

## **Climate Action: Solutions for a Changing Planet Course Syllabus**

Module 1: Implementing the Paris Climate Agreement (Weeks 1 and 2)

1.1 The Goal: < 2°C (Part 1)

1.2 The Goal: < 2°C (Part 2)

1.3 The Carbon Budget (Part 1)

1.4 The Carbon Budget (Part 2)

1.5 Deep Decarbonization: Reaching Net-Zero by the Second Half of the Century (Part 1)

1.6 Deep Decarbonization: Reaching Net-Zero by the Second Half of the Century (Part 2)

1.7 Sources and Sinks: Energy, Land Use, CCS (Part 1)

1.8 Sources and Sinks: Energy, Land Use, CCS (Part 2)

1.9 Uncertainties, Precaution, and Insurance (Part 1)

1.10 Uncertainties, Precaution, and Insurance (Part 2)

Module 2: Deep Decarbonization: The Three Pillars and National Case Studies (Weeks 3 and 4)

2.1 Deep Decarbonization Pathway Planning and Mid-Century Strategies

2.2 The Three Pillars of Decarbonization

2.3 Case Study: US Deep Decarbonization (Part 1)

2.4 Case Study: US Deep Decarbonization (Part 2)

2.5 Case Study: Russia Deep Decarbonization

2.6 Case Study: Canada Deep Decarbonization

2.7 Case Study: Australia Deep Decarbonization

2.8 Challenges in the Decarbonization Transition

Module 3: Low Emissions Electricity & Renewables (Week 5)

3.1 The Role of Innovation to Reduce Emissions

3.2 Innovative Off-Grid Energy Solutions

3.3 Renewables: Solar

3.4 Renewables: Wind

3.5 Nuclear Power

3.6 Transmission, Energy Storage and Grid Integration

3.7 Life Cycle Analysis

Module 4: Agriculture and Emissions (Week 6)

4.1 Earth Observations for Climate Mitigation

4.2 The Need to Reduce Uncertainties in Global Land-Use Information

4.3 Global Crop Models and Their Potential to Assess Mitigation Options in Agriculture

Module 5: Monitoring Land Use (Weeks 7 and 8)

5.1 Mitigation on Land and the SDGs (Part 1)

- 5.2 Mitigation on Land and the SDGs (Part 2)
- 5.3 GHG Mitigation in Agriculture (Part 1)
- 5.4 GHG Mitigation in Agriculture (Part 2)
- 5.5 Using System Analysis for Globally Consistent National Mitigation Planning (Part 1)
- 5.6 Using System Analysis for Globally Consistent National Mitigation Planning (Part 2)
- 5.7 Case Study: Brazil's Intended Nationally Determined Contribution
- 5.8 Supply Chain Solutions to Deforestation: Evidence from Brazil
- Module 6: Policy Tools for the Transition to Low-Emissions (Week 9)
- 6.1 Principles of Public Policy
- 6.2 Putting a Price on Carbon (Part 1)
- 6.3 Putting a Price on Carbon (Part 2)
- 6.4 Intellectual Property, Access, and Innovation
- 6.5 Climate Fairness & Justice (Part 1)
- 6.6 Climate Fairness & Justice (Part 2)
- Module 7: Low-Emission Solutions and the Business Community (Week 10)
- 7.1 Business Solutions for Climate Change
- 7.2 Technology Partnerships to Tackle Climate Change
- 7.3 Business Action in Practice: Renewables
- 7.4 Sustainable Transport Systems
- 7.5 The Role of Public-Private Partnerships (PPP)