



UCL

Blockchain Executive Education Programmes

Executive Education programmes designed for business strategists, innovators, futurists and public sector planners to gain a rigorous understanding of the impact of blockchains on industry and society, both today and in the future with instruction provided by international thought-leaders and leading academics.

Blockchains—Transformative Technology or Not?

Blockchain pilots are now being successfully completed by corporations both in the finance sector and beyond¹. Investment continues to rise reaching over \$22.5 billion since the inception of blockchain². This nascent technology is expected to transform mainstream practices in finance, supply chain and logistics, IOT, cybersecurity and government.

- Today, does implementing blockchain technologies create benefits and what are the risks in doing so?
- Will these transformative technologies live up to the hype and early accolades?
- How can blockchains be deployed practically alongside other emerging technologies?

Understanding how new technologies will impact industries in the near future can be a challenge. Educational materials are often too superficial or overly-technical and do not provide the specific details required by leaders to make informed decisions. Our programmes balances strategic concepts and relevant technical concepts to guide leaders on appropriate adoption of disruptive technologies.

1- CBInsights 2 - Coin Desk

UCL Blockchain Executive Education Programmes

University College London (UCL) brings the world-renowned expertise of it's Centre for Blockchain Technologies, together with the foremost thinkers in blockchain technologies globally to offer a comprehensive set of education programmes on Blockchain and Distributed Ledger Technologies.

- Instruction by global thought leaders and academics
- Programmes designed for different requirements
- Hybrid learning model: Online and In-Person education blended together

Our programmes deliver a comprehensive experience for executives to gain an understanding of blockchains, applications to industry and the public sectors, and future implications for our society.

Our goal is an intensive experience in blockchain literacy. Participants of our programmes interact with academics at the cutting edge of research on technical, business and legal aspects of blockchain-based systems that inform strategic thinking and public policy. In addition, participants gain access to a curated network of expert practitioners pioneering these technologies at the frontline.

We currently offer the following programmes:

Evening Education Programmes

8 Evenings over 8 Weeks

Summer/Winter Schools

3 Days

Bespoke Programmes

Tailored to requirements

The Value Our Programmes Deliver

- A comprehensive understanding of blockchains through a unique framework that equips participants to analyse the technologies and assess their economic, legal and regulatory implications
- The information to guide participants' organisations through the necessary changes involving the adoption and deployment of new potentially disruptive distributed technologies like blockchain and how to overcome obstacles and hindrances
- The ability to assess the opportunities and threats that blockchains (in conjunction with other emerging technologies as well) may generate for your industry or those in your supply chain
- Hybrid Online/Offline teaching: learn basic foundational knowledge before arriving into the classroom for in-person teaching
- Outstanding executive collaboration and networking experience and access to a community of highly regarded academics, guest speakers and interested peers
- Access to the UCL CBT and their associates, including the latest research, newsletters and events, both during and after the programme
- Certificate of Participation that can be used to evidence Continuing Professional Development (CPD) hours

Who Are These Programmes Aimed At?

This programme is aimed at business leaders, innovators, regulators and public policy makers who need to quickly gain a fundamental understanding of blockchains including both the opportunities and risks.

This programme is primarily managerial in nature, with optional technical and simulation sessions for those who wish to explore the underlying nature of blockchains in more depth.

This course is most suited to those in managerial, executive, senior and director-level positions, who have a keen interest in understanding how to evaluate the opportunities, threats, and innovation potential of disruptive blockchain-based business models from multiple viewpoints.

It is also suitable for those who wish to develop links with the UCL Centre for Blockchain Technologies (UCL CBT) to collaborate on joint research or applied contract work.

Ultimately, this programme is suitable for anyone looking to future-proof their careers with skills and knowledge that will be in demand in the short to medium term.

