



Exchange programme Vrije Universiteit Amsterdam

Vrije Universiteit Amsterdam - Exchange programme Vrije Universiteit Amsterdam - 2024-2025

Exchange

Vrije Universiteit Amsterdam offers many English-taught courses in a variety of subjects, ranging from arts & culture and social sciences, neurosciences and computer science, to economics and business administration.

The International Office is responsible for course approval and course registration for exchange students. For details about course registration, requirements, credits, semesters and so on, please [visit the exchange programmes webpages](#).

Applied Programming for AI

Course Code	XB_0102
Credits	6
Period	P6
Course Level	200
Language Of Tuition	English
Faculty	Faculty of Science
Course Coordinator	dr. M. Verano Merino MSc
Examiner	dr. M. Verano Merino MSc
Teaching Staff	B. Postma, dr. M. Verano Merino MSc
Teaching method(s)	Lecture, Practical

Course Objective

The course prepares students for future projects that involve programming within the bachelor programme. Students learn to apply programming concepts in a medium sized project.

The course introduces students to web technologies such as HTML, CSS and JavaScript, and commonly used tooling in software development, e.g. Git. (Knowledge and understanding), as well as using and understanding RESTful services.

After completing the course, students will be able to plan, develop, and implement a web application that involves data manipulation and visualization requirements. (Applying knowledge and understanding) (Making Judgements)

Course Content

In this course, students will implement a complete pipeline of information visualization including data acquisition, parsing, cleaning, representation, and interaction. The course builds upon the course Introduction to Python Programming, as well as on the course Human-Computer Interaction in Period 5.

Students will learn how to choose and use different data structures (e.g., lists, dictionaries, tuples, matrices). They also will learn how to choose the right way of presenting information depending on the target audience and type of data.

Additional Information Teaching Methods

A combination of a few lectures and a lot of practical work. Students are expected to be full time available for this course.

Method of Assessment

The student's knowledge will be assessed based on their group project's implementation, their individual contribution to the development based on version control statistics, and weekly meetings, and a final coding interview.

The final grade for this course consists of the following parts:

- Project Proposal (team) → Pass/fail
- Implementation (team) → 60%
- Degree of participation (individual) (20%)
- Attendance,
- Contribution to the project.
- Git Activity,
- Project report/reflection (individual and team components) → 10%
- Final demo presentation (team) → 10%
- Coding interview (individual) → Pass/fail

To obtain a passing grade for the course, you must pass the coding interview.

Entry Requirements

Students should have completed Introduction to Python Programming (XB_0082) with a sufficient grade before they can start this course.

Literature

The following literature will be used:

- Judith Donath, Alex Dragulescu, Aaron Zinman, Fernanda Viégas, and Rebecca Xiong. 2010. Data portraits. In ACM SIGGRAPH 2010 Art Gallery (SIGGRAPH '10). Association for Computing Machinery, New York, NY, USA, 375–383. <https://doi.org/10.1145/1836786.1836793>
- Giorgia Lupi. Data Humanism: The Revolutionary Future of Data Visualization. In Printmag, January 30, 2017. <https://www.printmag.com/article/data-humanism-future-of-data-visualization/>
- Edward R. Tufte. 2001. The visual display of quantitative information. Graphics Press, USA.
- Jacoba Urist. From Paint to Pixels. In The Atlantic, May 14, 2015. <https://www.theatlantic.com/entertainment/archive/2015/05/the-rise-of-the-data-artist/392399/>
- Andy Kirk. 2016. Data Visualisation: A Handbook for Data Driven Design. Sage Publications Ltd.

Additional Information Target Audience

Bachelor Artificial Intelligence (year 1)

Recommended background knowledge

Human Computer Interaction (XB_0013) is highly recommended as background knowledge.