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## **MODULES' CONTENT DESCRIPTION for IO1**

### **CLIMATERACY**

**“Developing Competencies of Teachers to integrate Climate Literacy Education  
in European Schools”**

**2020-1-EE01-KA201-077890**



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## Module 0: INTRODUCTION TO THE COURSE

Module/ Topics Sections of the module	Aim/ Learning Objectives	Learning Outcomes	General Information about the module
<p><b>Module 0: Introduction to the Course</b> is divided into five parts:</p> <ul style="list-style-type: none"> <li>A. About the Climateracy Erasmus+ project</li> <li>B. Welcome to the Open Online Course-OOC</li> <li>C. Welcome to the Teacher Community-TC</li> <li>D. Learning Goals</li> <li>E. Overview of the modules in the OOC</li> </ul>	<p><b>The aim of this module is</b> to provide teachers with brief information about the Climateracy project and introduce them to the Open Online Course (OOC) and the Online Teacher Community (OTC).</p>	<p>By the end of this module, learners will</p> <ul style="list-style-type: none"> <li>-Gain a basic understanding of the background of the Climateracy project;</li> <li>-Know about the structure and content of the Open Online Course</li> <li>-Recognize what the Online Teacher Community will offer</li> <li>-Identify the learning Goals of the OOC</li> <li>-Be equipped with knowledge about the modules of the OOC.</li> </ul>	<p>This module has been designed to enhance teachers' knowledge and competences to be able to use the Open Online Course more effectively.</p> <p>The first part of this module addresses general information about the Climateracy project.</p> <p>The second part of this module introduces the Open Online Course for teachers and explains how it works, what it involves, etc.</p> <p>In the third part of this module, the Online Teacher Community Platform will be focused on, e.g., how it can be accessed, etc.</p> <p>The learning goals of the course will be dealt with in the fourth part of this module while the teachers will get opportunities to go over each module in the OOC.</p> <p>Each part in the module will be presented with the help of videos.</p>

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## Module 00: TEACHING ABOUT CLIMATE CHANGE-GENERAL GUIDELINES FOR EDUCATORS

Module/ Topics Sections of the module	Aim/ Learning Objectives	Learning Outcomes	General Information about the module
<p><b>Module 00: Teaching about the Climate Change-General Guidelines for Educators</b> is divided into three parts:</p> <p><b>Submodule 1: The abstract concepts of climate and climate change</b></p> <p>A. The learning methods for bringing about conceptual change</p> <p><b>Submodule 2: Using systems thinking</b></p> <p>B. The Iceberg Model</p> <p><b>Submodule 3: Supporting students' psychological well-being when teaching about climate change</b></p> <p>A. Climate Anxiety</p> <p>B. What it all means for educational practice</p>	<p><b>The aim of this module</b> is to reassure teachers that it makes sense to teach about climate and give some general pointers that teachers as an educator can keep in mind as they move forward with bringing the topic of climate and climate change more into their classroom.</p>	<p>By the end of this module, learners will</p> <ol style="list-style-type: none"> <li>1. Recognize the abstract nature of climate change and help student address any misconceptions;</li> <li>2. Gain a basic understanding of systems thinking and its relevance for climate change;</li> <li>3. Explain how the topic of climate change can affect students' mental health and be aware of strategies to help students stay realistic and positive;</li> <li>4. Use appropriate pedagogical approaches when teaching about climate change in order to support students' autonomous motivation to learn.</li> </ol>	<p>Teaching about a topic such as climate change can be daunting for many educators. Perhaps they feel it is not so relevant for their subject area or it may not be explicitly included in the curriculum, as is the case still in many countries. Or maybe they feel the topic is too difficult and only mention climate change in passing as they teach something else. Whatever the reason, This module has been designed to reassure teachers/educators that it makes sense to teach about climate and they can do it well!</p> <p>The first part of this module addresses the abstract nature of climate change and suggests some methods to deal with abstract concepts.</p> <p>The second part of this module provides teachers guidance to help their students to understand the complex phenomenon like climate change and its influences.</p> <p>In the third part of this module, teachers will find answers to this important question: How can you as an educator help ease the students' minds and emotions regarding climate change?</p> <p>Each part in the module will be presented with the help of videos, quizzes, etc.</p>



