unity platform. On completion of the course and submission of the final projects the students will receive a Certificate of Completion and a written assessment of their project.

Capstone Industry Project in collaboration with: