Honours Course Rebuilding Education
Block 4 2022/2023
Implementation plan for a Planetary Health Honours Course

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1. Course details

Minimum/maximum number of students	20/25 students
Academic year	2023/2024
Semester	2
Period	tbd
Days	tbd
Number of meetings	2x 2.5h x week
Dates	tbd
Location	ARTIS (*Natura Artis Magistra*) ● 'College Zaal'
Credits	12 ECTS
Language	English
Course coordination	Remco Kort: professor in microbiology at Vrije Universiteit Amsterdam and holder of the ARTIS-Micropia chair ● r.kort@vu.nl

2. Abstract

2.1. The issue

Planetary health is a relatively new concept that seeks to understand the complex relationships between human health and the natural systems on which it depends. The concept was first proposed in 2015 by The Rockefeller Foundation–Lancet Commission, coinciding with the launch of the UN Sustainable Development Goals.

The Commission defined planetary health as "the health of human civilization and the state of the natural systems on which it depends." This definition highlights the interconnectedness of human health and the health of the planet. The Commission recognized that human activity has profound impacts on natural systems, such as climate change, deforestation, and biodiversity loss, which in turn have impacts on human health.

Since then, the concept of planetary health has continued to evolve. In 2021, the Planetary Health Alliance redefined planetary health as "a solutions-oriented, transdisciplinary field and social movement focused on analyzing and addressing the impacts of human disruptions to Earth's natural systems on human health and all life on Earth."

This updated definition emphasizes the need for action to address the impacts of human activity on the planet and all life on Earth. It recognizes that planetary health is not just an academic concept but a social movement that requires collaboration across disciplines and sectors to find solutions that protect the health of the planet and its inhabitants.

2.2 The action

Nature's internal balance is disrupted by the actions of its most prominent component: humans, endangering themselves and the whole system. Environmental changes affect the quality of the air we breathe and of the water we drink, the quality and quantity of food we produce, the spread of infectious diseases, and even the habitability of the places where we and all other living beings live.

In the framework of the interdisciplinary Honours Course 'Rebuilding Education', we were given the chance to work on the creation of a potential Honours Course for the next academic year, and in order to begin reaching this very ambitious goal, we chose to work on the Planetary Health project.

The issues we are facing, such as the above-mentioned ones, are greatly intertwined, complex, and touch upon the interests of many, a solution for planetary health issues cannot come from one discipline only. For this reason, this implementation plan for next year's potential Planetary health course revolves around multidisciplinarity. Our goal was to make this course an encounter point for all different disciplines involved in the topic of planetary health, building bridges between disciplines, faculties and stakeholders.

2.3 The project

A few people were already involved in the project, either as stakeholders (as for instance the CO2 assistants) or ideators/collaborators (for example professor Wels) and professor Remco Kort, who had already expressed his will to be the coordinator of this potential Planetary Health Honours Course. During the Rebuilding Education course we were able to participate in guest lectures,

exchange ideas and feedback with professors, professionals and other students in the fields of education and planetary health, in order to create an implementation plan for this multidisciplinary course. This implementation plan includes a description of the course's learning goals (section 3), of the course structure (section 4), the assessment (section 5), and a scientific justification (section 6).

Educating students about these topics and teaching them how to think of and develop practical solutions, listening to all sides of the story and getting a global understanding of the issues is not only in line with the principles of the VU, but also impersonates them: this course's educational aspect is open: to several disciplines, to confrontation with stakeholders, and to the students' ideas, opinions and action plans. It is personal in that students can choose what project to work on, finding motivation and developing skills useful for their own future and it's responsible in the sense that it presumes that students and staff will engage not only with other academic fields but also with people from different backgrounds. Finally, this course seeks innovation in the minds of the students, and in the cooperation across disciplines and fields.

3. Learning goals

3.1. Course goal

The Planetary Health course is designed to allow honours students to gain an understanding of planetary health, its interdisciplinary nature, and relevance to global health and sustainability. This will be done by investigating real life cases, and looking into the impacts on human health, including the connection between environmental factors, social issues, mental health, diseases and other examples. Students will consider their own responsibility for global health and learn to think towards interdisciplinary systemic solutions for the many problems we face today. The learning goals that we found fitting considering this course goal are listed in the next section.

3.2. Learning goals

- Students can describe the relationship between nature and humans, and why it is important
- Students can give examples of cases where the relationship between nature and humans is out of balance
- Students can use knowledge of various disciplines to explain cases related to planetary health
- Students can come up with practical, interdisciplinary and systemic proposals for cases related to planetary health, while incorporating interests of the stakeholders involved

4. Structure

In this part of the report the structure of the course will be discussed. In the course two forms of teaching will be used namely lectures and seminars. Every week the course provides two meetings. The first meeting of the week is a lecture and the second meeting of the week is a seminar. In this chapter, we will start by explaining the lectures, followed by discussing the seminars.