"We stand on the brink of a fourth industrial revolution, which will fundamentally alter the way we live, work, and relate to one another. New technologies are dramatically transforming our economic systems, and our society in general, into something very different from what we were used to thinking about over the last few decades"

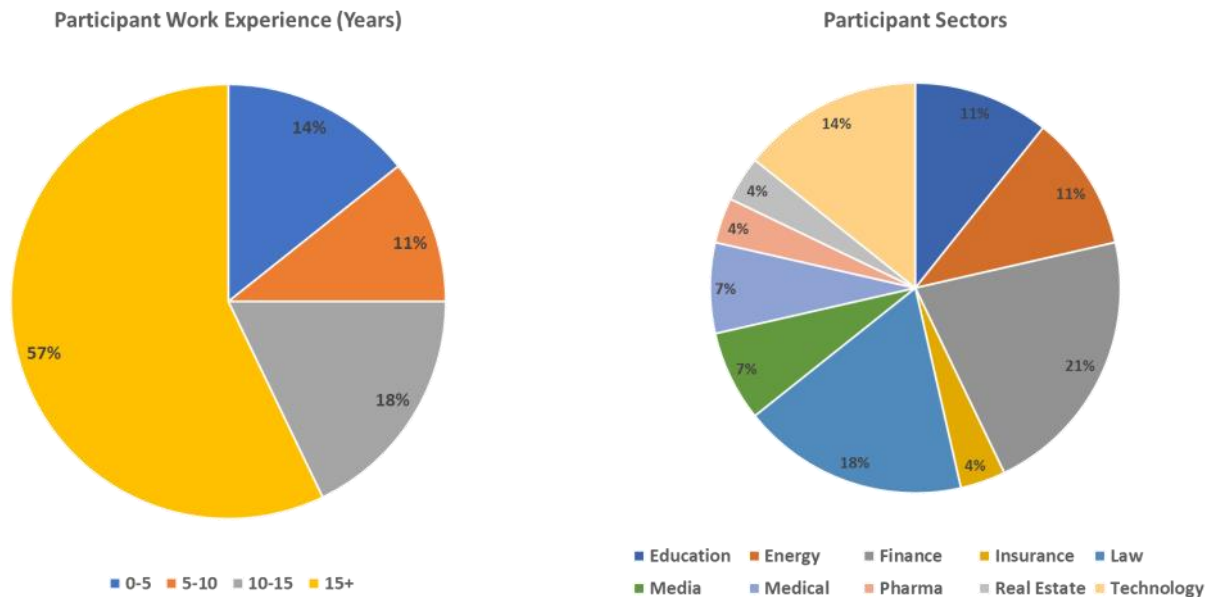
Dr Paolo Tasca, Executive Director - UCL CBT

Programme Participants & Feedback

Course participants on our programmes have come from a variety of sectors and with diverse work experience.

The median work experience of participants is greater than 15 years.

The following charts show the breakdown of participants based on work experience and industry sectors.



Feedback from previous programmes include:

- *“A thoroughly enjoyable course—I now read blockchain use cases with a different sense”*
- *“High quality speakers + content”*
- *“A good introduction to DLT”*
- *“Great delivery, structure, content and friendly/supportive delivery team”*

Programme Syllabus

Our programmes are designed to provide participants with a framework for evaluating blockchains, both through the use of technology and business applications and from a legal and regulatory perspective.

Programmes are primarily taught in-person by academics and practitioners to give a balance between theory and current real-world applications. There is supplementary material made available online to complement classroom learning.

The following outlines the main areas of teaching we cover on our programmes and optional coding workshop and networking events that can be offered if required:

Pre - Course Preparatory Material

Before embarking on in-person classroom teaching, we present online material to help build basic foundational knowledge to help participants get the most out of their time with global blockchain thought leaders.