## Module 1: INTRODUCTION TO CLIMATE CHANGE

Module/ Topics Sections of the module	Aim/ Learning Objectives	Learning Outcomes	General Information about the module
<p><b>Module 1: Introduction to Climate Change</b> is divided into three submodules:</p> <p><b>Submodule 1: The ABC of Climate</b></p> <ul style="list-style-type: none"> <li>A. What is climate and what is climate literacy?</li> <li>C. What is the difference between the climate and weather?</li> </ul> <p><b>Submodule 2: Understand the basic natural mechanisms behind the formation of climate</b></p> <ul style="list-style-type: none"> <li>A. What are the factors forming the global, regional and local climate, what is the spatial framework of the climate?</li> <li>B. What is the temporal framework of climate?</li> <li>C. What astrophysical factors shape the Earth's climate?</li> <li>D. What is the role of land and ocean morphological parameters in the formation of the Earth's climate?</li> <li>E. What is the role of atmospheric composition in the formation of the Earth's climate?</li> <li>F. What is the role of biota in climate formation?</li> </ul>	<p><b>The aim of this module</b> is to provide teachers with an opportunity to let students understand what climate change is and why climate change and climate science matters.</p>	<p>By the end of this module, learners will be able to</p> <ul style="list-style-type: none"> <li>-Explain what factors are forming the climate system;</li> <li>-Demonstrate the ability to find information about climate change and are able to critically analyse the sources of information;</li> <li>-Demonstrate the conceptual understanding of paleoclimate and relevance of timeframe when considering the climate changes.</li> </ul>	



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<b>Submodule 3: Understand how we get information about the climate and its variability and looking at climate change from a historical perspective</b>			
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## Module 2: ECOLOGICAL FOOTPRINT

Module/ Topics Sections of the module	Aim/ Learning Objectives	Learning Outcomes	General Information about the module
<p><b>Module 2: Ecological Footprint</b> is divided into three submodules:</p> <p><b>Submodule 1: Global warming</b></p> <ul style="list-style-type: none"> <li>A. Is it caused by our ecological footprints?</li> <li>B. How do scientists measure climate change?</li> <li>C. Ecosystem shift</li> <li>D. Climate Change and social systems</li> </ul> <p><b>Submodule 2: The effects of Climate Change</b></p> <ul style="list-style-type: none"> <li>A. How is climate change affecting our planet?</li> <li>B. How is climate change affecting human wellbeing?</li> </ul> <p><b>Submodule 3: How are we affecting the climate - our 'ecological footprint'?</b></p> <ul style="list-style-type: none"> <li>A. Measuring our ecological footprint</li> <li>B. Reducing our 'ecological footprint'</li> </ul>	<p><b>The aim of this module is</b> to provide teachers with an opportunity to let their students understand the concept of ecological footprint, its relationship with climate change and the effects of our lifestyles on ecological footprint.</p>	<p>By the end of this module, learners will:</p> <ul style="list-style-type: none"> <li>- Find out what is the ecological footprint and how is it related to climate change;</li> <li>- Understand the development of the ecological footprint and our and society's conscious role in it;</li> <li>- know how our daily choices, consumption habits and lifestyle affect the world climate; how the rules of economy and decisions of governments affect the world climate.</li> </ul>	<p>In addition to our physical footprints when we walk, we also leave behind a number of different invisible traces that change the environment and the climate around us both in short and long term. How can we be sure that climate change is caused by humans? How to measure our carbon footprint? What are the effects of climate change on our ecosystems and does climate change also affect our daily lives? Find out more in this module!</p>

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## Module 3: SUSTAINABLE TRANSPORT

Module/ Topics Sections of the module	Aim/ Learning Objectives	Learning Outcomes	General Information about the module
<p><b>Module 3: Sustainable Transport</b> is divided into 3 Submodules:</p> <p><b>Submodule 1: Urban Growth and Transport</b> Transport, Economy and Society Transport and Health Transport and the Environment Transport and Climate Change</p> <p><b>Submodule 2: Sustainable Transport</b></p> <p>A. The modes of Sustainable Transport B. The 2030 Agenda and Sustainable Transport C. Case studies aiming to achieve Targets of 2030 Agenda in Sustainable Transportation</p> <p><b>Submodule 3: Action for Sustainable Transport</b></p> <p>A. How can you reduce your Carbon Footprint for Transportation? B. Let's have a look at some Good Practices of Sustainable Urban Transport in some cities C. The Future of Transportation</p>	<p><b>The aim of this module</b> is to develop the competencies of teachers to provide their students opportunities to understand different ways of reducing Carbon Footprint for sustainable transport to combat climate change and examine the sustainable transport practices of some green cities and finally, analyze the future of transport.</p> <p><b>The objectives</b> of this module:</p> <ol style="list-style-type: none"> <li>To identify the transport's development with urban growth, its benefits for society and its harmful impacts on health, environment, ecosystems and climate change;</li> <li>To demonstrate conceptual understanding of sustainable transport, different modes of sustainable transport and examine international policies and practices supporting the targets of Agenda 2030 to combat climate change;</li> <li>To discuss and analyze the practices of how to take action to transform to sustainable transport to combat climate change.</li> </ol>	<p>By the end of this module, learners will:</p> <ul style="list-style-type: none"> <li>-Know the benefits and harmful effects of transport</li> <li>-Recognize the different modes of sustainable transport;</li> <li>-Analyse the international policies combatting climate change and supporting green cities;</li> <li>-Develop skills to reduce Carbon footprint for transportation.</li> </ul>	<p>This module has been designed to develop teachers' competences to teach climate literacy, with particular emphasis on the impact of transportation on climate change and inspire their students to use sustainable transportation.</p> <p>The first part of this module addresses and examines the relationship between the urban growth and the increase in transport with a special focus on the benefits and harmful effects of transport for societies.</p> <p>The second part of this module analyses both different modes of sustainable transport and international policies and agendas which target sustainable transport to combat climate change.</p> <p>In the third part of this module, the aspects of reducing carbon footprint are analysed in terms of daily practical tips and good practices from the world.</p> <p>The topics in the module will be presented in various online activities such as videos, quizzes, etc. The module will also provide suggestions for learning activities that stimulate consideration of alternatives that can lead to students to use more sustainable transportation.</p>



