

Politics - Philosophy - Economics - Law (PPEL) Module

01 | MODULE DESCRIPTION

How can we ethically regulate AI? What power does a nation hold in shaping global norms? How can societies manage the spread of misinformation? What characteristics should a leader have in times of crisis?



"We hope that your time here will be both stimulating and engaging, as you examine the intersections of politics, philosophy, economics, and law, and immerse yourself in the rich intellectual and historic environment of this remarkable city."

Welcome Notes

This interdisciplinary module introduces students to key global challenges through the combined lenses of politics, economics, philosophy and law. Students will explore international relations, geopolitical shifts, and the impact of digital diplomacy, with case studies such as Sino-UK relations. The module examines how economic theory informs sustainability, focusing on waste management, the circular economy, and the changing nature of work. Ethical and philosophical perspectives are integrated to address issues like belief systems, happiness, and practical decision-making. Students will also gain insight into modern British governance and the influence of liberal and neo-liberal ideologies on policy and society. Learning from and engaging with leading Oxford academics, this course will equip students with theoretical and methodological tools and expertise to engage systematically with political and economic questions in a broader international context.

The course is for students of:

Social Sciences and, in particular, fields related to: Politics and Administration, International Relations, Philosophy, Sociology, Economics and Trade, Law, Journalism, etc.

Module Lead: Professor Michael Freeden

Prof Freeden is Emeritus Professor of Politics, University of Oxford. He is a Fellow of the Academy of Social Sciences and has been awarded the Sir Isaiah Berlin Prize for Lifetime Contribution by the UK Political Studies Association.

02 | LEARNING OUTCOMES

Upon completing this module, students will understand the complex interplay of global politics, international economics, and philosophical theories on international relations and social development. They will also gain insight into the influence of international organisations and legal systems, as well as the link between social science theory and practice.

03 | MODULE OVERVIEW

Unit 1: International Relations and Geopolitics

- Foundational International Relations
- Sino-UK Relations Analysis
- Climate Change & News Media
- Russian Foreign Policy Evolution

Unit 2: Economics and Social Impact

- Foundational Concepts of Economics
- The British Economy: Past, Present, Future
- Hidden Human Labor Powering AI
- The Changing Nature of Work
- Social Media: Identity and Identification

Unit 3: Advanced Studies in Philosophy, Ethics, and Cognitive Theory

- Practical Ethics: Ethics in the Real World
- Happiness First: Normative Dimensions
- Artificial Intelligence: Ethics and the Future
- The Philosophy and Cognitive Science of Delusional Thinking
- Modern Feminist Theory

Unit 4: Political Science and Law

- Modern British Government
- Government Capacity to Regulate AI
- Foundational Political Philosophy
- Liberalism and Neo-Liberalism

(This syllabus is a proposed framework. The curriculum is subject to annual review and will be updated to incorporate frontier academic topics and emerging advancements in the field.)

Proposed Reading List

- Wolff, J. (2006). An Introduction to Political Philosophy. Oxford University Press.
- Acemoglu, D. and Robinson, J.A. (2012). Why Nations Fail: the Origins of Power, Prosperity and Poverty. New York: Crown Publishers.
- Waltz, K. (1979). Theory of International Politics. Boston: Addison-Wesley Publishing Company.
- Norris, P. and Inglehart, R.F. (2019). Cultural Backlash: Trump, Brexit, and Authoritarian Populism. Cambridge University Press.
- Allen, R.C. (2011). Global Economic History: A Very Short Introduction. Oxford University Press.

More readings and resources will be given prior to the start of the programme.

Literature - Language- Digital Culture and Communication Studies (LLD) Module

01 | MODULE DESCRIPTION

How has the rise of digital media transformed journalism? Can we truly deconstruct a text when its words were generated by an AI without consciousness or intent? Ever wondered what happens behind the scenes of the most successful British show worldwide of all time - Downton Abbey?



"This is a place where questions are welcomed, discoveries are made, and ideas take flight. Though Oxford may appear steeped in formality, it remains open to all who seek to learn, offering both challenge and inspiration. You, too, are now part of this tradition - you belong here."

Welcome Notes

When we read, we are making sense not just of the words on the page, but of the ideas being communicated to us. In this forward-thinking course, students will have the opportunity to consider the underlying messaging of written medias - from classical literature to online journalism - across cultures. Students will consider representations of different groups of people in classical literature such as Shakespeare and Austen, developing their critical thinking and analysis skills. Students will explore the modern age of digital communications, such as journalism and film, and its implications on society. Throughout this unit, students will engage with the latest research in literature, language and intercultural communication.

