

Solidity and smart contract development

**ECTS : 3**

**Description du contenu de l'enseignement :**

This course introduces all major uses cases of the blockchain industry from a technical perspective. The course begins with an introduction of Github and Solidity coding fundamentals before diving into smart contract development. Participants will learn the most common ERC standards for tokens and NFTs before building more complex contracts for DAOs. Finally, a deep dive into the EVM and an outlook into the future of Blockchain - L2s.

The course schedule is as follows:

- Lecture 1 - Blockchain Basics and Development
- Lecture 2 - Solidity Fundamentals
- Lecture 3 - Contracts and Complex Data Structures
- Lecture 4 - ERC20 Tokens and Tokenomics
- Lecture 5 - Intro to DeFi
- Lecture 6 - Further DeFi Applications
- Lecture 7 - NFTs
- Lecture 8 - ReFi and NFT applications (Guest Lecture)
- Lecture 9 - SDLC, Security and Testing
- Lecture 10 - DAOs and Governance
- Lecture 11 - Assembly and Gas Optimization
- Lecture 12 - Scaling the future of Ethereum: L2s

**Compétence à acquérir :**

At the conclusion of this course, participants will gain a solid foundation of Solidity programming and smart contract development, enough to be considered a junior blockchain developer. Participants will also gain an understanding of the open source philosophy and collaboration style.

**Mode de contrôle des connaissances :**

The level of mastery will be continuously assessed throughout the course by:

1. A weekly presentation on a topic more in depth than what is presented in the lecture material
2. Weekly homeworks
3. Final smart contract project with oral presentation

**Bibliographie, lectures recommandées :**

Mastering Ethereum by Andreas Antonopoulos - <https://github.com/ethereumbook/ethereumbook>