## Module 4: HOUSEHOLD ENERGY/EFFICIENCY AND WASTE

Module/ Topics Sections of the module	Aim/ Learning Objectives	Learning Outcomes	General Information about the module
<p><b>Module 4: Household Energy/efficiency and waste</b> is divided into 3 Submodules:</p> <p><b>Submodule 1: Energy Use</b></p> <ul style="list-style-type: none"> <li>A. Household energy supply, rating and consumption</li> <li>B. Energy generation - renewable and non-renewable sources</li> <li>C. Energy saving building materials</li> <li>D. Energy use and our ecological footprint</li> <li>E. Technology and energy</li> </ul> <p><b>Submodule 2: Energy and politics</b></p> <ul style="list-style-type: none"> <li>A. Energy policy and politics</li> <li>B. Government debate regarding energy</li> <li>C. Energy activism - young people influencing energy policy</li> </ul> <p><b>Submodule 3: Energy Waste</b></p> <ul style="list-style-type: none"> <li>A. Energy 'waste', wasted energy.</li> <li>B. How do we use energy in dealing with other forms of human waste?</li> <li>C. Sustainable Energy Sources</li> </ul>	<p><b>The aim of this module</b> is to develop the competencies of teachers to provide their students opportunities to consider in their local context that relate to how energy consumption, and the human need for energy is contributing to climate change.</p> <p><b>The objectives of this module:</b></p> <ol style="list-style-type: none"> <li>1. To demonstrate an understanding of how energy is used by people in different settings, how energy use can be measured and how energy can be wasted;</li> <li>2. To identify how energy and its use in a political and social issue;</li> <li>3. To define the importance of sustainable energy sources, the ethical use of energy, and how energy can be wasted.</li> </ol>	<p>By the end of this module, learners will:</p> <ul style="list-style-type: none"> <li>• Recognize the energy needs, production and consumption on a personal and societal level, and how different forms of energy are considered sustainable or unsustainable.</li> <li>• Know that energy is conceived at a global level and how policies are tools used to support the targets of Agenda 2030 to combat climate change;</li> <li>• Realize the different ways of reducing energy consumption, pollution and waste.</li> </ul>	<p>This module has been designed to develop teachers' competences to teach climate literacy, with particular emphasis on the impact of household energy on climate change and inspire them to reduce energy consumption and use sustainable energy sources.</p> <p>The first part of this module will help with activities related to understanding energy supply to buildings, energy ratings and consumption. It will look at how different technologies and building materials help save energy, and reduce energy waste.</p> <p>The second part of this module will explain how energy is debated in politics and policy at both global and local levels.</p> <p>The third part of this module will deal with the ethical use of energy and different types of sustainable energy sources.</p> <p>The topics in this module will be presented in various online activities such as videos, quizzes, etc.</p> <p>This module will also provide suggestions for learning activities that stimulate consideration of alternatives that can lead to students to reduce energy consumption.</p>



