



Australian
National
University



CLIMATE ESSENTIALS PROFESSIONAL SHORT COURSE

**Monday 7th - Wednesday 9th June 2021,
9:00am - 12:30pm AEST**

> Delivery: Online in real-time

Climate change is already affecting communities throughout Australia, with 2020 being tied with 2016 as the hottest years on record, at 1.2°C above pre-industrial times. As a result, Australia has also experienced changes in extreme weather, with more frequent and intense heatwaves, storms, flooding and bushfires. All government departments, agencies and institutes are required to plan, develop and implement strategies to address current and projected changes to our climate.

This short course has been designed for professionals who want to gain an overview of the latest developments around climate change. It will cover both the science of climate change and policy responses across a range of sectors.

The course is run by the ANU Institute of Climate, Energy & Disaster Solutions, bringing together leading climate researchers from across the university.

**ANU Institute for
Climate, Energy &
Disaster Solutions**

Photo: Sumarie Slabber:Flickr

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Scope and content

The course will provide a summary of the latest climate science, followed by an overview of climate policy and economics, climate adaptation, climate change communications and health & climate change. The final session will discuss the opportunities and challenges around developing effective climate policy. This will be tailored to provide direct contextual relevance to the decisions faced by Australian government departments, institutions and agencies.

Course details

- The course is delivered live and online. The staggered structure is designed to maximise engagement and is based on advice from ANU experts in online course design.
- The course covers six broad topics over three mornings; two sessions per day, each session punctuated by discussion of the key points.
- Participation will be via the Zoom video conferencing tool, allowing direct interaction and discussion with lecturers and other course participants.
- Course timings 9:00am – 12:30pm each day, Mon 7th - Wed 9th Jun 2021

Who should attend?

This course has been designed for staff across government who are relatively new to working on climate change and want to gain an overview of the latest climate research, the impacts of climate change and policy responses in terms of both mitigation and adaptation. It is expected that participants will come from a range of different government departments and that the diverse perspectives of participants will be useful for all attendees given that climate impacts are being felt across all sectors of our economy and society. The course is also useful for NGO and consultancy staff who are interested in learning more about climate change.

Important information

- To register, visit <https://iced.s.anu.edu.au/study/professional-short-courses/climate-essentials-june> and follow the registration details as described on the page
- Registrations close on Thursday, 4 June 2021
- The course will take place subject to demand. Registrants will receive a full refund in the unlikely event that the course is cancelled.
- Group discounts are available for bulk registrations of three or more participants from the same organisation.
- Contact course convenor, Dr Anna Lukasiewicz, via anna.lukasiewicz@anu.edu.au or 02 6125 5128 to find out more.
- Cost - \$1150 per person (including GST)

About the ANU Institute for Climate, Energy & Disaster Solutions

We connect people with climate, energy & disaster risk research from the Australian National University. Our goal is to advance innovative solutions to address climate change, energy system transitions and disasters. We facilitate integrated approaches to research, teaching and policy, industry and community engagement across disciplines. We also lead the ANU Below Zero Initiative, which is working to reduce the University's greenhouse gas emissions to below zero.

Our Institute consolidates and builds on the activities of the former ANU Climate Change Institute, Energy Change Institute, and Disaster Risk Science Institute.

Program - Day 1, Monday 7 June

9:00am – Welcome and introduction

Professor Mark Howden and Dr Anna Lukasiewicz, Institute for Climate, Energy & Disaster Solutions

Welcome to the course from Prof Mark Howden, Director of the ANU Climate Change Institute and Vice Chair of the Intergovernmental Panel on Climate Change (IPCC) Working Group II on Impacts, Adaptation and Vulnerability. Dr Anna Lukasiewicz will lead the group through an ice-breaker session.

