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ASDAN
Oxford Summer School

(2020 Summer)
Course Descriptions
(Ages 19-25)



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Oxford Summer School 2020

Course Introduction(Ages 19-25)

Course Descriptions

1.Developments in Global Engineering

Course Summary

Across the world, engineering is a sector that is experiencing rapid change. Oxford Summer School's Developments in Global Engineering programme gives students a unique opportunity to analyse and discuss this change, and to prepare for a life and career at the centre of it.

The 21st century is an exceptionally exciting time to be commencing a career as an engineer. A range of disruptive trends are combining to revolutionise the sector, including the application of AI and Machine Learning to design and build technologies, changes in demands for engineering in developing countries and emerging markets, and the ever-evolving role of consultancies.

As a result of this change, businesses, charities and governments across the world require skilled engineers with the knowledge and capabilities to not only deliver on individual projects, but also to manage this shifting landscape and to lead teams through times of uncertainty and complexity.

This summer programme, available in the University of Oxford and the University of Cambridge, gives learners aged 19 and over the opportunity to develop the competencies required to build a career as a 21st century engineer, whilst also providing the unique chance to explore cutting edge material under the guidance of expert Oxford Summer School tutors.

For their assessment on the course, students will work both individually and as part of a project team to complete an engineering design challenge centred around the creation of a concept for a Smart City 1.0.

The course is accredited by the City of Guilds of London and all students will receive a certificate upon completion.

What will you get from studying the Developments in Global Engineering course?

Up to date knowledge of some of the latest thinking in core engineering disciplines

Higher confidence in designing engineering solutions for the future

Real-world experience of cross-disciplinary working in multi-national teams to enhance your analytical, problem-solving and leadership skills

The development of a global engineering consultant's mind-set - 'seeing the global in the local'

Course Outcomes

Students will:

Develop a strategy for leveraging advanced technologies such as the Internet of Things, analytics, AI, within a global engineering framework.

Understand the main global and technical challenges that engineers have to face in order to generate solutions to the problems facing both developed and developing economies

Apply theories to real-world problems and help build the future of the modern world through creativity and

innovation

Topics Covered

Successful completion of the project will involve coverage of the following engineering subject-areas underpinned by relevant mathematical principles including calculus, set theory and statistics.

Electrical engineering

Chemical engineering

Mechanical engineering

Civil engineering

Architectural/Structural engineering

Sustainable development- understanding the global supply chain

2. Professional Development Skills

Course Summary

Build upon your personal impact and effectiveness by completing this unique umbrella course. With expert teachers and constructive peer interaction, students will effectively develop their 'soft skills' and their ability to progress their personal performance. Face-to-face learning is critical to do this, and our programme enables you to receive immediate feedback, coaching, and evaluation of your performance and behaviours.

This intensive course will challenge you to think creatively and advance your skill set in a diverse and supportive environment. The lessons will simultaneously incorporate cutting-edge theoretical models and the practical application of skills. The lessons will then introduce self-reflection by implementing a reflective practitioner and action learning framework. Through this combination, students will have the tools to make significant advances to their professional skill set.

Expectations:

This course aims to provide students with well-rounded professional skills and a can-do mindset to enable them to succeed in their chosen career path.

With both theoretical and practical learning, the lessons aim to assist students to develop their ability to deal with various work- and people-related situations, confidently and comfortably. The expert teachers and peer feedback will allow students to be more productive, efficient, effective and feel confident that they have the ability to succeed in their chosen career sector.

Course Outcomes

By the end of the course, students will have:

Greater awareness of their professional capabilities, strengths and weaknesses

An understanding of when to deploy their professional skills in a variety of contexts

Developed a well-defined action plan to build their own brand

The ability to lead and facilitate meetings

The skills to speak and present with purpose, credibility and authenticity

Dynamic interpersonal skills to effectively listen, give feedback and ask questions

Enhanced performance through one-to-one coaching

Refined their professional mindset



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Negotiation, influencing, persuasion and assertiveness skills

Topics covered

21st century leadership skills

Creative problem solving and decision making

360 degree management

How to build powerful and productive relationships through digital networking

Conflict resolution

3. General English for the Modern World and Workplace

Course Summary

This General English course will help students make rapid progress in improving their speaking, writing, listening and reading skills in English. As they do so, students will build on their vocabulary and gain important practice in communicating in English, surrounded by a supportive and interactive learning environment.

