



WORCESTER COLLEGE
UNIVERSITY OF OXFORD

Oxford Certificate Programmes at Worcester College

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

Academic Programme Outline

Programmes for University Students

Course Overview

Summer 2025



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 and dine 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 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 centre. 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.



3. Programme Dates

- **Session I 20 July – 2 August 2025 (Law, Business and Management, Engineering, English Literature)**
- **Session II 3 August – 16 August 2025 (Business and Management, AI, Economics, Law)**
- **Session III 17 August – 30 August 2025 (Marketing, Public health, Economics, English Literature, Sociology, Fintech)**

4. Overview of all Courses

	Session I 20 July - 2 August		Session II 3 August - 16 August		Session III 17 August - 30 August	
	Week 1	Week 2	Week 1	Week 2	Week 1	Week 2
Law	Business Law	Law in Action and Criminal Law	Intellectual Property Rights Law and Management	International Arbitration	/	
Economics	/		Behavioural Economics	Financial Crisis	Management Economics	Aspects of International Management
Business Management	Strategic Management	Leadership Management	Strategic Management	Leadership Management	Marketing - Digital Marketing	Marketing - Operational Marketing
	/		/		Fintech-Introduction to Computational Finance	Fintech-Coding and Portfolio Construction
English Literature & Sociology	The Plays and Poems of William Shakespeare	Victorian Writers: From the Bronte Sisters to Thomas Hardy and William Yeats	/		The Power of Character: From Jane Austen to Charles Dickens	Oxford and the Fantastic: JRR Tolkien and CS Lewis to Philip Pullman and JK Rowling
	/		/		Sociology	Sociology
STEM	Materials and the Future of Engineering	Dynamic Electrical and Control Engineering	AI - Machine Learning	AI - Deep Learning	Public Health - Global and Planetary Health	Public Health - AI and the Future of Health



5. Academic Course Offerings

Business Management

Business Management / Strategic Management

Instructor: Dr Eva Schlindwein

Various methods of strategic market analysis are presented in this course so as to allow students to evaluate risks and opportunities in global markets, highlighting intercultural aspects, by looking at organizations operating in different countries. Students learn to analyse and understand strengths and weaknesses of organizations from various disciplines (products, services, NGOs etc.) that face specific market situations. Supported by new developments in the field of market research, the process for identifying and analysing core competencies and competitive advantages in national and international environments is discussed at length. Students are supported to plan strategic alternatives and to implement and control these by taking on fictitious roles within various different organizations. Exercises and international case studies help students to identify with the role of management and participate in the strategic planning process as well as in operational management. This helps students understand the problems companies regularly face and comprehend how methods of modern management can be used in order to solve these.

Business Management / Leadership Management

Instructor: Dr Eva Schlindwein

In today's knowledge-based society, employees are a firm's most valuable resource. A key responsibility of leadership is to develop the knowledge, expertise, and skills of employees. Good leadership is crucial for the continued success of a firm in the face of increasingly competitive markets. This course presents the necessary competencies of the leader in a modern, knowledge-based organization. Central questions raised by modern leadership theory are presented and discussed. In doing so, the course focuses on requirements and instruments of professional leadership, aspects of situational leadership, and leadership communication and interactions, both in the context of strategic management and change processes. The methodological and conceptual foundations of leadership are presented to students, along with empirical examples and best-practice principles, with the intent for students to master the challenges of enhancing the firm's most valuable asset—its employees—via professional and contemporary leadership practices.



Computer Science - Artificial Intelligence

Artificial Intelligence / Machine Learning

Instructor: Dr Vincent Harinam

Machine learning is a field of scientific study concerned with algorithmic techniques that enable machines to learn performance on a given task via the discovery of patterns or regularities in exemplary data. Consequently, its methods commonly draw upon a statistical basis in conjunction with the computational capabilities of modern computing hardware. This course aims to acquaint the student with the main branches of machine learning and provide a thorough introduction to the most widely used approaches and methods in this field.

Artificial Intelligence / Deep Learning

Instructor: Dr Vincent Harinam

Neural networks and deep learning approaches have revolutionized the fields of data science and artificial intelligence in recent years, and applications built on these techniques have reached or surpassed human performance in many specialized applications. After a short review of the origins of neural networks and deep learning, this course will cover the most common neural network architectures and discuss in detail how neural networks are trained using dedicated data samples, avoiding common pitfalls such as overtraining. The course includes a detailed overview of alternative methods to train neural networks and further network architectures which are relevant in a wide range of specialized application scenarios.

Further Artificial Intelligence Modules to be confirmed

Economics

Economics / Behavioural Economics

Instructor: Dr Ximeng Fang

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.



