

DLT4All Learning Course

Decentralization Goes Mainstream!

Enroll to the training:

<https://dlt4all.mooc.unic.ac.cy/login/signup.php>

Visit www.dlt4all.eu

DLT4All is an Erasmus+ project funded by the European Commission.

Started in 2018, it is coordinated by the University of Nicosia and executed by 8 partners from 5 different countries.

The project developed an 8-modules innovative learning curriculum about Blockchain and Distributed Ledger Technologies, targeted at students, entrepreneurs, investors and other players in the innovation ecosystem, such as incubators and business coaches.

The course is fully and freely available on this platform:

<https://dlt4all.mooc.unic.ac.cy/login/signup.php>. To access the learning material, create an account.

The course will also be taught on virtual live classes by a set of Blockchain experts. Find the days, timeslots and details in the following pages of this brochure.

Join the Decentralization movement!

Stay tuned on www.dlt4all.eu

#DLT4All #DecentralizationGoesMainstream

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SYLLABUS

DATE

MODULE

INSTRUCTOR

January 13 th to 15 th	0. Introduction	Soulla Louca Elias Iosif
January 18 th to 22 nd	1. P2P Database Design	Luca Ferrario Alberto Guffanti
January 25 th to 30 th	2. Encryption Techniques	Pablo López
February 1 st to 5 th	3. Consensus Mechanisms	Manuel Fernandez
February 8 th to 12 th	4. Digital Signatures	Fadi Barbara
February 15 th to 19 th	5. Smart Contracts	Dimitris Sfounis Georgios Vagenas
February 22 nd to 26 th	6. Privacy and Property Rights	Iraklis Paraskakis
March 1 st to 5 th	7. Blockchain-based Decentralized Apps	Klitos Christodoulou Marinos Themistocleous Elias Iosif
March 8 th to 18 th	8. Decentralized Autonomous Organizations	Edward Vali

0. INTRODUCTION to DLT4All

Module 0 introduces the DLT4All course and offer an overview on Blockchain technologies both from an historical and technical perspective.

Date	Time	Topic
13.01	17.00-20.00	Introduction to Blockchain
14.01	17.00-19.00	Presentation of tasks, Use Case

Virtual Office	
15.01	17.00-19.00



SOULLA LOUCA

Professor in the Department of Digital Innovation and Director at the Institute for the Future, University of Nicosia

She has a background in Computer Science and a pioneer academic in blockchain technologies. Soulla was the Coordinator of the first MSc in Digital Currency worldwide and head of the Domain Committee for ICT in the EU program COST for 7 years, where she was also responsible for boosting innovative research and define strategies in science & technology to advance ICT policy in Europe and beyond.

She leads the DLT4ALL consortium and has been nominated by LATTICE80 as one of the top 100 women in Fintech for 2019.



ELIAS IOSIF

Senior researcher at the Blockchain Initiative – Institute For the Future, University of Nicosia

He received a PhD from the School of Electronic and Computer Engineering where he was research assistant and postdoctoral fellow. His areas of expertise include blockchains, machine learning, human language technologies and data mining, where he has authored/co-authored over 50 peer-reviewed scientific publications.

1. P2P Database Design

Module 1 provides an in-depth review of architectural design issues of data management, including the principles of database design and the mechanisms underlying peer-to-peer communication networks.

Date	Time	Topic
18.01	14.00-17.00	P2P Database Design I
19.01	14.00-17.00	P2P Database Design II
20.01	16.00-19.00	Use Cases
22.01	14.00-17.00	Q&A

Virtual Office

21.01	14.00-16.00
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ALBERTO GUFFANTI

Postdoc Researcher at the Computer Science Department, University of Torino

He holds a PhD in Theoretical Physics and worked as Researcher and Junior Faculty Member in various Research Centres around Europe. He also worked as Senior Developer in a start-up developing blockchain solutions for the energy sector and as Data Scientist and Machine Learning expert on a variety of projects.

In the blockchain domain, he focuses on applications for the Public and Social Sector.



LUCA FERRARIO

B.Sc. in Automation Engineering, Politecnico di Milano, and Founder of DkR S.r.l

He founded DkR S.r.l in 2011, a growing software house developing web and mobile custom platforms for different industries, including aeronautics, esports (videogames), manufacturing, energy, etc. The company recently built an automated cryptocurrency trading system

His areas of expertise include peer-to-peer networks and blockchain.

2. Encryption Techniques

Module 2 introduces and describes key cryptography concepts for blockchain technology, including hash functions, symmetric and asymmetric cryptography techniques, and Zero-Knowledge Proofs concepts.

Date	Time	Topic
25.01	16.00-19.00	Encryption Techniques I
26.01	16.00-19.00	Encryption Techniques II
27.01	16.00-19.00	Encryption Techniques III
28.01	16.00-20.00	Use Cases

Virtual Office

29.01	16.00-18.00
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PABLO LÓPEZ
Founder of CreatiBlock

He holds a B.Sc. in International Marketing & Communication and an MSc in HR and Management Development. He is also certified as Blockchain Solutions Architect. He gained expertise in technological innovation projects through a number positions in companies such as BOSCH, INDITEX, SERVICUIDE and INCOTEC over 15 years, where he was responsible for training and manage innovation teams. He is an entrepreneur in domains such as food-tech, biotech, and cybersecurity, and participates in different networks of experts for project evaluation and acceleration. Since 2014 he has served as advisor on the design of blockchain architectures, DLT-based business models and tokenomics.