Throughout the course, students will also be able to improve their conversational English in both academic and corporate contexts. A combination of lessons and practical activities provide a rounded understanding of the language and ensures students will leave the course more confident in their English abilities.

What to expect from the General English for the Modern World and Workplace course

Students from all over the world come together on this course to develop their English skills for use in a variety of contexts, extending their vocabulary, grammar and syntax as well as working on their reading, writing and listening skills. The course will help students to improve their language skills with a view to working in either an English-speaking company or an overseas business requiring competency in the language.

Course Outcomes

By the end of this course, students will have:

Explored the many idioms of the English language

Discovered which style of English is best for different situations

Practised different scenarios with their peers

Become more confident in their conversational, academic and professional English abilities

Topics covered

Attendees on this course will cover all relevant aspects of conversational, business and academic English, including:

Grammar

Vocabulary

Pronunciation

Speaking

Listening

Reading

Writing

Colloquial English

Teaching

Teachers on this programme are qualified according to British Council standards (CELTA, Trinity CertTESOL or equivalent Level 5 TEFL qualification).

4. Global Business, Management and Finance

Course Summary

Enhance critical business, management and financial knowledge through the exploration of cutting-edge theory and the application of relevant, powerful and recent case studies.

"We live in Financial Times" was the marketing campaign for one of the most respected business and financial daily newspapers in the world, the Financial Times. This provides a warning that we all need to be financially aware to be successful in the modern era, and this unique programme from Oxford Summer School provides a foundation for enhancing key business and finance knowledge. The course also prepares students for careers in business or entrepreneurship.

The programme has been specifically designed and developed by Oxford Summer School's expert teaching faculty to help the global business student enhance their theoretical knowledge, and draws on supporting case studies from the Financial Times, the Economist and other international business journals.

What to expect from the Global Business, Management and Finance course

Oxford Summer School's Global Business, Management and Finance course is targeted specifically at the business management needs of students aged 19+. They might be taking a gap year, or be a current undergraduate, looking forward to the world of work. Most degrees do not include business management skills, but might nonetheless lead to jobs that require them - this intensive, fun, hands-on two-week course can help students level-up in skills, so that they're ready to take on managerial responsibility, in whatever form that might be.

Throughout the course, theoretical arguments will be supported by specially chosen case studies from academics educated at some of the leading business schools around the world. This combination of theory, case studies and practical workshops will help students to develop business, management and financial mindsets and establish the foundations for a successful corporate and entrepreneurial career.

How will the Global Business course help me?

Students might have an inspired idea for a new app, or a charitable cause that they're passionate about, but making a success of endeavours like these will inevitably require business management skills. Likewise, any promotion gained in a future career is likely to require the management of other members of staff; and while some employers will offer training for this, many will simply expect you to work it out for yourself.

Course Outcomes

By the end of this course, students will have:

Been introduced to corporate finance and asset markets

Explored risk assessment modelling, Net Present Value and the Capital Asset Pricing Model

Examined alternative sources of investment, including hedge funds, LBOs and Venture Capital

Explored marketing, market segmentation, e - business, digital marketing and consumer behaviour

Concluded their two weeks by examining topics including Corporate Social Responsibility, Social Innovation and Social Entrepreneurship

Topics covered

The table below gives an indication of the subject areas that will be covered in each day's lecture and seminar. Although every effort has been made to ensure accuracy, please note that topics and timings may be subject to change.

5. International Medical Research and Practice

Course Summary

Modern medical practice doesn't exist in isolation; it's kept up-to-date and moving forward by the important work of medical scientists. Oxford Royale offers students from around the world the unique opportunity to explore the realms of medical science whilst working in the labs and classrooms of one of the world's leading research institutions - the University of Oxford. Students will be taught about the anatomy and pathophysiology of disease within the body's cardiovascular, respiratory, gastrointestinal and nervous systems through lab-based dissections and case-based teaching.