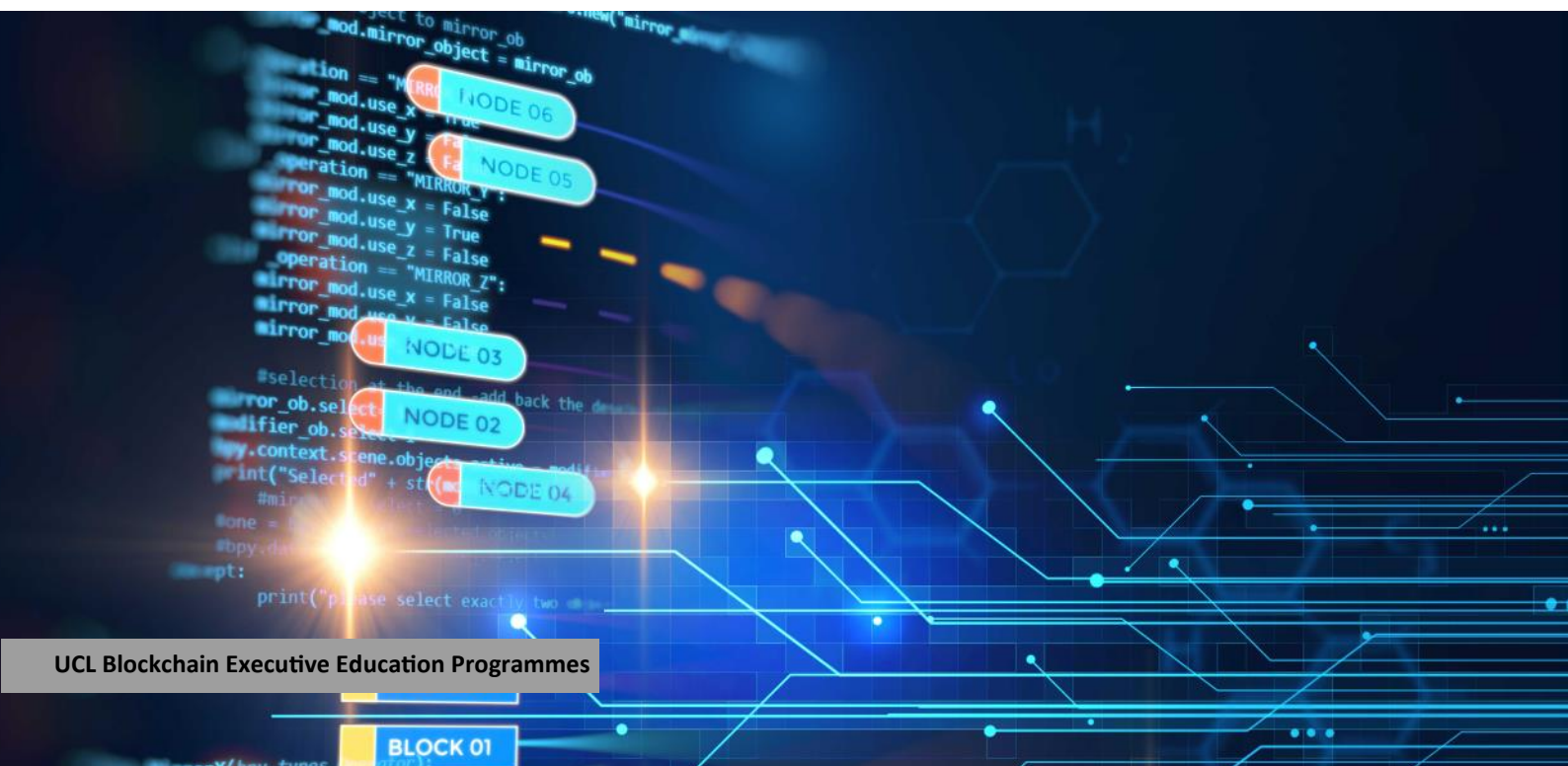
Part 1 - The Technology Behind Blockchains & Distributed Ledgers

In the first part of our programmes, participants learn about the underlying elements of what makes up a distributed ledger and the history behind blockchains. How do distributed ledgers differ from existing technologies available? What are the benefits they bring? How many different distributed ledgers exist? How can we distinguish good ones from bad ones?