The course is for students of:

English Language and Literature, Foreign Languages, Linguistics, Journalism, Translation, Chinese Language and Literature, Sociology, Anthropology, History, Drama, Film and Television, Media Studies, Arts, Cross-cultural Communication, Library Studies, Humanities and Education, etc.

Module Lead: Professor Diane Purkiss

Professor Diane Purkiss is Fellow and Tutor of English at Keble College, University of Oxford. She specialises in Renaissance and women's literature, witchcraft and the English Civil War. Purkiss was born in Sydney, Australia, and gained her D.Phil. from Merton College, University of Oxford.

02 | LEARNING OUTCOMES

Upon completion of this module, students will be able to analyse Western literature and visual arts using various theoretical approaches. They will gain insight into cultural representations and intercultural communication by exploring classic and modern texts. Additionally, the module will familiarise students with major trends in digital cultures and their impact on society.

03 | MODULE OVERVIEW

Unit 1: Advanced Literary Theory and Cultural Texts

- Deconstruction of Language in the age of AI
- Gothic Literature: Evolution and Influence
- Femininity in Victorian Literature
- Cultural Diplomacy in Shakespeare and China

Unit 2: Ecocritical Perspectives and Environmental Narratives in Literature

- Theoretical Frameworks and Literary Analysis
- Environmental Justice in Contemporary Literature
- Case studies: Ecocritical Approaches to Latin Literature
- The Ecology of Writing: Interconnected Systems
- Environmental Philosophy and Literature

Unit 3: Global Linguistic Transformations and AI Communication

- Intercultural Communication: Theory, Practice and AI Translation
- Globalisation on Language: Progression and AI Impact
- Endangered Languages: Documentation and Preservation
- Language and Cultural Identity: Behind Communication

Unit 4: Digital Culture, Media Dynamics and Critical Analysis

- Digital Media Ecologies: Interactions and Influences
- The Future of News: Audience inside the Story
- Critical Theories of Digital Media and Communication
- Digital Storytelling and Content Creation

(This syllabus is a proposed framework. The curriculum is subject to annual review and will be updated to incorporate frontier academic topics and emerging advancements in the field.)

Proposed Reading List

- Pinker, S. (1994). *The Language Instinct: The New Science of Language and Mind*. London: Penguin Books.
- Zimmermann, T. and Sternefeld, W. (2013). *Introduction to Semantics: An Essential Guide to the Composition of Meaning*. De Gruyter.
- Stark, W. (2023). *Introduction to Digital Communications*. Cambridge University Press.
- Culler, J.D. (2011). *Literary Theory: A Very Short Introduction*. Oxford University Press.
- Austen, J. (2005). *Pride and Prejudice*. Oxford: Macmillan.

More readings and resources will be given prior to the start of the programme.

Business – Finance – Management (BFM) Module

01 | MODULE DESCRIPTION

How do financial systems work? How can AI-driven innovation fundamentally reshape business processes? What is the 'hidden human labor' that powers AI? What is the true cost of unethical leadership in a global marketplace? What are the long-term strategic and social implications for the future of work and business?



As you join us, you will have the opportunity not only to engage with a rigorous programme in Business, Finance, and Management, but also to situate your studies within the unique scholarly and cultural heritage of the University, reflected in its historic architecture and traditions.

Welcome Notes

This interdisciplinary module tackles these questions by bridging innovation, leadership, sustainability, and finance. It is designed to prepare students for the complexities of contemporary business by integrating topics like AI-driven transformation, strategic leadership, and wealth management. Students will explore how to lead responsibly and innovate effectively across diverse organisational contexts.

Drawing from fields as varied as extreme sports, banking, and sustainability, the course fosters a system-level understanding of how to navigate and shape the future of business. Through this approach, students will gain a comprehensive view of how different elements of a company interact to create value and drive change. Ultimately, this will equip students with the skills needed to make a significant impact in the world of finance and business.

The course is for students of:

Business, Economy, Finance, Accounting, Business and Public Administration, International Trade, Management, Marketing, other related fields and for students with strong interest in business matters.

Module Lead: Mr Mark Clark, MBE

Mark Clark's distinguished career spans over 30 years and multiple sectors. He served with both the British Army and the Foreign & Commonwealth Office, gaining extensive international experience in the UK, India, Iraq, Democratic Republic of Congo, Papua New Guinea, and Jordan.

02 | LEARNING OUTCOMES

Upon completion of this module, students will understand key macro- and microeconomic processes, as well as financial policy. They will be able to apply cutting-edge fintech tools, develop leadership skills, and discuss modern innovation practices. The module also provides insights into game theory strategies and executive compensation, preparing students to tackle complex business challenges.