The course will also have a strong practical focus, with students taught how to examine patients, take a history and interpret key scans and blood tests to allow diagnosis of cases from across the globe. Pharmacology will also be covered, with students exploring drug biochemistry within the walls of the same university where the structure of Penicillin was discovered in 1945.

What to expect from the International Medical Research and Practice Course

Throughout the course, students will learn about the role of clinical trials and research papers in informing evidence-based medicine, and learn how to gather evidence from papers, condensing relevant information into a concise review, focusing on a topic that interests them. Through practical tasks such as dissection, students will gain a deep understanding of the intricacies of the heart and its inner workings and get a better understanding of the anatomy of key organs like the lungs. Students will explore the link between research and practice, building on their practical tasks to better understand the common illnesses that can affect these organs, such as COPD, asthma and lung cancer, and learning about their respective treatments. Students will also study the nervous system, investigating its anatomy and function and its disorders such as Parkinson's.

This course seeks to situate itself within a wider context, and so students will also explore global health topics such: as how the international medical community is working to combat the recent outbreaks of Zika and Ebola; the role of WHO in eradicating smallpox; and the pathophysiology and geography of HIV.

Course Outcomes

By the end of this course, students will have:

Learned about the role of clinical trials and research papers in informing evidence-based medicine

Gained a deeper understanding of the heart and anatomy of key organs

Studied the nervous system, investigating its anatomy and function and its disorders such as Parkinson's

Explored global health topics

Explored the link between research and practice

6. International Law in the 21st Century

Course Summary

The course will focus on recent developments in the field of international law, and guide students through the central debates within the discipline. It begins with the philosophy of law, seeking to help students understand the origin of laws, and enter a legal mindset.. It then covers the main theories of international law, drawing from realism to liberal institutionalism and constructivism.

This course will offer a thorough grounding in the principles of Law across key topics, and how the systems

of Law that we have are justified from a philosophical standpoint. Additionally, it offers valuable training in debating and discussing complex and often controversial topics in a respectful way; a skill that is valuable not only at university but also in the workplace. Law requires clear and precise communication, and a key aim of this course is to train all students in communicating in this way.

Prerequisites

This two-week course is aimed at adults who are keen to learn the fundamentals of International Law in the 21st century. Prior legal training is not required, as all the necessary concepts will be covered during this intensive course.

What to expect from the International Law in the 21st Century Course

A comparative law perspective applied in this course enables students to gain a better understanding of legal systems all over the globe. The course covers Human Rights and explores the role played by international institutions in an interconnected world. It also studies international dispute settlement, highlighting some of the most famous cases of disputes between countries, or between states and non-state actors. By discussing international commercial arbitration, we explore in this course the ways in which international agreements and arbitration awards are enforced globally through hard law and soft law.

How will the International Law course help me?

This course is aimed at gap year students, current undergraduates and any other adult learners who wish to expand their understanding of Law with like-minded peers from all over the world. It's particularly suitable for students interested in topics adjacent to Law; for instance, for students of Politics, International Relations or History, or those who are interested in working in law enforcement, local government or the Civil Service. They might also be current undergraduates who are considering a Law conversion course upon graduation, in which case this introduction to Law at a higher level than they might previously have encountered is sure to be invaluable. However, students might also choose to take this course if you studied Law at school and would like to refresh your memory and build on that knowledge, or even if you are studying a completely unrelated subject and simply find the world of Law fascinating – as so many people do.

Course Outcomes

By the end of this course, students will have:

Been trained in debating and discussing complex and controversial topics

Visited the court of international arbitration in London

Studied the principles and systems of Law

Understood the philosophy and origins of Law

7.iOS App Programming and Web Development

Course Summary

How many times have you found yourself saying "There's an app for that"? Apps - and iOS apps in particular - have become so vital to our daily lives that it's difficult to imagine life without them. This makes them the most exciting areas in which to grow your knowledge and skills – and this course is the ideal way to get started.

The iOS App Programming and Web Development course is a fascinating and highly relevant programme designed for gap year students, undergraduates, and others who wish to learn how to construct cutting-edge smartphone apps and websites.

Time spent on this course will give students a deeper understanding of these technologies which have become so fundamental to daily life, and will equip them with new knowledge and skills that have the potential to lead to a lucrative career, or to supercharge their own start-up business. Even if students don't target a career in

tech, the course will provide a useful foundation that will come in handy for a wide range of careers.