Economics / Financial Crisis and Beyond

Instructor: Andrew Farlow

The objective of this course is to provide an overview of the causes and the events of the recent financial crisis, as well as of the policy response by governments and central banks. The first two lectures will discuss the critical aspects of the evolution of financial markets and institutions that have led to the crisis. The next two lectures will go over the events of the crisis and the actions undertaken by government and central banks around the world. The fifth lecture will recap before the multiple-choice test. The last two lectures will put the recent crisis in a historical perspective and compare alternative views on the causes of the crisis.

Economics / Managerial Economics

Instructor: Dr Ander Iraizoz

This course takes an in-depth look into the economic framework underlying markets and economies and the economic rationale underlying strategic decisions. In order to enable students to analyze the economic environment and draw conclusions from a managerial perspective, the first part of the course is devoted to the description and analysis of market forces. Following this, strategic decision making makes up the second half of the course. In particular, these latter units deal with the role of different market structures and asymmetric information as well as the fundamentals of game theory, which supports students to understand with the underlying decision making processes at work in modern economics.

Economics / Aspects of International Management

Instructor: tbc

The internationalization and globalization of product and service markets has meant that industries and economies worldwide are increasingly subject to competition and change. Nowadays, it is essential for the viability and profitability of companies that they adopt a global mindset. Establishing a business and operating in an international context offers a company many unique opportunities, but importantly, multiple diverse threats emerge in this context. An elevated level of international competition, increasing client mobility in a globalized marketplace, discriminatory practices of foreign governments, and subtle cultural differences mean that running an efficient and profitable international business is exceedingly challenging and the likelihood of failure is high. This course is designed to cover the economic, organizational, and cultural underpinnings that students need to grasp in order to better understand the managerial challenges that global organizations of all types and sizes have to cope with. Participants will gain the detailed knowledge and practical experiences they require to understand how organizations can achieve a competitive advantage in a globalized world. This course will enable students to describe and contrast a set of sustainable corporate and functional strategies in the context of globalization. They will have a detailed understanding of the extent to which globalization and internationalization strategies affect the organizational structures and value creation of global firms.



Engineering

Engineering / Materials and the Future of Engineering

Instructor: Prof Emilio Martínez-Pañeda

This course begins by asking the question of why some engineering components fail, and will then proceed to investigate this question while examining the future of engineering components. Classes will include material-environment interactions and using state of the art technologies to engineer net-zero challenges before a group project will see students put these learnings to the test.

Engineering / Dynamic Electrical and Control Engineering

Instructors: Prof Harrison Steel, Dr Kawsar Ali and Dr Huanming Chen

This course opens with classes concerning how students can design better chargers for phones and laptops, before moving to how to design an efficient and lightweight electric vehicle power train. In addition to a visit to the Royal Institute of Engineering, the students will then cover Control engineering, starting with the mathematics of control before looking at robotics and AI. This course will end with a major evaluation project about how to build better bridges, starting with a site visit to an Oxford bridge.

English Literature

English Literature / The Plays and Poems of William Shakespeare

Instructor: Dr Cosima Gillhammer

Though translated, imitated and reworked in innumerable other languages, the original works of the playwright and poet William Shakespeare stand as the benchmark for English Literature. This course will focus on his key works, their context, his characterisation and the many interpretations of them, so that students will gain a deeper appreciation and understanding of his oeuvre.

English Literature / Victorian Writers: From the Bronte Sisters to Thomas Hardy and William Yeats

Instructor: Dr Cosima Gillhammer

The period of great change in England at the dawn of the modern era saw some of the most innovative and daring writers of the English language, and this course is designed to introduce students to the greatest of these Victorian writers. This course will highlight the giants of female English literature such as the Bronte sisters, Mary Shelley and George Eliot, whilst also features the social commentaries of Thomas Hardy and William Butler Yeats.



English Literature / The Power of Character: from Austen to Dickens

Instructor: Dr Cosima Gillhammer

This course will bring students on a voyage through specially selected works of great literature in the 19th century. Students will focus on two globally recognised writers in English who created some of the greatest characters in literature: Jane Austen and Charles Dickens. This module will cover not only their context and greatest works and also the contrasting ways they comment on their contemporary societies in ways that still resound down to us today.

English Literature / Oxford and the Fantastic: JRR Tolkien and CS Lewis to Philip Pullman and JK Rowling

Instructor: Dr Cosima Gillhammer

This course will cover the greats of Oxford's fantastic literature. JRR Tolkien, CS Lewis and the Inklings circle will form the core, but students will also study the roots of this literature and its developments in the later 20th and 21st centuries. This course will therefore run from medieval period epics such as Beowulf, to the early imaginative fiction of the Victorian period, all the way to the later 20th century giants such as JK Rowling and Philip Pullman.

