

UCL Masterclasses 2019

Biochemical Engineering

Date: 9th April 2019, 10am – 1pm

Masterclass Title: Cancer treatments and stem cells

This masterclass will introduce you to the fundamentals of Biochemical manufacturing. You will learn how Biochemical Engineers are helping to develop new medicine for cancer treatment and the application of stem cells in cell therapy. You may get the opportunity to visit the UCL Pilot Plant and labs to see first-hand how research in this area is affecting how pharmaceuticals will be made in the future. If you are interested in how engineering is attempting to solve the global health and environmental challenges of tomorrow, this masterclass is a great introduction to this exciting and innovative field.

Required A level subjects: Maths plus one from Biology, Chemistry or Physics.

For further information and other qualifications, please visit our website:

<http://www.ucl.ac.uk/prospective-students/undergraduate/degrees/engineering-biochemical-meng/>

Medical Physics

Date: TBC

Masterclass Title: Illuminating the Brain

In this masterclass, you will be able to learn how researchers engineer light to monitor brain health and how light is used to measure brainpower and diagnose brain injury. You will use certain wavelengths of light to measure brain oxygenation and metabolism, learning about the latest developments in Near-Infrared Spectroscopy, build your own electronic circuits for biomedical engineering applications and play around a “science circus”, where you can rotate around different stands and learn how light interacts with the outer environment

Required A level subjects: Maths and Physics

For further information and other qualifications, please visit our website:

<https://www.ucl.ac.uk/prospective-students/undergraduate/degrees/engineering-biomedical-beng/>

Electronic and Electrical Engineering

Date: 8th April 2019, 10am – 1pm

Masterclass Title: Wearable Tech

Split in teams, you will be tasked with designing, coding, making, and prototyping your very own idea of a smart wearable device or product, testing and evaluating designs. You will be able to learn from experts in medicine, engineering, computing,

arts and design, and will be encouraged to explore, learn and combine a wide range of materials and technologies. You will find out how experts in the field integrate knowledge from anatomy, computing, engineering, design and art in a unique manner in order to produce the most amazing smart tech wearables. You will have the chance to learn different creative and digital skills during the workshop, including sewing, product design, 3D printing, laser cutting, soldering, circuitry, and coding.

Required A level subjects: Mathematics required, plus either Physics or Further Mathematics preferred.

For further information and other qualifications, please visit our website:

<https://www.ucl.ac.uk/prospective-students/undergraduate/degrees/engineering-electronic-electrical-beng/>

Computer Science

Date: 9th April 2019, 1pm – 4pm

Masterclass Title: Drones 4 Good

In this masterclass, you will be introduced to the ReMap Lima project team, where researchers are using drones to 3D map illegal land grabbing on the outskirts of the Peruvian capital. You will learn how research explores the possibilities of cutting-edge technologies for mapping and visualisation that can contribute to better planning in these areas. You will get the chance to use 3D printing, augmented reality and 3D mapping, and put together a drone pack in order to design, build, test and fly a variety of 3D printed mapping drones, through scenario-based activities.

Required A level subjects: Maths

For further information and other qualifications, please visit our website:

<https://www.ucl.ac.uk/prospective-students/undergraduate/degrees/computer-science-bsc/>

History of Art

Date: 11th April 2019, 1pm – 4pm

Masterclass Title: Studying History of Art at UCL – Is it all Old Masters?

How do you read an image? These days we produce our own images on social media, telling the stories of our lives. Without thinking, we create pictures of how we want other people to view us, whether it is adventurous, smart or funny. Have you ever thought that the skills that we use every day are the same skills needed of art historians?

In this masterclass, you will be introduced to British documentary photography from the 1970s. You will consider how photographers attempted not just to 'document' or reflect society, but to create potentially critical and oppositional images. You will discuss what these images tell us about Britain's changing political landscape and, by the end, you will understand some of the artistic responses to these changes.

Working in small groups, you will get the opportunity to explore archival objects, including the 1970s journal *Camerawork*, where many of these photographers published their work. You will be asked to identify the key features or forms of these objects and you will get the opportunity to present your ideas to the group. You will also consider how images affect our understanding of text and how authors use both to persuade their audience.

At the end of the session, you will be given the opportunity to ask questions about studying art history and the many career paths open to graduates.

Required A level subjects: No specific subjects.

