



WORCESTER COLLEGE
UNIVERSITY OF OXFORD

Oxford Certificate Programmes

Oxford Certificate Programmes at Worcester College

***- Intensive Residential Study Abroad Programme for
University Students -***

Academic Programme Outline

Programmes for University Students

Course Overview

Winter 2027



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1. Introduction

The *Oxford Certificate Programme at Worcester College (University of Oxford)* for university students is an academic study abroad programme that offers cutting-edge subjects designed to complement a student's existing studies, providing them with methodologies and case studies that will set them above their peers.

Students participate in academic courses on various subjects and experience teaching in an authentic Oxford college setting. This will be done according to the Oxford teaching model: small group interactive classes with individualised feedback and class participation. All academic teaching the courses will be tutors at the University of Oxford or the University of Cambridge.

Participants will live in Oxford college dormitories, university buildings or local hotels, and they will have breakfast in Oxford dining halls. All teaching will happen in small groups within Worcester college or Oxford university premises. All of this will offer participants an experience that will be as close as possible to attending Worcester College as a student of the University of Oxford.

In support of the academic content, the programme offers a wide range of activities. These include visits to the main university sites such as the Oxford Union and the Bodleian Library, in addition to other colleges and Oxford's world-renowned museums and galleries. Trips further afield, such as to Cambridge and Blenheim Palace, compliment an extensive array of evening speakers and further activities.

2. Worcester College (University of Oxford)

Worcester College is one of the historic colleges of the University of Oxford. It was founded in 1714, but it is on the same site and in direct succession to Gloucester College, which was founded in the late 13th century.

Today, the college teaches almost every subject offered by Oxford, from Economics and Management to English Literature and Fine Art, from Medicine to Law, Artificial Intelligence to International Relations, and it enjoys multiple links with Oxford's Said Business School in particular.

This academic offering takes place in one of the most stunning of Oxford's colleges: medieval and 18th century buildings are set in Oxford's finest gardens and a lake, and all this is alongside state-of-the-art modern facilities, such as the recently built Nazrin Shah center. We are also the only college to have our sports fields and tennis courts within the college walls, together with a boat house on the river.



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3. Programme Dates

Friday 22nd January – Wednesday 3rd February 2027 (12 nights)

4. Overview of all Courses

Artificial Intelligence and Robotics

AI Software for LLM and Robotics

AI Hardware Systems for LLM and Robotics

Business Management

Management and Organizational Behaviour

Organizational Learning and Routine Dynamics

Economics

Economics in a time of War, Sanctions and Tariffs

Behavioural and Development Economics

Law

Intellectual Property Law and Intellectual Property Rights Management

Business Law

5. Academic Course Offerings

AI and Robotics

AI and Robotics / AI Software for LLM and Robotics

Instructor: Dr Sunho Lee

Starting from early breakthroughs like AlphaGo to modern Large Language Models (LLMs) such as ChatGPT and Gemini, AI has expanded rapidly into Physical AI (robotics). While initial progress was driven primarily by software innovations, state-of-the-art AI now relies heavily on complete systems that integrate software algorithms with specialized hardware architectures, including GPUs, NPUs, and Processing-In-Memory (PIM) technologies.

To follow this recent trend and future challenges, this first part of a two-week programme explores the software of modern AI systems designed to run LLMs and robotic intelligence both efficiently and securely. Specifically this week will open with AI models for LLM by studying progression from early expert systems to attention-based Transformer architectures powering modern foundation models. It will then explore Vision-Language-Action (VLA) models for robotics



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AI and Robotics / AI Hardware Systems for LLM and Robotics

Instructor: Dr Sunho Lee

Building from the first week, this week will focus on deploying AI into LLMs and physical real-world environments. It will focus on the analysis of underlying hardware acceleration architectures in order to apply the LLM knowledge gained in the first week to the real world.

Specifically, this course will open by studying next-generation AI Chips, where students will analyze architectural trade-offs across CPUs, GPUs, NPUs, and Processing-In-Memory (PIM) devices. It will then move to studying system-level requirements. These include the comparison of throughput, latency, and system-level trade-offs constrained by power, area, network, memory capacity, and memory bandwidth.