Fintech

Fintech / Introduction to Computational Finance

Instruction: Dr Christy Cleaves

Quantitative finance is a field that applies mathematical models, statistical techniques, and computational methods to analyse financial markets, manage risk, and optimize investment strategies. It involves using data-driven approaches to make decisions about pricing assets, managing portfolios, and assessing financial risks. In this first week, students will be introduced to equity products and derivatives before moving on to volatility, Bollinger bands and then Risk, hedging and CAPM.

Fintech / Coding and Portfolio Construction

Instruction: Dr Christy Cleaves

This second week will build on the first, and it will open by introducing Python and Pandas, before moving on to portfolio construction and then finishing with correlation, diversification and machine learning. This latter part highlights AI and the future of finance.



Law

Law / Business Law

Instruction: Dr Natalie Mrockova

This course provides a comprehensive overview of the rules and tools for doing business in England. It starts off with a lecture on Contract law and its doctrines (consideration, vitiating factors, interpretation and implication of terms). It then moves on to corporate form (LLP, Ltd, partnership, sole trader) and how property is held and managed (directors' duties, shareholders' rights, corporate governance). It then examines how companies finance their operations, looking at both debt and shares. It concludes by considering how companies resolve financial distress (insolvency and pre-insolvency), what protections exist for creditors and investors, and how they can reach agreements with dissenting claim-holders.

Law / Law in Action and Criminal Law

Instructor: Prof Keith Hawkins

The first few days of this course will provide students with an in-depth knowledge of the functions of the rule of law in common law jurisdictions, as well as to consider law in a practical manner. These lectures analyse the nature and importance of rules in legal systems and examine some of the main difficulties associated with the implementation of laws, rules, and regulations.

The last days of this course will focus on criminal law. Crime is a major social problem. Equally difficult is the question of how the legal system responds to it. This course analyses current ideas informing British thinking and practice with the added perspective of American experience. It explores the structure of the criminal justice system, emphasising the extensive and significant discretionary decisions that are made throughout in the process of creating a criminal case and its culmination in the sentencing and punishment of the convicted offender. Consideration is given to the 'effectiveness' of the system, covering ideas from rehabilitation to risk management and exclusionary social control. More practical problems, relating to imprisonment and community sanctions, are also addressed, since they currently pose real policy dilemmas for government and the legal system.



Law / Intellectual Property Rights Law and IP Rights Management

Instructor: Dr Robert Pitkethly

The first part of this course of Intellectual Property Rights Law, will have a special emphasis on Branding and Trade Marks, Geographical Indications and Copyright law. Elements such as the political economy of IP, collective and open innovation, the significance of registration for intangibles, and rights in data will also be covered.

The second part of the course in intellectual property rights management aims to give students a general overview of the three main regimes of IP: copyright, patents and trademarks. This will include discussions on the justifications of intellectual property; the requirements necessary to garner protection for literary or artistic works, inventions and brand logos; the infringement of these various rights; and the remedies available.

Law / International Arbitration

Instructor: Dr Andreas von Goldbeck

This course provides a comprehensive introduction to international dispute settlement. The course begins with an introduction to the obligation to settle peacefully international disputes and the basic concepts in the field, in particular the various methods of peaceful dispute settlement.

In this course we will study a number of institutions and processes that have been developing to deal with a variety of “international” issues, including some that will seem more “national” or domestic or “municipal” (such as in the aftermath of civil wars, genocides, or “internal” conflicts that may become international for a variety of reasons, including treaties, international customary law or just plain politics). We will look at issues that affect states (generally called “public international law”) and those that affect private parties (commercial dealings, generally called “private international law”). International disputes are both civil (involving contracts, commercial relations, and various torts and injuries, as well as involving employment and family law) and criminal (human rights violations, international kidnapping, economic crime, terrorism), as well as “diplomatic,” involving state to state relations.

The first part of the course addresses the role of international and regional organisations in dispute settlement. The course then explores the diplomatic or non-judicial means of dispute settlement: negotiation, mediation, inquiry, and conciliation.

The second part of the course concerns the advancement of international criminal justice and settlement of disputes through a range of international courts and tribunals, in particular the International Court of Justice, International Criminal Court, and various international criminal tribunals that have been established up to date.



Marketing

Marketing / Online Marketing

Instructor: Dr Jason Bell

This course utilises interdisciplinary principles that enable students to engage in operational and strategic engagement with the topic of online marketing. These includes the principles of business and economics, as well as communicative multimedia fundamentals, or the consideration of the fundamental tonality of online marketing channels.