For further information and other qualifications, please visit our website:

<http://www.ucl.ac.uk/prospective-students/undergraduate/degrees/history-art-ba/>

Institute of Americas

Date: 11th April 2019, 10am – 1pm

Masterclass Title: Encountering the Americas: Key Themes and Concepts

In this masterclass you will get a taste of the Year 1 module “Encountering the Americas: Key Themes and Concepts”, which introduces the multidisciplinary and transnational study of the history and politics, peoples and societies of the Americas. The session will consist of a short lecture followed by a dynamic and engaging workshop. You will be encouraged to engage with source material, discuss important concepts, and ask questions.

This masterclass is an excellent introduction to UCL’s exciting new degree programme, the BA History and Politics of the Americas. The degree provides students with understanding of historical, political, social, and international issues concerning the Americas, as well as the opportunity to study abroad.

Required A level subjects: No specific subjects.

For further information and other qualifications, please visit our website:

<https://www.ucl.ac.uk/prospective-students/undergraduate/degrees/history-politics-americas-ba/2019>

Laws

Date: 10th April 2019, 10am – 1pm

Masterclass Title: The Route to Qualification as a Lawyer: Legal Education and the Legal Profession in England & Wales

This masterclass will focus on legal education and the route to qualification as a solicitor or barrister in England & Wales. You will receive an overview of the various routes to qualification, both at undergraduate and post-graduate level. You will also get the opportunity to discuss some of the current trends in legal education that may shape how legal education is configured in the future. You will gain a better understanding of the legal profession in England and Wales. Finally, you will receive some guidance about applying to study Laws at the university level.

Required A level subjects: No specific subjects.

For further information and other qualifications, please visit our website:

<http://www.ucl.ac.uk/prospective-students/undergraduate/degrees/law-llb/>

Linguistics

Date: 8th April, 10am – 1pm

Masterclass Title: Hidden Sound Patterns in Language

Did you know that the 'p' sound in 'spin' is actually a 'b'? Why do 'singer' and 'finger' rhyme for some speakers but not for others? Come to this session to gain hands-on experience of some of the techniques phoneticians and linguists use to find out fun facts about the sounds of language. You will be shown how to use acoustic analysis apps to visualise speech sounds. You'll be able to try out some of the problem-solving methods we can use for discovering hidden sound patterns in language. This masterclass is perfect for anyone interested in language who would like to get a taste of studying linguistics at the university level.

Required A level subjects: One or more subjects from English Language, Mathematics or science preferred.

For further information and other qualifications, please visit our website:

<http://www.ucl.ac.uk/prospective-students/undergraduate/degrees/linguistics-ba/>

Institute of Sustainable Resources

Date: 10th April 2019, 1pm – 4pm

Masterclass Title: Peer-to-peer energy trading in London: what are the benefits of electricity system disruption?

In this masterclass, you will receive an overview of energy system transition, the emerging field of peer-to-peer energy trading and community self-consumption of energy. You will explore this new way of managing energy from social, environmental and technical perspectives.

You will receive a short lecture contextualising peer-to-peer energy trading within the evolving UK electricity system. You will then be given the opportunity to create a peer-to-peer energy market and trade with another using a game developed by UCL's Energy Institute. Finally, you will be encouraged to reflect on the questions peer-to-peer energy raises and how university research might help them answer these. You will be able to do this in groups based on your own interests e.g. a group on the politics / social justice questions, a group on the economics, a group on the technical innovation. If you are interested in social sciences, engineering or urbanism, then this masterclass is a perfect insight into an exciting new field.

Required A level subjects: No specific subjects.

Please note, this is not a subject you can study at Undergraduate level, for information on UCL Undergraduate degrees, please visit:

<http://www.ucl.ac.uk/prospective-students/undergraduate/degrees>

Urban Planning

Date: 9th April 2019, 1pm – 4pm

Masterclass Title: An Introduction to Urban Planning

Would you like to know more about how cities work and how we might plan for their future? The Urban Planning masterclass is for students in year 12 who are considering applying to university to study either urban planning, urban design, urban geography or urban studies. The masterclass will comprise of two short taster lectures in urban planning and design subjects, followed by a practical workshop class in urban design. No previous knowledge or skills are required.

Required A level subjects: No specific subjects.

For further information and other qualifications, please visit our website:

<http://www.ucl.ac.uk/prospective-students/undergraduate/degrees/urban-planning-design-management-bsc/>