03 | MODULE OVERVIEW

Unit 1: Leadership and Organisational Management: Theory and Practice

- Leadership: A Sporting Reflection
- Ultra Marathons: Strategic Management
- Responsible Leadership, Dynamic Strategies
- Workplace Motivation: Theory & Practice

Unit 2: Strategic Financial Management and Banking Systems

- Fintech: Examples, Uses, Benefits
- Financial Analysis and AI
- Sustainable Finance: Make Wise Decision
- Fundamental and Current Issues in Banking

Unit 3: AI and Technology: Transforming the Way we Work

- AI Driven Innovation: Shaping the Future
- Implementing AI in Business Processes
- AI for Circular Economies
- The Hidden Human Labour powering AI

Unit 4: Business and Sustainability: Transforming the World of Work

- Business and Social Impact
- Corporate Sustainability: Foundations
- Corporate Sustainability: Leadership
- Brand Management and Valuation

(This syllabus is a proposed framework. The curriculum is subject to annual review and will be updated to incorporate frontier academic topics and emerging advancements in the field.)

Proposed Reading List

- McLaney, E.J. and Attrill, P. (2014). Accounting and Finance: An Introduction. New York: Pearson.
- Watson, T.J. (2006). Organising and Managing Work: Organisational, Managerial and Strategic Behaviour in Theory and Practice. Harlow: Pearson/Longman.
- Mazzucato, M. (2018). Value of Everything: Making and Taking in the Global Economy. S.L.: Public Affairs.
- Kay, J.A. (2011). Foundations of Corporate Success: How Business Strategies Add Value. Oxford: Oxford University Press.
- Hatch, M.J. and Cunliffe, A.L. (2006). Organization Theory: Modern, Symbolic, and Postmodern Perspectives. Oxford: Oxford University Press.
- Geroski, P. (2003). The Evolution of New Markets. Oxford: Oxford University Press.

More readings and resources will be given prior to the start of the programme.

New Frontiers of Science: Math, Physics, Computer Science and Engineering (STEM) Module

01 | MODULE DESCRIPTION

How will big data drive smart city innovation? How can AI enable stable, intelligent manufacturing of personalised products? What specific applications do Newtonian mechanics and fluid dynamics have for offshore renewable energy systems? In what ways will quantum computing change our understanding of astrophysics?



"You will engage with a rigorous and intellectually stimulating programme that explores the frontiers of science, AI, engineering, and mathematics. This will be a distinctive opportunity to challenge yourself, broaden your perspectives across disciplines, and contribute meaningfully to addressing some of the most significant challenges of our time."

Welcome Notes

This module offers students an integrated introduction to key themes and innovations across the physical sciences, engineering, computing, and mathematics. Bridging theoretical principles with real-world applications, the module explores how interdisciplinary approaches help us understand complex systems, develop sustainable technologies, and harness computational power for innovation.

Students will explore foundational and advanced topics, including classical and fluid mechanics, network science, and climate modelling, alongside frontier areas such as AI-driven innovation, machine learning, and particle accelerator applications. Case studies such as supermassive black hole measurement, offshore renewable energy, and energy system transformation provide concrete insight into how STEM disciplines address contemporary global challenges.

The course is for students of:

Engineering related degrees, Material Science and Technology, Physics, Mathematics, Transportation, Space Science and Technology, Computer Science, Artificial Intelligence, etc.

Module Lead: Professor Martin Bureau

Professor Martin Bureau is a Lindemann Fellow and Tutor in Physics at Wadham College, as well as a Professor in Astrophysics at the University of Oxford's Department of Physics. Before joining Oxford, he was a NASA Hubble Fellow within the Department of Astronomy at Columbia University in New York City.

02 | LEARNING OUTCOMES

Upon completion of this module, students will be able to make critical scientific assessments of current issues and apply creative, solution-focused thinking to research. They will gain an understanding of our place in the universe, the future of quantum computing, and the principles of intelligent manufacturing. The module also covers the application of Newtonian mechanics in contemporary science and the process behind high-entropy materials.

03 | MODULE OVERVIEW

Unit 1: Advanced Mathematical Theories and Applications

- Advanced Probability Theory
- Combinatorics in Problem Solving
- Mathematical Modeling: Frontiers and its Applications
- Applications in Computer Science

Unit 2: Artificial Intelligence and Machine Learning

- AI and Machine Learning for Robotics
- Data, AI and the Future of Learning
- AI for Healthcare: Opportunities and Limitations
- Make Ethical Decisions: Ethics and AI

Unit 3: Theoretical and Experimental Physics

- Weighing Invisible Supermassive Black Holes
- Accelerators: Higgs Boson to Cancer Cure
- Nanotechnology: Engineering at Atomic Scale
- Tissue Engineering: Building Future Medicine
- Accelerators: Beyond Science, Diverse Applications

Unit 4: Sustainable Engineering Practices and Environmental Innovations

- Computational Fluid Mechanics: Offshore Energy
- Climate as a Mechanistic System
- Sustainable Energy Transport
- Shaping Future Energy Systems

(This syllabus is a proposed framework. The curriculum is subject to annual review and will be updated to incorporate frontier academic topics and emerging advancements in the field.)