Participants also learn about different blockchain applications, including:

- **Cryptocurrencies and Tokens**
- **Asset Registry Technologies**
- **Application Stacks**
- **Asset Centric Technologies**
- **Smart Contracts (including DApps and DAOs)**

At the end of this initial module, participants are well-versed in the various technologies that underpin blockchains and how these translate into their uses in industry.



Part 2 - The Economic Implications and Business Applications of Blockchains

In the second part of the course, we examine the economics of blockchains, business cases in different industries and socio-economic implications.

We map out the different blockchain industry segments, study the dynamics of investments in blockchain-related businesses and both the disruption created as well as the challenges and risks of adoption. Enterprise blockchain solutions and how companies are thinking about and implementing projects will be covered. We also cover how blockchain technologies interface with other emerging technologies such as Artificial Intelligence.

We also examine the monetary and macroeconomics of cryptocurrencies and the use cases of smart contracts. We examine how the ICOs, DAOs and Token economies are evolving and where they fit in today's world.

At the end of the second part of this course, you will understand what the trajectory of blockchain applications may be in various industries and the opportunities and risks they may present.

Part 3 - The Legal/Regulatory Implications of Blockchains

In this section participants learn about the legal and regulatory challenges faced with adopting blockchains and smart contracts, as well as regulation of cryptocurrencies. In particular, we look at differences in the regulation of ICOs/DAOs and how security, debt, payment and utility tokens differ from a regulatory and legal perspective across different jurisdictions.

We examine the evolving nature of regulation in blockchain use and how blockchains can be used to streamline regulation and compliance (RegTech). With the support of real uses cases, participants learn how these technologies can be used for continuous auditing, AML/KYC verification, or automated tax filing.

Part 4 - Real World Case Studies

Equipped with an underlying framework of technological, economic and legal aspects of blockchains, participants then look at real-world case studies of blockchains to discover how blockchains can be applied or not to their own industry and how transformative business models can be created.

Blockchain Coding Workshops

To give participants a practical feel of what it means to work with blockchain technology we provide a coding workshop where one can appreciate the coding required when working with simple DLT applications. Participants will be able to understand the structure and behaviour of simple Ethereum based Smart Contracts and the structure of a DApp.

Networking Events

Our goal is not only to equip participants with the knowledge to tackle disruptive blockchain technologies, but also to make connections with practitioners and blockchain companies that they can collaborate with. We provide networking events where participants can get to know their peers, lecturers, and meet emerging blockchain companies and blockchain practitioners.



The Different Types Of Programmes We Offer

We currently offer a mix of programmes that vary in format and are held both in the UK and internationally. These consist of Evening Education Programmes held in London, UK; Winter/Summer Schools held internationally and Bespoke Programmes taught both in the UK and internationally based on requirements.

Our aim over the course of a year is to offer Evening Education Programmes and Winter/Summer Schools along at different points throughout the year (subject to change and please see website for the latest timetable):

- Winter School
- Evening Education Programme
- Summer School

We aim to provide Bespoke Programmes based on client requirements and our programme schedules.

Evening Programmes

These programmes consist of eight evening sessions spread over eight weeks teaching core material. Optional blockchain coding workshops and networking events are held in the week before and after the programmes. Typical evening sessions last for three hours and are held on UCL campuses in London, UK. Currently we are aiming to offer this programme twice a year.

Summer/Winter Schools

These programmes provide an intensive three day experience with the teaching of core material only. Typical daily sessions run from 9:00-18:00 between Wednesday to Friday in the week. We are currently aiming to offer one Summer and Winter School in different international locations throughout the year. These programmes are run internationally in partnership with reputable local educational institutes.

Bespoke Programmes

For those who require customised programmes, we are able to create programmes spanning several hours to several days taught both in the UK and internationally. Get in touch to discuss more about bespoke programme requirements.