3. Consensus Mechanisms

Module 3 explores the mechanisms handling agreement among nodes participating in a blockchain system, including Proof of Work, Proof of Stake and the role of Game Theory in the design of consensus mechanisms.

Date	Time	Topic
01.02	11.00-14.00	Consensus Mechanisms I
02.02	11.00-14.00	Consensus Mechanisms II
03.02	11.00-14.00	Technical Extensions
04.02	11.00-14.00	Use Cases
05.02	11.00-14.00	Q&A

Virtual Office

01.02	16.00-18.00
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MANUEL FERNANDEZ GRELA

Lecturer and Researcher at the Group of Analysis and Modelling in Economics, University of Santiago de Compostela

He holds a PhD in Economics from University of Santiago de Compostela and has published research papers in several international scientific journals, as well as written a variety of reports for business associations and public administrations. He heads the USC branch of the DLT4ALL consortium, helping to develop a blockchain curriculum for European universities.

4. Digital Signatures

Module 4 describes the properties and technical requirements to implement digital signatures, including their generic characteristics, mathematical prerequisites and specific algorithms to preserve privacy and security.

Date	Time	Topic
08.02	14.00-17.00	Digital Signatures I
09.02	14.00-17.00	Digital Signatures II
10.02	12.00-18.00	Hands-on Exercise
12.02	14.00-17.00	Use Cases

Virtual Office

11.02	16.00-18.00
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FADI BARBARA

Ph.D. student at Department of
Computer Science, University of Turin

He holds a B.Sc. an M.Sc. in Mathematics and has served in the Program Committee of a variety of blockchain conferences. His research interests span both Applied Cryptography, with a focus on Digital Signatures techniques, Distributed Ledger Technologies, with an emphasis on Blockchain ledgers, and Decentralized Finance. He has given invited talks and tutorials relating to Blockchain technologies.

5. Smart Contracts

Module 5 investigates design issues of Smart Contracts, including an overview of programming languages, computational costs, security, regulatory and legal issues.

Date	Time	Topic
15.02	11.00-14.00	Intro to Blockchain technologies
	17.00-18.00	Virtual Office
16.02	11.00-14.00	Development class I
	17.00-18.00	Virtual Office
17.02	16.00-19.00	Development class II
	11.00-12.00	Virtual Office
18.02	16.00-19.00	Develop. class III
	11.00-12.00	Virtual Office
19.02	11.00-14.00	Business Class + Ideation Day (Open Discussion & Q&A)
	17.00-18.00	Virtual Office



DIMITRIS SFOUNIS

Student of Computer Science, Aristotle University of Thessaloniki

He is a software engineer, four times honoured and awarded in Blockchain & Smart Contract projects internationally. He is Lead Engineer of Bluechain EU: a system for natural resource metering using smart contract integrated sensors.



GEORGIOS VAGENAS

Student of Aquatic Engineering, National Polytechnic of Athens

He is a marine biologist, twice honoured and awarded in Blockchain & Smart Contract projects internationally. He is part of the scientific personnel at the Hellenic Centre for Marine Research and is Lead Project Architect in Bluechain EU.

6. Privacy and Property

Module 6 discusses how blockchain technology can support legislation on property rights and licensing and can help designing fair remuneration schemes. It also presents technologies enhancing privacy of blockchain-based systems.

Date	Time	Topic
22.02	17.00-20.00	Privacy & IPR in Blockchain
23.02	17.00-20.00	Challenges & Opportunities I
24.02	17.00-20.00	Challenges & Opportunities II
25.02	17.00-20.00	Use Cases
26.02	15.00-18.00	Q&A

Virtual Office

26.02	18.00-20.00
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IRAKLIS PARASKAKIS

Senior Research Officer at South East European Research Centre and Coordinator of Information & Knowledge Management Research Cluster

He holds an MSc in Analysis, Design and Management of Information Systems from London School of Economics and a PhD in Information Technology and Education. His research interests comprise educational informatics, information systems, and knowledge management. He has a number of publications in related conferences and journals, served as Organising Chair and Program Committee Member in international and regional conferences and participated in several successful EU projects in these areas. He is a member of BCS, IEEE, EARLI, AIED and AACE.

7. DLTs-based Decentralized Apps

Module 7 analyses Blockchain-based Decentralized Applications (DApps), providing the tools to evaluate which industries are ready to adopt Blockchain technology and to what extent.

Date	Time	Topic
01.03	16.00-19.00	Anatomy, design patterns & basic dApps development
02.03	14.00-17.00	From dApps to 4 th industrial revolution; Use Cases
03.03	14.00-17.00	Hands-on Exercise
04.03	14.00-17.00	DApps for professionals
05.03	14.00-17.00	Use Cases

Virtual Office

05.03	17.00-19.00
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MARINOS THEMISTOCLEOUS

Associate Dean of School of Business and one of Directors of the Institute For Future (IFF), University of Nicosia.