4.1. Lectures

The lectures will be given by the course coordinator Remco Kort, guest lecturers of different faculties of the VU and guest speakers from the practical field. Multidisciplinarity is a central theme throughout the course. Why a multidisciplinary approach is important for this course is explained in chapter 5.1. A list of possible guest lecturers that we have already contacted will be provided in appendix A. We have included an idea for the topics that could be discussed during each lecture, but since the guest lectures will be the ones with the most expertise, they still have the freedom to make changes.

Lecture 1: Introduction to planetary health

- The necessary information is provided so that students have a deep enough understanding of planetary health, to sufficiently follow the next lectures.
- Remco Kort

Lecture 2: Environmental ethics

- The differences between anthropocentrism, ecocentrism and theocentrism are explained. The concept of nature is analyzed as instrumentally and intrinsically valuable, in order to assess the moral obligations of humankind towards nature.
- Faculty of Humanities

Lecture 3: An economic perspective on pollution

- The problem of pollution is analyzed as an economic problem of externalities. In relation to this problem, concepts like the Coase theorem of property rights, Pigouvian taxation and cap-and-trade systems are explained.
- School of Business and Economics

Lecture 4: Human health effects of a changing planet

- The understanding that human health is inevitably related to planetary health is explained. This is made clear by examples from the field of medicine, like the relationship of air quality and asthma or extreme heat and cardiovascular diseases. It is explored how the field of medicine could prepare for the effects of a changing planet.
- Faculty of Medicine

Lecture 5: Social justice

- The intersection between planetary health and global inequality is explored. For example, attention is given to the role of indigenous communities, in order to assess how issues of planetary health can be addressed in a way that is sustainable for all.
- Faculty of Law

Lecture 6: Nature-inclusive agriculture and food security

- The challenges of feeding the world with a growing population while minimizing the impact on planetary health are analyzed. Concepts like biodiversity and circular farming are explained, and it is assessed how these concepts could help the agricultural sector.
- Invite a nature-inclusive farmer

Lecture 7: Water

- The importance of water for the planetary system is explained. It is analyzed how water scarcity, water pollution and rising sea levels can be a threat to life on earth, in order to assess what proper water-management would look like.
- Faculty of Science

Lecture 8: Microorganisms

- Attention is given to the critical role that microorganisms play in maintaining the health of the planet and the health of humans. Additionally, it is explained how human activities have impacted microbial communities, having far-reaching effects on planetary health.
- Faculty of Science (Remco Kort)

Lecture 9: Conflict and migration

- A perspective is given on the political effects of a changing planet. It is explained how land degradation, food insecurity and increasingly extreme weather can cause civil conflicts and increased migration to wealthier and more habitable parts of the world. The responsibility of the world towards these people is assessed.
- Faculty of Social Sciences

Lecture 10: Cities and urban design

- It is analyzed how the world has become increasingly urbanized, resulting in challenges for the planet and for human health. Various approaches of sustainable urban design are explored, like green spaces, infrastructure and public transportation.
- Faculty of Science

Lecture 11: Activism as a driver of global change

- Advice is given on how to put your ideals into action, in the context of problems related to planetary health. Using historical examples and examples from the present, it is explained how activism can influence policies, and be a driver of global change.
- Invite an environmental activist

Lecture 12: Symposium

- The students present the case studies that they have been working on to the class and to the stakeholders.

What could a lecture look like?

0:00-0:15:	Welcome
0:15-1:15:	Lecture about a specific topic
1:15-1:30:	Break
1:30-2:15:	Interactive application of the topic, in order to assess whether the students understand the material. This can be a group discussion, a game, or something else
2:15-2:30:	What did you learn today? End

4.2. Seminars

The seminars will be given by the course coordinator Remco Kort. In these seminars the students will work on a case study related to planetary health. The structure of the course is based on a teaching method called problem-based learning. Why we found this teaching method the most appropriate for the seminars, is explained in chapter 6.2.

Students will be working together in small groups of 4-5 people, since groupwork is an essential component of problem-based learning (PBL). It not only allows students to exchange knowledge but also creates opportunities for the development of communication skills, teamwork,

problem-solving, independent responsibility for learning, information sharing, and respect for others (Wood, 2003). A maximum group size of 5 people has been chosen because research suggests that PBL is more effective in small groups (Marales-Mann & Kaitell, 2001). The tutor will facilitate small group learning by conducting regular check-ins that provide opportunities for students to share their progress with the tutor himself as well as with the other present groups. Additionally, the tutor will be available for individual group consultations.

