



Scenario of the Module 2

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| 1 | Title of the module | Earth |
| 2 | General aim | <p>The overarching objective of the course is to cultivate a comprehensive understanding of the environmental constraints imposed by global changes, both in terms of time and space. This understanding will be used to inform a critical analysis of potential mitigations and solutions.</p> <p>Students will gain a solid grasp of the concepts of planetary boundaries, anthropogenic pressures, climate change, earth sciences, and the identification of environmental threats.</p> <p>Furthermore, the course will concentrate on the development of essential soft skills, including an understanding of the spatio-temporal dimension, the fostering of critical thinking and the cultivation of leadership abilities, which will enable students to address environmental challenges effectively.</p> |
| 3 | Goals | |
| | Student knows | planetary boundaries, anthropogenic pressure, climate change, earth science, environmental threats recognition |
| | Student is able | to know well the possibility of natural resources re-use; analysis of resources/knowledge – critical judgment |
| | Student understands | time-space dimension, critical thinking, leadership |
| 4 | Methods and forms of work | Flipped classroom, game, quiz |
| 5 | Teaching aids | <p>Reading material: Content of the module.</p> <p>Planetary boundaries:</p> <p>Study material – primary reading: Planetary boundaries: Guiding human development on a changing planet accessible at: https://www.science.org/doi/10.1126/science.1259855 Study material as a ground for group presentation: each of 3 groups will present in 2-3 minutes three of nine planetary boundaries crossing</p> <p>Study material: Humans have crossed 6 of 9 “Planetary boundaries” https://www.scientificamerican.com/article/humans-have-crossed-6-of-9-planetary-boundaries/#:~:text=Excess%20nitrogen%20and%20phosphorous%20washing,are%20harmful%20to%20aquatic%20species.</p> <p>Climate change:</p> <p>Study material: What is climate change? A really simple guide https://www.bbc.com/news/science-environment-24021772 Activity for students – climate change: GROUP DISCUSSION</p> |



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| | <p>Students will be divided into 2 groups: “optimists” and “realists”; the optimists will collect arguments for fast de-carbonization and the realists against.</p> <p>Activization video to climate change – arguments of the “realists” camp:</p> <p>1/ Why Energy Can't Be Green - Vaclav Smil https://www.youtube.com/watch?v=r76Dfl5g68s (14:59)</p> <p>Complementary, extending videos:</p> <p>2/ CO2 Capture as a Climate Solution? Do the Math With Vaclav Smil - https://www.youtube.com/watch?v=8SlijZQf28I (7:09)</p> <p>3/ Deep decarbonisation (Holleaux, Runge-Metzger, Smil, Victor) https://www.youtube.com/watch?v=4lwbxVG2caM (45:32)</p> <p>“Optimists”: BBC chapter on Climate change: “What are governments doing about climate change?” and What can individuals do?</p> |
| 6 Class s sched ule: | <p>15 min., Introductory activity to check knowledge in the field of earth and the issues with the planet</p> <p>10 min., Explanation of Earth natural resources and sustainable development</p> <p>15 min., Planetary boundaries</p> <p>15 min., Climate change</p> <p>30 min., Self-assessment about individual actions to climate change</p> <p>20 min, Explanation of Greenhouse effect, carbon footprint,</p> <p>30 min., Game about Anthropocene</p> |