Course Accreditation

A certificate of attendance on completion of our programmes with evidenced Continuing Professional Development hours is presented to all those who complete our programmes.

Programme Requirements

- No prior knowledge of blockchains is required before taking our programmes
- Most beneficial for mid to senior level managers in organisations looking to explore blockchain applications for their industries

Who Participants Will Learn From

Our Instructors — Global experts who share their experiences and in-depth subject knowledge of the core elements of our programmes



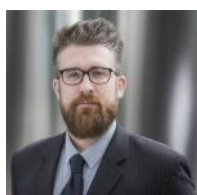
Dr Paolo Tasca is a Digital Economist specialising in P2P financial systems. An advisor on blockchain technologies for different tech companies and international organisations including the EU Parliament and the United Nations, Paolo is the founder and Executive Director of the UCL CBT. Previously, he was Lead Economist on digital currencies and P2P financial systems at the Deutsche Bundesbank. He is also an entrepreneur and inventor of several blockchain-related technologies including Overledger.



Prof. Tomaso Aste is professor of complexity science at UCL Computer Science. He has substantially contributed to research in financial systems modelling, complex data analytics and machine learning. He is passionate in the investigation of the effect of technologies on society, and currently, focuses on the application of blockchain technologies to domains beyond digital currencies. He is the principal investigator for the largest UK project on blockchain for automatic regulation and compliance. He is Scientific Director of the UCL CBT; Head of the Financial Computing and Analytics Group and Member of the Board of the ESRC LSE-UCL Systemic Risk Centre.



Dr Geoffrey Goodell is a research fellow at UCL CBT. He is also an entrepreneur and portfolio manager with a decade of experience in the financial industry. He has previously worked for Goldman Sachs and was Partner and Chief Investment Officer of Phase Capital, an asset management firm. He has a PhD in computer science from Harvard University. His research is concerned with decentralized systems, digital currencies, institutions, and regulation.



Dr Alastair Moore is a computer scientist with experience in AI/ML, UX design, marketplaces, mobile, early-stage tech and blockchain innovation. He also founded UCL spin-out Satalia.com and venture-backed Wearepopup.com. Most recently he has been involved in helping design and administer innovation programmes at IDEALondon and UCL's School of Management. His areas include innovation in business models for 5G networked environments; scale-up support programmes for SMEs requiring Big Data/Analytics expertise and the commercialisation of smart cities using Sematic Web technology. He also works with Mishcon de Reya implementing AI and blockchain technologies in the legal world.



Prof. Ioannis Lianos is an expert in competition law and policy. He holds the chair of global competition law and public policy at UCL and a Gutenberg Research chair at the Ecole Nationale d'Administration. Professor Lianos has worked with the European Court of Justice, the European Commission and the Federal Trade Commission and has advised several governments and private parties in the areas of competition law and good governance. He is also the Executive Director of the Jevons Institute for Competition Law and Economics.



Mr Nikhil Vadgama is the Deputy Director (Acting) of the UCL CBT. He is also a founding member of the Retail Blockchain Consortium. He is a Lecturer in Financial Technology at the UCL School of Management. He is actively involved in the commercialisation of AI and Blockchain academic research in the finance, real estate and education sectors in the UK and China. He also advises numerous early-stage Blockchain and AI companies. He has previously worked globally as an Investment Banker for HSBC. Nikhil holds an MBA from INSEAD and an MPhys from the University of Oxford.

Our Blockchain Practitioners — They provide participants with their frontline experiences of the practicalities of implementing blockchains in industry



Mr Henning Diedrich is the founder and CEO of the Lexon Foundation. He was the first architect of Hyperledger at IBM and served as a Director for blockchain at the Boston Consulting Group, Digital Ventures. For the European Commission, Henning led a small, global posse of core crypto devs giving advice about what is and what isn't possible in regtech using smart contracts. Henning also led the technical architecting of DeBeer's blockchain supply chain solution for the diamond industry with data protection.