Seminar 1

- The group assignment is explained. Different examples of possible case studies are put forward. There is room for students to think about their own ideas for a case study. At the end of the seminar, groups of 4-5 people are formed.

Seminar 2

- The students define their case study as precisely as possible. They identify what they already know about their case study, and brainstorm on what information they need to research.

Seminar 3

- The orientation phase starts. The students participate in self-directed learning, and share their findings with each other.

Seminar 4

- As part of the orientation phase, the students analyze the relevant stakeholders for their case study. They contact these stakeholders in order to understand their perspective on the case study.

Seminar 5

- Now that the students have done research and received input from the relevant stakeholders, the process of revision starts. The students check whether they have all the necessary information to come up with a proposal.

Seminar 6:

- The students make a list of possible “solutions” to the case study. They evaluate what their proposal should look like.

Seminar 7:

- The students focus on writing the first version of their proposal.

Seminar 8:

- The students go back to their stakeholders and test their proposal with them, and they test their proposal with the course coordinator. They can use the rubric to evaluate the first draft of their proposal.

Seminar 9:

- Now that the students have received feedback from their stakeholders, and from the course coordinator, they can use this feedback to reshape their proposal.

Seminar 10:

- This will be the last seminar in which the students can finish their proposal.

Seminar 11:

- This will be the seminar before the symposium. The students have time to prepare their presentation, and will get feedback on their pitch.

Seminar 12:

- The students have handed in their proposal and done their presentation. Now is the time for a self, peer and tutor review of the process. In coordination with the course coordinator, the students fill in the self-assessment.

What could a seminar look like?

0:00-0:15: Welcome
0:15-0:30: How is your project going? What progress did you make this week? What kind of help would you need in this seminar?
0:30-1:00: Explain the goal of this seminar
1:00-1:15: Break
1:15-2:15: Group work and opportunity for consultation
2:15-2:30: What did you do today? End

5. Assessment

In this section, we will go over the assessment of this course, including the explanation of the case studies and examples of case studies.
During the course students will work on a specific case related to the topic of planetary health. Students' final grade will be based on a written proposal (70%) and an oral presentation of their ideas at the symposium (30%). The presentation has no single form, students can choose their own method of presenting their project. The grade for the oral presentation at the symposium will be based on the evaluation of the stakeholders and experts present. Students have the option to invite all of their stakeholders to the final symposium. They will be requested to assign a grade between 0 and 10 and provide the students with relevant constructive feedback that they can later use to improve their final written proposal. For the written proposal, students will be responsible for evaluating their own work and assigning a grade based on the provided rubric (see 5.1 for rubric and 6.3 for justification).

5.1 Rubric

	Inadequate (1-4)	**Insufficient (5)**	**Sufficient (6)**	**Good (7-8)**	**Excellent (9-10)**
What is the situation now?					
	The students did not provide an overview of the current situation.	The students provide an overview of the current situation, but there are some important aspects/perspectives missing.	The students provide an overview of the current situation and its difficulties.	The students provide a clear overview of the current situation and its difficulties.	The students provide a thorough, clear, and multidisciplinary overview of the current situation and its difficulties.
Who is involved?					
	The students did not provide an overview of the different stakeholders and disciplinary perspectives involved in the case.	The students provide an overview of the current situation, but there are some important stakeholders and/or disciplinary perspectives missing.	The students provide an overview of the different stakeholders and disciplinary perspectives involved in the case.	The students provide a clear overview of the different stakeholders and disciplinary perspectives involved in the case.	The students provide a clear and comprehensive overview of the different stakeholders and disciplinary perspectives involved in the case.

