

One Month of Artificial Intelligence

High School - Unit (20 Contact Hours)

Course Overview and Goals

The One Month of Artificial Intelligence course teaches students important programming concepts that enable the use of Artificial Intelligence in computer science and society at large. Students will learn how to incorporate basic Artificial Intelligence algorithms in their own work, and consider the social and ethical implications of how Artificial Intelligence is used, and how it plans to be used. This is a one month course, and is intended for students who are familiar with coding in Python.

Learning Environment

The course utilizes a blended classroom approach. The content is fully web-based, with students writing and running code in the browser. Teachers utilize tools and resources provided by CodeHS to leverage time in the classroom and give focused 1-on-1 attention to students. Each unit of the course is broken down into lessons. Lessons consist of video tutorials, short quizzes, example programs to explore, and written programming exercises. Each unit contains a large scale project that students will gradually add to as they learn new content.

Programming Environment

Students write and run python programs in the browser using the CodeHS editor.

More Information

Browse the content of this course at <https://codehs.com/course/15386>.

Prerequisites

This course is intended for students who have taken *Introduction to Python 3* on CodeHS. It contains some advanced programming concepts that require students to have familiarity with lists, tuples, and using libraries. For students who have taken another introductory class, there are tutorials throughout the course that can be used to teach or re-teach the programming concepts that are needed for any given exercise.

Course Breakdown

Unit 1: What is Artificial Intelligence? (2 - 3 weeks)

Students will learn what defines Artificial Intelligence, how it is used, how it plans to be used, and the social and ethical implications of its use in society. Students will develop a case study exploring an ethical issue in Artificial Intelligence, highlighting the competing arguments on both sides of the issue, and ultimately choosing a side in the debate.

Objectives / Topics Covered	<ul style="list-style-type: none">• What is Artificial Intelligence?• Types of Artificial Intelligence• The Ethics of Artificial Intelligence• Exploring an Ethical Issue in AI
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<p>Example Assignments / Labs</p>	<ul style="list-style-type: none"> ● Drawing with AI <ul style="list-style-type: none"> ○ Students play a game of pictionary against one of their classmates and time how long it takes for their classmate to determine what the image is. Students then play the same game against an AI that predicts what a user is drawing. Students compare the time rates, and explore the value of these predictive systems. ● Ethical Roundtable <ul style="list-style-type: none"> ○ Students participate in a fishbowl activity, where students share their perspectives on a series of ethical questions in AI. Students must prepare answers and questions to these ethical problems, and reflect on their classmates' perspectives. ● Project: The Ethics of AI <ul style="list-style-type: none"> ○ Students pick a topic on a specific ethical issue in AI and explore the different sides of the ethical argument. Students must ultimately pick a side, and present their project to their classmates.
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Unit 2: AI and Chatbots (2 - 3 weeks)

Students learn how chatbots are developed to interact with humans, and what forms of Artificial Intelligence are used to get them to operate. Students will create an informational chatbot of their own.

<p>Objectives / Topics Covered</p>	<ul style="list-style-type: none"> ● What are Chatbots? ● Implementing a Simple Chatbot ● Creating an AI Chatbot ● Chatbot Project
<p>Example Assignments / Labs</p>	<ul style="list-style-type: none"> ● Implementing a Simple Chatbot <ul style="list-style-type: none"> ○ Students develop a chatbot using simple if/else statements. Students then develop a chatbot using AI, and compare the efficacy of both. ● Project: Build a Chatbot <ul style="list-style-type: none"> ○ Students will develop an informational chatbot. Students will be required to add a specific number of prebuilt conversations into the chatbot.