Dr Julio Faura was the former Head of R&D (Blockchain) at Santander. He led their activities around crypto-currencies, blockchain and distributed ledgers, running internal technical labs where he built innovative blockchain-based products and services, led collaboration with other leading banks in the space, leading the creation and participating in industry consortia, and regularly speaking at relevant industry forums. He is the chairman of the Enterprise Ethereum Alliance, the chairman of Spain's Alastria network, and a member of the board of the Wall Street Blockchain Alliance.



Mr Richard Brown is the CTO at R3 and is one of the world's leading authorities on distributed ledger systems and architectures. Previously Richard was Executive Architect for Banking and Financial Markets industry innovation at IBM UK. His previous roles with the company, for whom he worked for almost fifteen years, included Lead Account Architect for a global Investment Banking client and a consultant for IBM software products. Richard is a Chartered Engineer, holds an MBA from Warwick Business School and a degree in Mathematics from Cambridge.



Mr Peter Todd is an Applied Cryptography Consultant and a core developer for the Bitcoin protocol. He has worked on proofchains and treechains, with permissionless development, decentralized mining, and scalability. He is the maintainer of the python-bitcoinlib and OpenTimestamps projects. He has worked with numerous blockchain companies including, Coinkite, Dark Wallet, MasterCoin and Verisart. He is known for working towards improving security and stability in bitcoin without compromising decentralisation.



Mr Lars Schlichting is an expert in the regulatory and legal aspects of blockchains and has advised numerous clients including crypto funds, crypto exchanges and several ICOs. He is currently CEO of Eidoo Group, a Multicurrency Wallet and Hybrid Exchange, and a Partner at Kellerhals-Carrard, a Global Law firm. He has also previously been a Partner at KPMG Switzerland, advising on banking and finance, and worked as an Attorney for the Swiss Federal Banking Commission.



Dr Daniel Heller is a fintech and digital currency expert. In 2017, he was a visiting fellow at the Peterson Institute for International Economics in Washington where he published widely on the impact of emerging digital technologies such as blockchain on the financial sector, financial stability, and central banking. Before joining the Institute, he was Head of Financial Stability at the Swiss National Bank, Head of the Secretariat of the Committee on Payment and Settlement Systems at the Bank for International Settlements, and Executive Director for Switzerland, Poland, Serbia, Azerbaijan, and four Central Asian republics at the International Monetary Fund.

About the UCL Centre for Blockchain Technologies



The UCL CBT is the first centre globally to actively focus on blockchain related research on the adoption and integration of Blockchain and Distributed Ledger Technologies into our socio-economic system.

The unique characteristics of the CBT at UCL provides a cross-sectoral platform connecting expertise and drawing knowledge from eight UCL departments centrally in one place. The CBT is a centre of excellence fostering open dialogue between industry players and sharing expertise and resources. It is a neutral think tank providing consultancy services to industry members, dedicated knowledge-transfer activities and cutting-edge in-house solutions.

For engagement outside of the academic world, the CBT's activities have been tailored to industry and policymakers' needs. The UCL CBT draws on its world-leading academic expertise to produce blockchain solutions for industry, start-ups and regulators. With a community of over 150 Research & Industry Affiliates and Industry Partners, it is the largest Academic Blockchain Centre in the world.

Notable Work

Ripple

The UCL CBT joined the “University Blockchain Research Initiative” founded by Ripple (a multinational Blockchain Company) to provide academic research, technical development and innovation in blockchain, cryptocurrency and digital payments. UCL was one of 12 institutions selected (including MIT, Princeton, Berkeley etc) and the only University from the UK.