What to expect from the iOS App Programming & Web Development course

This course will focus heavily on iOS Application Programming. It is dedicated to teaching Swift programming, which is the new, powerful and popular language for iOS. Students will become proficient with syntax, object-oriented principles, memory management, functional concepts and more, resulting in a competent and independent use of Swift. The course will ultimately progress to teach students about iOS App Development with Swift specialisation.

By the end of the course, students will have:

Explored XCode basics, Core iOS and CocoaTouch

Programmed their own app to perform a specific set of functions

Tested and streamlined their app to make it as user-friendly as possible

Examined HTML and CSS for websites

Built their own website

8. Psychological and Behavioural Science

Course Summary

What makes you, 'you'? What governs the way you behave, and the way other people behave towards you? The answers aren't always as clear cut as you might think, and our Psychological and Behavioural Science course for 19+ year-old students will shed light on the complex workings of the human mind.

This course will introduce you to a range of theories and disciplines within Psychology - including Developmental Psychology, Abnormal Psychology, Cognitive Psychology and Personality Types - and how they attempt to explain human behaviour. What you learn will help you to better understand the world around you, enabling you to interpret the behaviour of others - as well as getting your head around what motivates you.

What to expect from the Psychological & Behavioural Science Course

This summer course is designed to give students an overview of the topic areas studied in Psychology: Developmental Psychology, Abnormal Psychology, The Study of the Brain, and Personality Types in Psychology. A strong focus upon Cognitive (Working Memory) Psychology will be retained throughout the course.

These topics have been designed and chosen specifically to show students the wide range of applications that Psychology can have in the real world, and how these areas could be investigated through experimental and non-experimental investigations. Students will be presented with a series of research scenarios and will be asked to design their own investigations using the knowledge and methods that have been discussed during the course.

A distinction will be made regarding the types of research methods used in Psychology (quantitative and qualitative) and discussions will be had surrounding the appropriate use of each method. Students will use this knowledge to prepare both a written report and presentation which outline and evaluate a psychological investigation.

How will the Psychological & Behavioural Science course help me?

A key aspect of Psychology is following ethical guidelines whilst conducting research, as most studies use human participants. The summer course is designed to highlight the importance of ethical procedures and what can happen if procedures are not followed accordingly. Students will be provided with examples of when ethical considerations need to be made, in both adult and developmental contexts.

It is important too, to consider the historical and contemporary place Psychology holds as discipline. Class field work will provide a critical socio-historical angle to the discipline, allowing students to explore the age-old debate: is Psychology an art or a science? Students will also engage with the practical side of the discipline via project-based empirical work.

A final aim of the course is to present students with details about both educational and employment prospects. They will be able to explore the career opportunities that can develop from studying Psychology, holding discussions with current PhD students on how their career path has started to develop. We aim to show students the wide range of career opportunities a Psychology course can bring, including roles in academic, clinical and research departments. An early distinction will be made regarding the types of research methods used in Psychology (quantitative and qualitative), with each type discussed in significant detail.

Course Outcomes

By the end of the course, students will have:

Explored a variety of relevant theories of psychology

Taken part in experiments and research projects

Examined different research methods and how best to record their findings

Discussed what it means to work in the field of psychology and explored their future options

Visited the Bethlem psychiatric hospital as well as the Freud Museum in London

A better understanding of the world around them

Explored the career opportunities that can develop from studying Psychology

Understood the importance of ethical procedures and what can happen if procedures are not followed accordingly

Explored the career opportunities that can develop from studying Psychology

Topics Covered

Working memory and the brain

Statistics in psychology

SPSS in psychology

Developmental psychology

Theories of attachment

Writing up psychological research

Quantitative and qualitative research methods

Ethics in psychology

Abnormal psychology

Designing an experiment

Life after a psychology qualification

9. Politics and International Relations: a Global Perspective

Course Summary

This course combines politics and international relations with the study of successful leadership. Through debate, written assignments and lectures, students will learn all about the contemporary issues that dominate world politics.