9:30-10:45am Understanding climate change and extremes

Professor Mark Howden, Institute for Climate, Energy & Disaster Solutions

The climate is changing. Human-caused emissions of greenhouse gases have very likely caused global warming, which affects the climate on which our critical life-supporting systems depend. Temperature increases due to warming are coupled with changed rainfall patterns, melting of ice sheets and glaciers, sea level rise, and an increase in extreme weather events amongst other things. Meanwhile, increasing atmospheric carbon dioxide concentrations affects a range of biological processes and is reducing the pH of our oceans. In this presentation, we will look at the past to learn about how the climate has changed, and then to the future for how we can expect climate changes to manifest in the future. In particular, we will consider future extremes in terms of likelihood and impacts, and will discuss the implications of these extremes for Government agencies.

At the completion of this lecture you will understand:

- the key drivers and underlying processes that are involved in climate change,
 - the evidence for climate and related changes that particularly impact on systems in which Australia has specific interests and
 - projections for future changes and how these may differ under varying degrees of emission-reduction.
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10:45am – Break (20mins)

11:05-12:30pm Communicating climate change to psychologically complex creatures (“human beings”)

Dr Bec Colvin, Crawford School of Public Policy

While many solutions to the challenge of climate change are known, their implementation is often constrained not due to technical limitations, but instead due to the complexity of the social dimension. Human beings – who we are, our values, attitudes and beliefs, the norms we follow – are one of the most confounding aspects of climate change. In this lecture, we explore key threads in the research on the social dimension of climate change, in particular the psychological basis of attitudes toward climate change and the emergence of climate change as a social-political object in Australia. Based on this, we then explore how understanding this human dimension can inform climate change policy and practice, including strategies for effective communication and engagement.

At the completion of this lecture you will understand:

- the links between values, beliefs, ideology and attitudes to climate change and
 - strategies and factors to consider when communicating about climate change.
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End of Day 1

Program - Day 2, Tuesday 8 June

9:00am Welcome to Day 2

Dr Anna Lukasiewicz, Institute for Climate, Energy & Disaster Solutions

Welcome to the second day of the short course.

9:05-10:35am Adaptation to climate change

Emeritus Professor Ian Noble, ANU College of Science

The climate change adaption lecture will outline the present understanding of options, and practical implications of adapting, or not adapting, to a changing climate. It will critically discuss frameworks for understanding climate change adaptation, and step through examples of adaptation in Australia and internationally. It will discuss the roles of governments, national to local, and communities in achieving and maintaining better livelihoods that are also resilient to a changing climate.

At the completion of this lecture and exercise you will understand:

- key concepts pertaining to, and frameworks for, climate change adaptation,
 - the mainstreaming or integration of adaptation across policy sectors,
 - the consequences of climate change adaptation, and of failure to adapt and
 - institutional and governance implications of climate change adaptation.
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10:35am - Break (20mins)

10:55-12:30pm Climate policy and economics

Professor Frank Jotzo, ANU Crawford School of Public Policy

Greenhouse gas emissions have increased with economic growth, and this relationship needs to be reset in order to limit climate change. Carbon dioxide from fossil fuel combustion is the largest source of greenhouse gas emissions, but some other sources matter as well. Significant reductions in emissions could be achieved at moderate cost if cost effective policies were implemented, but the politics of implementation and adjustment remain difficult. Nevertheless, the lower cost of clean technologies bodes well for future climate change mitigation policy success.

At the completion of this lecture you will understand:

- trends and drivers in global and Australia's emissions,
 - building blocks of decarbonisation of the economy,
 - economic costs and opportunities of reducing emissions and
 - policy approaches and experiences with the implementation of climate policies in Australia and other countries.
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End of Day 2

Program - Day 3, Wednesday 9 June

9:00am Welcome to Day 3

Dr Anna Lukasiewicz, Institute for Climate, Energy & Disaster Solutions

Welcome to the third day of the short course.

9:05-10:35am Health and climate change

Professor Sharon Friel, ANU School of Regulation and Global Governance

This health lecture will outline the current human health risks and impacts arising from a changing climate. It will examine adaptation and mitigation actions for governments, industry and civil society, with a focus on the Asia-Pacific region. The importance of understanding the health impacts and risks from climate change as a multi-disciplinary challenge will be outlined. At the completion of this lecture you will understand:

- the basic links between climate change and human health,
 - a range of responses required to adapt and mitigate the health impacts of climate change and
 - multidisciplinary and multisectoral approaches to action in the health sector
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10:35am - Break (20mins)

10:55-11:40am Enabling climate policy solutions

Honorary Professor Howard Bamsey, ANU School of Regulation and Global Governance

As a former senior policy maker with the Australian government and Australia's Special Envoy on climate change, Hon Prof Bamsey will draw on his extensive experience developing and implementing climate policy. He will discuss Australia's role in international climate change policy and the linkages with domestic policy. He will also discuss opportunities for developing effective climate policy in Australia in 2020 and beyond.