This holistic view is essential for strategic planning. In addition to consideration of the positioning of companies on the World Wide Web, the course also looks at how to optimise online marketing presence. The measurement and evaluation of relevant key figures round off the uniform basis for this higher-level module.

This Online Marketing course teaches basic technical terms and concepts. These include the online communication process, the added value of online marketing, electronic value creation and business models. Building on this fundamental understanding, this course addresses questions of product suitability, pricing policy, distribution policy, and the various forms of marketing and distribution on the Internet.

This course will then extend a student's understanding of online marketing with elements of strategic and, above all, operational marketing, in particular the planning and realisation of advertising campaigns through different sales channels. In addition, the increasing development towards mobile communication is taken into account, and attention is paid to mobile marketing as part of the online marketing mix.

For an understanding of the behaviour of online customers, the course deals with advanced, online marketing-specific advertising effectiveness approaches. Based on the principles of customer acquisition, retention, and customer loyalty in online marketing, strategies and tactics for increasing customer numbers and campaigns via the Internet, together with the importance of online relationships are discussed.

Students work their way through legal aspects and learn the principles of the General Data Protection Regulation (GDPR) relevant to online marketing in order to advertise and contact customers on a legally correct basis. This course offers students the opportunity to learn about and implement various aspects of online marketing management in practice. They learn how to assess online media planning through web analytics and targeted monitoring. For this purpose, they will learn about the relevant key performance indicators (KPIs) of online marketing, which are an essential prerequisite for optimizing online strategies.



Marketing / Operational Marketing

Instructor: Dr Jason Bell

The objective of this course is to provide students with the basic concepts and terminology of operational Marketing. They will gain insight into the different approaches to company marketing, and will become familiar with the management of products and brands, as well as with the concept of positioning in the market.

The course will teach students the basic tools of marketing by means of the four elements of the marketing mix: the product, communication, price, and distribution policy. The interrelationships and the interaction of the individual elements will be illustrated by real-life examples. The students will learn that the success of a product depends on a consistent and consequent implementation of the individual elements in operational marketing.

Public Health

Public Health / Global and Planetary Health

Instructor: Andrew Farlow

This week-long programme is offered by Worcester College in partnership with Global Health Policy Partnership. It will offer participants a comprehensive analysis of the changing state of the world's health and look into future trends and developments deep into the 21st century. It will explore what has been achieved, and what remains to be achieved, in tackling big health challenges such as health inequalities, epidemics and pandemics, disease eradication, antimicrobial resistance, and the growing burden of non-communicable diseases especially those associated with lifestyle and the environment. It will explore human impact on the health of the planet – including climate change, pollution, urban living, food systems, and ecosystem health – and the impact of that on human health. It will give an overview of the research and development of new interventions, deploy numerous case studies, review how policy is made, and help participants identify ways to improve their own health and that of the planet and their fellow human beings.

Public Health / Artificial Intelligence and the Future of Health

Instructor: Andrew Farlow

Human health has become a hotspot for the development and scale up of AI. This week-long course will separate reality from hype. It will review where we are with the application of AI to health, the opportunities as well as the many challenges. It will also assess the critical ethical frameworks needed to support AI for health, data and AI solutions handling and assessment, benchmarking tools, regulatory frameworks, tools for the clinical evaluation of AI applications for health, the use of open code to enable broad and fair development, IPR (intellectual property rights), health technology assessment and economics, and innovation in AI for health.



Sociology

Instructors are to be confirmed, but will all be tutors of Oxford or Cambridge.

The content of these courses will be published soon.

Evening Talks Series

Instructors: Prof Nir Vulkan, Dr Simon Cowan, Dr Gauri Chandra, Edward Hadas

Alongside these courses are a range of evening talks, providing more focused explorations of specific subjects complimentary 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 AI and Finance, Ethics, Finance and the Next Crash, Pricing and Market Power, and Examining the effectiveness of institutional interventions to combat social media misinformation.

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)
- 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 Programmes 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: Twin room occupancy (13 nights): 4,330 GBP

Tuition, Room, & Breakfast: Single room occupancy (13 nights): 4,430 GBP

Worcester College is offering students from partner universities a scholarship of 500 GBP.

12. How to Apply

To apply, simply follow these steps:

1. Send an email to **enquiries.cpc@worc.ox.ac.uk** and indicate your interest to enrol in the Oxford Certificate Programme at Worcester College offered for university students in 2025;
2. The Certificate Programmes team of Worcester College will respond with any further details we need from you;
3. After your application has been fully added to the system of Worcester College, you can arrange payment, and then we will keep you fully updated on everything you need to know with a series of onboarding emails as the programme approaches.