Why have some countries developed stable state institutions, whereas others have degenerated into failed states? What explains regime change and regime stability? How can we strengthen international security and prosperity in a time of terrorism and civil wars? Many of the most pressing global challenges are inherently political in nature, and attendees on this course will gain a greater understanding of the reasons behind political manoeuvres.

Where could Politics & International Relations: A Global Perspective lead you?

Why choose the Politics & International Relations: A Global Perspective course?

This course provides students with a theoretical and methodological toolkit, academic skills and empirical expertise to systematically engage with political questions. In grappling with these questions, the course explores a wide range of topics that are covered by university courses in comparative politics and international relations. Discussion is enhanced by the numerous different perspectives offered by you and your fellow students, who come to Oxford Royale Summer Schools from all over the world. The course begins by establishing a rigorous theoretical and methodological foundation so that students are equipped with the fundamental skills to engage in the study of comparative politics and international relations. We then apply and expand on these skills by studying seven substantive topics.

How will the Politics & International Relations: A Global Perspective course help me?

Each session combines rigorous academic training with empirical case work and data analysis. It thus establishes a valuable foundation for university studies. By training students to apply academic skills to well-defined political problems, the course also prepares students for a career in political consultancy and policy development.

Is this course for me?

If you are constantly considering the questions of modern-day politics, and would like to be instrumental in changing the world for the better, then this course is for you.

Topics covered

During this course, students will examine:

State and nation building: We discuss Tilly's (1985) famous argument that war helped build states in Europe and contrast state building in early modern Europe with state building in Latin America. The course then investigates contemporary state building and, in particular, assesses whether states form nations or vice versa.

The character of war: Students analyse characteristics of traditional and contemporary warfare and assess its implications for international humanitarian law.

Colonialism and decolonisation: We then analyse the effects of different factors associated with colonialism on a country's long-term trajectory and derive a set of recommendations for international development.

Autocracies and democratisation: Students will learn to systematically assess the relevance of different factors associated with regime stability and regime change. Why do some countries democratise, while others remain authoritarian? Why are some authoritarian regimes more enduring than others?

Democratisation and hybrid regimes: The course also trains students to evaluate why some countries persist as hybrid regimes which are neither democratic nor authoritarian.

International Security

International Political Economy. Students will learn about the actors, causes and spread of terrorism and assess current counterterrorism regimes.

What will you get out of the Politics & International Relations course?

By the end of the course, students will have:

Discussed nation-building and the character of war

Explored different political regimes and their positive and negative aspects

Examined terrorism in our society

Become familiar with the characteristics and mechanisms of international trade and the international monetary system

Investigated the origins of poverty

Debated whether international development aid helps or undermines a country's development

Performed a role play of a G-20 summit on a current challenge in global affairs

10. Public Speaking for the Modern World and Workplace

Course Summary

During this course, students will become adept at planning speeches and use them to deliver compelling arguments. Students will analyse techniques used in famous speeches throughout history, including right up to the present day.

This course provides a supportive and welcoming environment in which to develop confidence, structure and eloquence when speaking in public. Individuals will become skilled at researching, delivering and defending a speech in front of a range of audience types. Throughout the course, practical development sessions will ensure that students have ample opportunity to test and refine their skills as they go, providing an effective and comprehensive skill set by the end of the programme.

What to expect from Public Speaking for the Modern World and Workplace

The course will start with an exploration of the skills required to be a great public speaker, and learning the theory and methodology of public speaking. The history of public speaking will be examined, and students will analyse famous historical speeches and the methods that famous and contemporary speakers, such as Former President Barack Obama, employ. Students will then examine the reasoning and means by which speakers overcome anxiety when speaking in front of a crowd.

Using universally recognised theoretical approaches to public speaking and reasoning such as the Toulmin method of argumentation (developed by Stephen Toulmin) and Aristotle's philosophical approach to speaking, students will enhance their understanding of how to construct both a persuasive speech and an informative one, and explore the importance of research and preparation when constructing an effective speech.

How will the Public Speaking for the Modern World and Workplace course help me?

Students will receive a full day of classical voice coaching which will emphasise the importance of language, tone, style, body language and more. Students will be able to put this training to the test as they give a talk on a topic of interest to all other 19+ students present at Oxford Royale. However, public speaking is not just about delivery; the end of a speech can sometimes be more tricky than the beginning.