End of Day 3

Biographies (in order of appearance)



Professor Mark Howden, ANU Institute for Climate, Energy & Disaster Solution

Mark Howden is the Director of the Institute for Climate, Energy and Disaster Solutions at the Australian National University. Mark's work has focussed on how climate impacts on, and innovative adaptation options for, systems we value: agriculture and food security, the natural resource base, ecosystems and biodiversity, energy, water and urban systems. With over 30 years in the field and over 400 publications, Mark has been a major contributor to several of the Intergovernmental Panel on Climate Change (IPCC) Assessment Reports and is now a Vice Chair of IPCC Working Group 2.



Dr Anna Lukasiewicz, ANU Institute for Climate, Energy & Disaster Solutions

Anna Lukasiewicz is a Senior Project Officer at the ANU Institute for Climate, Energy & Disaster Solutions. With a diverse education that includes international development, sustainability and water governance, Anna researches topics around the distribution of natural resources (including how decision-making processes are structured and how stakeholders and decision makers interact); water governance (including water management, climate change adaptation and stakeholder engagement); and natural hazard management (especially policy around disaster resilience). Anna is particularly interested in how local communities participate in decision-making processes and how they can adapt to structural reforms and climate change.



Dr Bec Colvin, ANU Crawford School of Public Policy

Bec Colvin is a social scientist and Lecturer with the Resources, Environment & Development Group at the ANU Crawford School of Public Policy. Bec's research interest include how groups of people interact with each other - especially in settings of social and political conflict - with regard to climate and environmental issues. Much of her work has a focus on the dynamics of formalised processes for including citizens and stakeholders in decision-making.



Emeritus Professor Ian Noble, ANU College of Science

Ian spent over 25 years as a researcher at ANU on the interactions between humans and our landscapes touching upon grazing lands, fire management and the impacts of climate change. He has played numerous roles in scientific synthesis reports such as the IPCC and the Millennium Ecosystem Assessment, and spent 10 years at the World Bank playing a lead role in their efforts to achieve climate resilient development outcomes. He is a Fellow of the Australian Academy of Technology and Engineering.

Biographies (continued)



Professor Frank Jotzo, ANU Crawford School of Public Policy

Frank Jotzo directs the Centre for Climate Economics and Policy in the Crawford School of Public Policy at the Australian National University. He is also the Crawford School's Research Director, and co-director of the Energy Transition Hub. As an environmental economist, his research focuses on policy relevant aspects of climate change, energy, and broader issues of environment, development and economic reform.



Professor Sharon Friel, ANU School of Regulation and Governance (RegNet)

Sharon Friel is Professor of Health Equity and Director of the Menzies Centre for Health Governance at RegNet. She is a Fellow of the Academy of Social Sciences Australia and co-Director of the NHMRC Centre for Research Excellence in the Social Determinants of Health Equity. Her interests are in the political economy of health; governance, policy and regulatory processes related to the social determinants of health inequities, including trade and investment, food systems, urbanisation, and climate change.



Professor Howard Bamsey, ANU School of Regulation and Governance (RegNet)

Howard Bamsey is Chair of the Global Water Partnership and Honorary Professor in RegNet at the Australian National University. He is member of the Board at the Climate Policy Initiative and Climate Works Australia. He was previously Executive Director at the Green Climate Fund and Director General of the Global Green Growth Institute. He has served as Senior Adviser on Sustainable Development to the Australian Department of Foreign Affairs and Trade and Special Adviser on Green Growth to AusAID. Earlier he was Australia's Special Envoy on Climate Change, a Deputy Secretary in the Australian Public Service and CEO of the Australian Greenhouse Office.

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