Proposed Reading List

- Ashby, M.F. and Jones, D.R.H. (2012). *Engineering Materials*. 4th ed. Amsterdam: Elsevier Butterworth-Heinemann.
- Boas, M.L. (2015). *Mathematical Methods in the Physical Sciences*. New Delhi: Wiley. Chapters 1-2
- Stirzaker, D. (1999). *Probability and Random Variables*. Cambridge University Press.
- Borgnakke, Moran, M.J., Shapiro, H.N., Boettner, D.D. and Bailey, M. (2010). *Fundamentals of Engineering Thermodynamics*. John Wiley & Sons Canada, Limited.

More readings and resources will be given prior to the start of the programme.

Medical Science (MS) Module

01 | MODULE DESCRIPTION

What happens to the brain when we get older? Can stem cells be used to cure any disease? Is ultrasound useful for administering drugs? How can we ethically and effectively use advanced biomaterials? Can AI-driven drug design fully replace traditional methods? How can healthcare systems like the NHS or the US model adapt to new technologies?



"We hope that the lectures and activities ahead will challenge you to think critically, inspire you to explore new perspectives, and strengthen your understanding of the medical sciences. This is also a chance to engage with your peers, share ideas, and appreciate the collaborative spirit that lies at the heart of medicine."

Welcome Notes

This module provides an insight into the latest topics in medicine and health-related subjects. Leading experts and researchers in the medical sciences will guide students through the intricacies of medical and clinical research, paying particular attention to cutting-edge technologies in a variety of medical areas.

Students will investigate process involved in the likes of neuroscience, oncology, surgery and immunology. Focus is also placed on advanced drug development and biomedicine, and how these are changing into the future. This course offers insight into the importance of interdisciplinary teamwork, to improve our medical knowledge and practice, as well as developing a comprehensive knowledge of framework and ethics in clinical practice, to develop as well-rounded physicians in the future.

The course is for students of:

Medicine, Genetics, Psychology, Public Health, Pharmacology and other related fields.

Module Lead: Professor Sir Walter Bodmer

Professor Sir Walter Bodmer is a renowned geneticist with a wide field of study. He is a Fellow of the Royal Society (FRS), an Honorary Fellow of the Royal Society of Edinburgh (HonFRSE), and a Fellow of the Academy of Medical Sciences (FMedSci).

02 | LEARNING OUTCOMES

Upon completion of this module, students will understand state-of-the-art tools and techniques in biomedical research, including nanotechnology and biomaterial manufacturing. They will explore ethical and regulatory issues and the importance of interdisciplinary teamwork. The module covers human health complexities in areas like oncology and neuropsychology.

03 | MODULE OVERVIEW

Unit 1: Medical Technology & AI

- AI and Medical Imaging
- Computer-Aided Drug Design
- Technology-Enhanced Drug Delivery
- Advanced Biomaterials & Therapeutic Technologies
- Integration of Proteomics and Genomics

Unit 2: Neuroscience & Disease Mechanisms

- Neurodegenerative Diseases (e.g., Parkinson's)
- Cognitive and Behavioral Neuroscience
- Psychology for Medicine
- Stem Cell Therapy

Unit 3: Oncogenesis & Regenerative Medicine

- Evolutionary Perspectives on Cancer and Aging
- Mechanisms Controlling Epigenetic Patterning
- Challenges in Cancer Therapy
- Using Biomarkers to Optimize Cancer Treatment
- Biomaterials for Tissue Engineering

Unit 4: Healthcare Systems & Medical Ethics

- Medical Research Ethics
- Healthcare System in the US
- NHS in the UK and The Impact of Covid-19

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Proposed Reading List

- Siddhartha Mukherjee (2009). A Biography of Cancer. London: Fourth Estate Ltd. Part 1, 4 and 6
- Jones, S. (2012). The Language of the Genes. HarperCollins UK.
- Stryer, L., Berg, J., Tymoczko, J. and Gatto, G. (2023). Biochemistry. 10th ed. New York: Macmillan Learning WH Freeman.
- Alberts, B. (2002). Molecular Biology of the Cell. 4th ed. New York: Garland Science Taylor & Francis. Chapter 9
- Bodmer, W.F. and Mckie, R. (1997). The Book of Man: The Human Genome Project and The Quest to Discover our Genetic Heritage. New York: Oxford University Press.

More readings and resources will be given prior to the start of the programme.