## Module 5: RESPONSIBLE (SUSTAINABLE) CONSUMPTION

Module/ Topics Sections of the module	Aim/ Learning Objectives	Learning Outcomes	General Information about the module
<p><b>Module 5: Responsible (Sustainable) Consumption</b> is divided into 3 Submodules:</p> <p><b>Submodule 1: Why consume?</b></p> <ul style="list-style-type: none"> <li>A. Survival</li> <li>B. Identity, belonging</li> <li>C. Habit</li> <li>D. Curiosity, novelty</li> <li>E. Advertising</li> <li>F. Peer pressure</li> </ul> <p><b>Submodule 2: Responsible (Sustainable) Consumption</b></p> <ul style="list-style-type: none"> <li>A. The concept of 'Managing with Less'</li> <li>B. The methods for reducing consumption</li> <li>C. Overconsumption and Climate Change</li> <li>D. SDG-12: Responsible Consumption and Production</li> <li>E. Sustainable Consumption Policies</li> </ul> <p><b>Submodule 3: Action for Responsible (Sustainable Consumption)</b></p> <ul style="list-style-type: none"> <li>A. The concept of 'Ethical Consumption'</li> <li>B. Climate-friendly shopping choices</li> <li>C. Being an active consumer</li> </ul>	<p><b>The aim of this module</b> is to develop competencies of teachers to provide their students an opportunity to understand different reasons for consumption, comprehend the concept of responsible consumption and learn to act as responsible, climate-friendly consumers.</p> <p><b>The objectives</b> of this module:</p> <ol style="list-style-type: none"> <li>1. To demonstrate an understanding of why we consume; what makes us buy;</li> <li>2. To identify the concept of managing with less and analyse the relationship between overconsumption and climate change;</li> <li>3. To define the importance of ethical consumption on the planet and become motivated to engage in climate-friendly patterns of consumption.</li> </ol>	<p>By the end of this module, learners will:</p> <ul style="list-style-type: none"> <li>● Understand the concept of responsible consumption</li> <li>● Recognize the impact of overconsumption on climate change</li> <li>● Know the reasons why SDG-12 is important</li> <li>● Be able to act for responsible consumption, reflect on their own consumer behaviour and come up with ideas for alternative behaviours to meet their needs (for example- utilising the sharing economy sharing instead of buying).</li> </ul>	<p>This module has been designed to develop teachers' competences to teach climate literacy, with particular emphasis on the impact of overconsumption on climate change and inspire them to become more responsible (sustainable) consumers. The first part of the module gives a brief introduction to the topic by explaining the variety of reasons why people buy. In the second part of the module, learners will the concept of responsible consumption by analysing its impact on the climate change. The third part of this module will inspire the learners to act for climate change by gaining responsible consumer behaviours. The topics in this module will be presented in various online activities such as videos, quizzes, etc. This module will also provide suggestions for learning activities that not only shed light on why we buy, but also stimulate consideration of alternatives that can lead to more sustainable consumption.</p>



## Module 6: SUSTAINABLE FOOD

Module/ Topics Sections of the module	Aim/ Learning Objectives	Learning Outcomes	General Information about the module
<p><b>Module 6: Sustainable Food</b> is divided into 3 Submodules:</p> <p><b>Submodule 1: The Effect of Food Choices for Climate Change</b></p> <p>A. Eat Local: Does it reduce carbon footprint?            B. Processed Foods' Environmental Impact            C. How Green is your Food? Eco-labels            D. Water in Food Production            E. Food Security and Biodiversity Conservation            F. Food Waste</p> <p><b>Submodule 2: Different Perspectives on Sustainable Food</b></p> <p>D. Sustainable Food and Health            E. Sustainable Food and Economy            F. Sustainable Food and Climate Change            G. Sustainable Food and Environment</p> <p><b>Submodule 3: Action for Sustainable Food</b></p> <p>D. The 2030 Agenda and Sustainable Food            E. The Future of Food            F. How can we change our carbon footprint for food?            G. How can we apply pressure to change political decisions related to food consumed locally?            H. How can we stop/minimise food waste?            I. How can we grow more food ourselves?</p>	<p><b>The aim of this module</b> is to develop the competencies of teachers to provide their students an opportunity to understand the impact of food consumption patterns on climate change and become more acquainted with the concept of sustainable food.</p> <p><b>The objectives</b> of this module:</p> <ol style="list-style-type: none"> <li>1. To define the effect of food choices for climate change;</li> <li>2. To demonstrate conceptual understanding of sustainable food and its different perspectives;</li> <li>3. To examine the targets of Agenda 2030 to combat climate change and inspire learners to take action for sustainable food choices.</li> </ol>	<p>By the end of this module, learners will:</p> <ul style="list-style-type: none"> <li>•Obtain initial knowledge regarding the relationship between food choices and the climate change;</li> <li>•Learn different perspectives of sustainable food concerning health, economic, environment and climate change;</li> <li>•Develop skills to reduce Carbon footprint by taking action for more sustainable food.</li> </ul>	<p>This module has been designed to develop teachers' competences to teach climate literacy, with particular emphasis on the impact of food on climate change and inspire their students to use sustainable food.</p> <p>The first part of this module addresses and examines the relationship between the food choices and the climate change.            The second part analyses the sustainable food in terms of health, economic, climate change and environment;            The third part of this module analyses the international agenda which target sustainable food to combat climate change in terms of daily practical tips for sustainable food.</p> <p>The topics in the module will be presented in various online activities such as videos, quizzes, etc.            The module will also provide suggestions for learning activities that stimulate consideration of alternatives that can lead to students to consume more sustainable food.</p>