Business Management

Business Management / Management and Organizational Behaviour

Instructor: Dr Alexander Rustler

This course gives students a critical understanding of essential management functions such as planning, organizing, leading/interpersonal influence, and managing in both local and international contexts. The course develops a management framework based on diverse corporate culture before broadening that environment to a global level. This

course examines individual and group behaviour in companies in depth. It teaches students how to manage businesses more successfully while also improving the quality of the work environment for employees. Motivation, individual and group behaviour, employee diversity, attitude and job satisfaction, leadership, communication channels, group dynamics, job design, conflict, and power and politics are among the topics covered. Students should get a grasp of managerial responsibilities and the essential skills and have the necessary abilities to apply them in real-world circumstances.

Business Management / Organizational Learning and Routine Dynamics

Instructor: Dr Alfie Jackson

This course examines the interplay between organizational learning and routine evolution. It explores how established operational routines bring efficiency while causing organizational rigidity, and teaches how enterprises iterate their behavioral systems through continuous learning, unlearning, and adaptive innovation to maintain long-term strategic vitality.



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Economics

Economics / Behavioural and Development Economics

Instructor: Dr Ximeng Fang and tbc

This dual course will have two days of each of these major branches of economics.

Behavioural economics enriches standard economics with insights from psychology to build a more realistic understanding of how and why people behave the way they do in the real world. The objective of this course is to introduce students to principles, methods, and recent advances in behavioural economics. It will be structured around how people systematically deviate from neoclassical models in terms of (1) preferences (e.g., self-control problems, reference dependence), (2) beliefs (e.g., overconfidence), and (3) decision-making (e.g., limited attention), with an emphasis on real-world applications to topics such as household finance, job search/workplace behaviour, and climate change. The two days on development economics will offer an accessible introduction to the core issues of this field, namely: Why is there poverty? And how can public policy address it? The discussion will begin with an examination of the fundamentals of economic growth and structural transformation, with an emphasis on the mechanics and limitations of these perspectives. Following that, the second day of the course will cover the issue of poverty traps, in the many forms they can take, and we will conclude by discussing recent evidence from large policy evaluation programs.

Economics / 'In the time of War, Sanctions and Tariffs'

Instructor: Andrew Farlow

The global economic order that emerged in the latter half of the 20th century has been turned on its head. Instead of free trade and investment flows, we live in a world of economic protectionism and tariffs; in place of rules-based international order and growing democratisation, we see authoritarian populism and intolerance; rather than shared technological progress, the talk is of winner-takes all technological races.

We will trace the roots of this over the past twenty years through one crises and shock after another – financial, pandemic, geo-military, and technological – and we will explore numerous contentious issues.

What is the argument made for tariffs? Yet, how do tariffs work in reality? Who benefits and who is punished? What are the consequences for economics and politics of high levels of economic inequality, in terms of intergenerational tensions and political divisions? What are the long-term consequences of the huge rise in debt and of novel financial instruments which grew to absorb global financial shocks, pandemics, wars, and inflation instability? Who holds this debt and controls these instruments? What if anything goes wrong?

If AI, cryptocurrencies, and rapidly evolving new areas of science are creating the next industrial revolution, what challenges do such technologies also create for workers, consumers, financial firms, regulators, and political systems? How much is hype and how much is genuine innovation? If some



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investments are financial bubbles, how might they end? How do we ensure that the fruits of innovation and technological advance are shared by all and not by just the few?

On route, we will explore the emergence of new centres of economic power in Asia, Latin America, and Africa, the decline of the US and, to some degree, of Europe, and the rise of new sources of economic and financial instability. With so much happening at such a rapid pace, where might the global economy be in 20, 30, or 50 years' time? And how should individuals, companies, and policy makers respond now?

Law

Law / Intellectual Property Law and Intellectual Property Rights Management

Instructors: Dr Robert Pitkethly and Dr Max Wong

The first part of this course in intellectual property rights law is a focused exploration of how copyright interacts with artificial intelligence (AI). It first presents the history and development of copyright, illustrating how international law is given effect in domestic law. The core of this part of the course is a deep exploration into the legal concepts of originality, infringement and authorship, which equips the class for a series of guided discussions about how the law applies to works partly or wholly generated by AI.