Students will consider the importance of being able to think on their feet, and learn that preparation is the key

when it comes to confidently responding to questions, managing audience reactions to speeches, and being a self-assured debater. Being well versed in all aspects of your speech's subject matter is crucial: expecting the unexpected ensures that you are not questioned on unrehearsed topics. Also explored will be the pros and cons of using visual aids such as PowerPoints. The course concludes with a competitive debate.

Course Outcomes

By the end of the course, students will have:

Explored what makes a speech (and a speaker) riveting to their audience

Learned how to handle their public speaking nerves

Received a full day of classical voice coaching which will emphasise the importance of language, tone, style and body language

Discussed different types of speeches and when they should be used

Discovered the importance of planning speeches

Given several speeches to their peers, and participated in a debate, to refine their skills

A better understanding of how to construct both a persuasive speech and an informative one

Learned how to think on their feet

11.Design Thinking and Creative Problem Solving

Course Summary

Design Thinking and Creative Problem Solving is an exciting interactive two-week course which provides the perfect framework for students to realise their personal goals and ambitions. Throughout the course, students will focus on microcycle Design Thinking by applying real-life challenges to the theory. Students will work through their challenges systematically and provide explanations at each of the following stages: understand the task; observe; define point of view; ideate; prototype; test; and reflect.

The lessons and workshops will show how Design Thinking can be applied at the macro level and iteratively. It is hoped that students will be able to translate their big ideas into a reality by procedural testing. This will portray how Design Thinking can facilitate individuals in reaching their life goals and ambitions by putting their needs first.

What to expect from the Design Thinking and Creative Problem Solving course

No specific experience or skills are expected of students wishing to participate in this course, although a strong command of the English language is vital. For this course, we specifically ask students to come with their own personal challenge in mind. Students are also required to bring a laptop with them. If any additional course-specific equipment or software is needed, you will be notified in advance.

Course Outcomes

By the end of this course, students will have:

Thoroughly understood the microcycle theory of Design Thinking

Applied the systematic cycle of Design Thinking to a range of real-world challenges in both professional and personal contexts

Grasped the scope of Design Thinking at the macro level

Topics Covered

During this two-week Design Thinking and Creative Problem Solving course, students will cover the following

key topics:

Design Thinking methodology

Design Thinking micro and macrocycles

Idea generation

Design briefs

Implementation of planning and action planning

Efficiently testing designs

Translating the microcycle into the macrocycle

12. International Medical Research and Practice (Level 2: Practitioner)

Course Summary

International Medical Research and Practice (Level 2: Practitioner) is a two-week course designed for Junior Doctors. The course will cover cutting-edge material and explore exciting topics which may not have been studied in-depth before - such as current advances in medicine and biotechnology. With this knowledge in mind, you will gain confidence surrounding the thought processes that doctors go through to make diagnoses, to decide on a treatment plan, and to engage with the patient and their family. Interpersonal skills are important, and must be integrated with critical thinking and detailed medical knowledge to be an excellent doctor.

This is an advanced course, which aims to provide you with expert skills to assist your medical career. Throughout the two weeks you will learn that Medicine is both a science and an art through a range of teaching styles, from interactive group work to practical classes and university-style independent learning.

Expectations:

This course is designed for Junior Doctors, who have completed their medical degree. Further, a strong command of the English language is vital. Students are required to bring a laptop with them. If any additional course-specific equipment or software is needed, you will be notified in advance.

Course Outcomes

By the end of this course, students will have:

A detailed understanding of the anatomy and pathophysiology of disease within the cardiovascular, respiratory, gastrointestinal and nervous systems

Studied global health and implemented a global approach to medicine

Practically applied detailed medical knowledge in laboratory-based experiments

Practised interpersonal skills through doctor-patient role play

Topics Covered

During this two-week International Medical Research and Practice (Level 2: Practitioner) course, students will cover the following key topics:

The anatomy of the cardiovascular, respiratory, gastrointestinal and nervous systems

The pathophysiology of disease affecting these systems from around the world

The basic principles of pharmacology

How to formulate treatment plans

Global health