He holds a PhD in Information Systems Integration and a Postgrad. in Teaching and Learning in Higher Education. He also holds certifications in Blockchain, FinTech and Future Commerce from MIT and teaches at the world-leading Digital Currency postgraduate programme at University of Nicosia, Cyprus.



KLITOS CHRISTODOULOU

Faculty Member at Department of Management and Digital Currencies, University of Nicosia

He holds a M.Sc. and a Ph.D. in Advanced Computer Science with specialisation in Advanced Applications. He serves as Associate and Guest Editor at the Frontiers in Blockchain Journal and at of Future Internet. His research interests span Data Management challenges, Machine Learning techniques, and Distributed Ledger Technologies, with an emphasis on Blockchain ledgers.

8. Decentralized Autonomous Organizations

Module 8 presents how organizations can run autonomously through protocols encoded as various types of computer programs, including their advantages, disadvantages, legal, cultural, and political implications.

Date	Time	Topic
10.03	13:00-16.00	Deep Dive into DAOs
12.03	13.00-16.00	Deep Dive into DAOs II
16.03	13.00-16.00	Use Cases & Assignment
18.03	13.00-16.00	Final Presentation

Virtual Office

12.03	16.00-17.00
16.03	



EDWARD VALI

General Partner at Accelerate Venture Partners

He is a blockchain expert, cryptocurrency enthusiast, and a venture investor. He is one of the early adopters of digitalized assets supporting and utilizing technologies for decentralized economies. Edward has been a part time Associate Professor of Accounting and Finance at Copenhagen Business School. His research and teaching focused predominantly on capital market studies. Edward contributed to the European Commission's PRISM project on Intellectual Capital in venture-backed investments and is currently engaged with advising several blockchain projects, ranging from payment and exchange to distributed general artificial intelligence.

INVITED EXPERTS



DMYTRO GREBENNIKOV
Senior Project Manager at UNICSOFT

Dmytro Grebennikov is a Senior Project Manager at UNICSOFT working on mobile, web, blockchain and supply chain projects including crypto-trading projects. For several years he worked for IBM and the European Commission as Project and Program Manager. He managed geographically distributed teams of +40 people worldwide. He accomplished about 15 projects of software and hardware implementation in high-security high-confidentiality environments. Moreover, Dmytro worked for Raiffeisen Group, the biggest Austrian bank group, as Release Manager and Program Manager, implementing the release process for core banking systems and IT teams consisting of +80 people. He is experienced in building different models of SDLC/PLC and has about 20 accomplished projects of Bank software development, 2 of them in e-commerce.



DR GLIB KONOTOP
Senior Business Development
Manager at Unicsoft

Dr. Glib Konotop is a Senior Business Development Manager at Unicsoft since 2018, primarily focused on AI and Blockchain for EdTech, Supply Chain, and Fintech. He is responsible for developing long-term relations with key accounts and organize technical teams to tackle customers' needs, ensuring that business goals are achieved through cutting edge technologies. Glib has +3 years of commercial experience in Innovative Technologies and Smart Solutions Development alongside +7 years as scientist, tutor, and mentor. He also holds a Ph.D with focus on "Institutional mechanisms for external financing in emerging markets economies". Glib is the author of 13 scientific publications and has a broad network of contacts in commerce, education facilities, and government. He's a proactive collaborator and cooperation facilitator.

INVITED EXPERTS



VINCENZO DI NICOLA
Co-founder of Conio

Vincenzo Di Nicola is the co-founder of Conio. There he built patent awarded solutions that make cryptocurrencies easy and safe, and power up digital asset services for financial institutions. He has also been a member of the expert committee established by the Italian government to draft the Italian national strategy on Blockchain. Vincenzo grew professionally in the USA. Previously He was the CTO and co-founder of GoPago (mobile payment startup in San Francisco which had a tech exit with Amazon), led the Real Time Behavioral Targeting teams at Microsoft (Redmond, USA and Beijing, China), and had a success story as in intern at Yahoo! (Sunnyvale, USA). Vincenzo holds a Master of Science in Computer Science from Stanford University.



ROBERTO TONELLI
Software engineering
University of Cagliari

Roberto Tonelli is researcher in software engineering at the Department of Mathematics and Informatics, University of Cagliari. He has been working on software engineering and on applications of complex systems network theory to software engineering since 2007. He is authors of more than 100 papers on open source software, software process simulation and modeling, simulation of statistical processes to software development and maintenance, sentimentanalysis, agile processes, refactoring, and blockchain software engineering. He has been chair and organizer of about 10 workshops on software engineering and extreme programming. Recently his research interests turned to Blockchaintechnology and Smart Contracts, and he already authored various papers on the topic and coined the term BOSE (Blockchain Oriented Software Engineering) together with M. Marchesi. He's the main organizers of the four editions of IWBOSE and WETSEB from 2018 to 2021, two workshops on blockchain software engineering.