The second part of the course in intellectual property rights management aims to give students a general overview of the essential elements of key Intellectual Property Rights including copyright, patents and trademarks. The course also includes discussion of the justifications for and the development of intellectual property rights, as well as their management and role in international relations, business and innovation. The course spans historical origins, modern case studies, and contemporary policy developments especially within Europe.

Law / Business Law

Instruction: Dr Natalie Mrockova

Master the legal architecture of the world's leading financial hub. Designed for ambitious students, this intensive course provides a high-stakes deep dive into the four pillars of English private law: contract law, company law, corporate finance law, and corporate insolvency law. By examining the intersection of these laws, you will uncover the core tenets that define how modern enterprises are governed and capitalized.

Moving beyond mere mechanics, we focus on the historical development and underlying policies that have established English law as a global benchmark. We will critically engage with the landmark cases and legislative shifts that shaped the doctrine of separate legal personality, the sanctity of contract, and the rigorous protections within financial markets. We examine why sophisticated corporate structures, whose



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functioning is supported by the English law, attract international investment. We will also dissect how freedom of contract and protectionist policies interact in real-life cases. We will explore complex financial instruments that fuel global markets. Finally, we will navigate the high-pressure environment of corporate distress and bankruptcy law, where the survival of an enterprise hangs in the balance. Together, we will uncover how these four layers of rules create a coherent body of rules that create stable, predictable but also flexible business environment.

Evening Talks Series

Alongside these courses are a range of evening talks, providing more focused explorations of specific subjects complementary to the main academic content. These talks are conversations with plenty of question time, allowing students to interact with top people in these fields in an informal setting, whilst also learning aspects of a subject at the cutting edge of these fields.

Specific talks in recent courses have included EU Influences upon Law, AI and Finance; Ethics, Finance and the Next Crash; and Pricing and Market Power.

6. Academic Workload

Academic workload per week (in total 60 academic hours):

- 16 academic hours: 4 hours of teaching on Monday, Tuesday, Wednesday and Thursday of each week
- 4 academic hours: review, assessment preparation and assessment on Friday of each week
- 14 academic hours: independent study, including assessment preparation
- 2 academic hours: assessment on Friday of each week
- 6 academic hours: 3 evening seminars and workshops per week
- 18 academic hours: cultural immersion activities
- Total: the workload of each week is equivalent to 3 ECTS credits

7. Extracurricular Activities and Farewell Dinner

Extracurricular activities

The tuition fee for each two-week programme includes the following Oxford and English cultural activities:

- Oxford City walking tour
- Visit to college library
- Visit to the Oxford University Bodleian Library
- Visit to one or more of the three historic towers (St Mary's Church Tower, Saxon Tower, Carfax Tower)
- Visit to Oxford Museums (Ashmolean Museum, Museum of Natural History or Museum of History of Science)



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- A one day-excursion to Cambridge
- Visit to the Oxford Botanic Garden
- Visit to the Oxford Castle
- Evensong in Christ Church College
- More activities tbc

Farewell dinner

The tuition fee includes a farewell dinner or lunch.

8. Assessment

As part of each course, an assessment will be offered by the teaching academic.

9. Certification

Certificate of Attendance and Achievement

Students will receive a Certificate of Attendance and Achievement issued by Worcester College (University of Oxford).

Academic transcript

Students who successfully finish the programme will receive an academic transcript with a summary of the programme content and academic performance issued by Worcester College (University of Oxford).

10. Participants

Worcester College invites undergraduate and postgraduate students interested in the offered courses to apply for participation in the Oxford Certificate Programme at Worcester College (University of Oxford).

Target Participants:	university students aged 18+
Maximum number of students per course:	30-40

11. Financials

The Tuition Fees are calculated per student, per session (each student would be charged for each subscribed course).

- Tuition, Room & Breakfast: Single room occupancy (13 nights): 4,430 GBP
- Worcester College is offering students from partner universities a scholarship of 500 GBP.