BARAC

The CBT is leading the Blockchain Technology for Algorithmic Regulation and Compliance (BARAC) project. This is the largest publicly funded blockchain project aimed at the public sector that will be defining feasibility guidelines to policymakers, industry and regulators by identifying problems and associated solutions with a bottom-up approach, built through case studies and proof of concept platforms. For this project, the CBT is partnering with the Financial Conduct Authority, Singapore Monetary Authority, Cyprus Securities and Exchange Commission and financial groups like Banco Santander and R3, and FinTech companies like Lykke, Aesthetic Integration and Advanced Technology Solutions.

RSCoin

Several members of the CBT have teamed up with the Bank of England to develop a hybrid cryptocurrency, called RSCoin, which combines the benefits of distributed ledger technologies with the centralized control of traditional currencies. RSCoin can process approximately 2000 transactions per second—compared to 7 transactions per second that Bitcoin can process at the same time. Further, each individual transaction usually clears within a second—compared to the minutes that it takes for transactions in traditional cryptocurrencies to clear.

United Nations

The CBT is also partnering with the United Nations on a social protection initiative on digital identity. Many of the state of the art digital identity systems require centralised control points vulnerable to abuse by powerful third parties. Decentralised architectures can be deployed to address important human rights violations including privacy and economic empowerment among local businesses and cooperatives and their beneficiaries throughout the developing world.

Our Education Partners

In delivery of our programmes we have worked with a number of different academic and commercial organisations both in the UK and internationally.

When engaging in international programmes, we aim to work with a local partner that is well established and respected in that area.

Some of the partners we have worked with previously both in the UK and internationally include:



IDEALondon was the first corporate-university technology ‘post accelerator’ and has a successful track record in accelerating start-up growth through collaborative business and academic support.

It has mentored hundreds of technology companies, scaled 50+ start-ups, raised £60M+ investment funding, created over 500 jobs and hosted over 500 events over 4 years.

A successful collaboration between Cisco, UCL and new partners EDF Energy, it is also supported by Capital Enterprise, who serve 1/3 of all companies looking to raise funding in London. It supports the broad-spectrum of technology disciplines, including digital, business analytics, data science and blockchains.

Located at the interface of Islington, Hackney and Shoreditch, the 3rd largest tech start-up cluster in the world, with a neighbourhood that is home to GoogleUK, AmazonUK and Microsoft Reactor Labs, this flagship accelerator provides space and support for entrepreneurial start-up businesses to develop into stable enterprises, creating a lasting impact on London’s technology communities and the wider UK and global digital economies.



Cyprus Blockchain Technologies Ltd. is a non-profit organisation established as a collaboration among academic institutions, including CIIM – Cyprus International Institute of Management, University College London Centre for Blockchain Technologies (UCL CBT) and University of Nicosia, local regulators, financial institutions and

banks (including Hellenic Bank, Bank of Cyprus and Cooperative Bank), as well as other technology associations and companies.



The **University of Nicosia (UNIC)** is the largest university in Cyprus, with more than 11,000 students from over 70 countries across the globe, coming together in an innovative and transformative learning space.

Located in Nicosia, the country’s capital, and with presence in 18 other cities worldwide, UNIC is driven by its pursuit of excellence in teaching and learning, innovation, research, technology, and a continually evolving academic environment. UNIC was also awarded the title of “Biggest Contributor to the Rise of Blockchain in 2018” at 2018’s annual Blockchain Expo, held in RAI, Amsterdam, on 26-27 June 2018. The accolade at the inaugural Blockchain Awards was earmarked for an organisation that has demonstrated excellence in the strategy, application, or effectiveness of blockchain technologies. Over the past year UNIC stands out as the first university to offer a free online course on cryptocurrency, followed by the world’s first full academic degree in blockchain (MSc in Digital Currency). In the past year, UNIC once again broke new ground by being the first university in the world to publish all diplomas of its graduating students on the Bitcoin blockchain.



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Email: blockchain_education@ucl.ac.uk

Website: blockchain.cs.ucl.ac.uk/executive-education/

Please see our website for up to date information on programmes



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