What can be achieved?					
	The students did not provide an idea or goals and expectations.	The students provide an idea, but the relevancy is unclear.	The students provide a relevant idea, but the goals and expectations are too broad/narrow.	The students provide a relevant idea that is supported by clearly defined goals and expectations.	The students provide a relevant, implementable and innovative idea that is supported by clearly defined goals and expectations.
Why is it a good idea?					
	The students did not provide an analysis of the context and problems related to the case and/or the scientific and practical relevance of is not described.	The students provide an analysis of the context and problems related to the case, but the scientific and/or practical relevance of the idea are not clearly described.	The students provide an analysis of the context and problems related to the case. The scientific and/or practical relevance of the idea is described to some degree.	The students provide an analysis of the context and problems related to the case. Their understanding in the area of research and practice is evident.	The students provide a thorough and creative analysis of the context and problems related to the case. Their understanding in the area of research and practice is excellent and shows awareness of the systemic nature of planetary health related issues.
Structure					
	The students provide an incoherent proposal. The organization is not clear and the presented ideas are hard to follow. The layout and references are not appropriate.	The students provide an incoherent proposal. The different sections of the proposal are not linked and do not communicate the presented ideas. The layout and references are not (always) appropriate.	The students provide a well-organized proposal. The proposal is divided in different sections, but coherency between these sections is missing. The layout and references are not (always) appropriate.	The students provide a well-organized proposal. The different sections of the proposal are linked and communicate the presented ideas. The layout and references are appropriate.	The students provide a well-organized and coherent proposal. The different sections of the proposal are cohesively linked and communicate the presented ideas effectively. The layout and references are appropriate.
Progress					
	The students did not use the feedback from relevant stakeholders and experts to evaluate their work. They did not employ the rubric to evaluate their own work. No adjustments were made after these evaluations.	The students used the feedback from relevant stakeholders and experts to evaluate their work. They employed the rubric to evaluate their own work. No adjustments were made after these evaluations.	The students used the feedback from relevant stakeholders and experts to evaluate their work. They employed the rubric to evaluate their own work, some adjustments were made.	The students used the feedback from relevant stakeholders and experts to revise their work. They employed the rubric to evaluate their own work and make necessary adjustments.	The students used the feedback from relevant stakeholders and experts to revise their work accordingly and come up with new ideas. They often employed the rubric to evaluate their own work and make relevant adjustments.

*This rubric is based on a rubric used in the honours course ‘Law and Love: rebuilding justice’

5.2 Assessment structure

The assignment structure is designed to align with the course structure:

Weeks 1 to 4: Students are expected to gather information about the assigned case, identify relevant stakeholders, and other actors involved. They are also required to specify particular issues within the case.

Weeks 4 to 8: During this period, students are to conduct field research, engage with stakeholders, and employ appropriate techniques to gain more knowledge about the case.

Weeks 8 to 12: After collecting and analyzing the information gathered, students are to formulate an appropriate solution relevant to the specific issue identified in weeks 1 and 2.

In summary, this assignment requires students to focus on a particular issue within their assigned case, research and gather relevant information, and offer a creative solution to address the identified problem.

5.3 Case studies

It is unrealistic to expect students to provide solutions for entire problems. Instead, students are required to identify a single issue within their assigned case and offer innovative solutions to address this specific problem. Students will focus on a particular issue within their assigned case, research and gather relevant information, and offer a creative solution to address the identified problem. Following, we give an overview of three examples concerning significant contemporary Planetary Health issues, each of which is well-known, especially on a local level, and should help clarify what kind of case-study students are supposed to be working on.

Case #1 ~ Nitrogen crisis

Case description: The nitrogen crisis, which is affecting farmland and agriculture around the world, has reached the Netherlands, where the government has proposed reducing the country's livestock population by a third to cut nitrogen emissions. This proposal led to widespread protests by farmers, including setting hay bales on fire, blocking roads with manure, and even blockading government buildings with tractors. The Farmer Citizen Movement, known as BBB, emerged from this movement and recently won in provincial elections, becoming the largest party in the Senate. This unexpected win has thrown the government's nitrogen emissions plan into uncertainty. The Dutch farming sector, despite being an important part of the country's economy, produced around 11 million tonnes of nitrous oxide in 2019. The BBB has positioned itself as the voice of rural interests, pushing back against being described as far right, and garnering support from right-wing leaders such as Donald Trump and Marine Le Pen. The election of the BBB could be the start of a larger backlash against environmental policies throughout Europe, as farmers in other countries are also protesting similar plans to reduce emissions.

Case approach: The nitrogen crisis in the Netherlands has sparked controversy and protests from farmers who are impacted by government proposals to reduce livestock populations and cut nitrogen emissions. As a student, your task is to identify a specific problem within the nitrogen crisis, such as the impact on a particular farm or the conflict between government policies and farmers' livelihoods. Through research and fieldwork, you will gather information from relevant stakeholders and develop creative solutions to address the specific problem you have identified. Your solutions should consider the perspectives of all stakeholders involved, including farmers, the government, and

the general population. The goal of this assignment is to understand the complexities of the nitrogen crisis and propose feasible solutions that can benefit all parties involved.

Case structure: This assignment focuses on the Dutch nitrogen crisis.

Week 1 to 4: students will need to gather information about the nitrogen crisis and identify the relevant stakeholders involved, such as farmers, the government, and the general population. They will also need to consider the implied consequences and reasons why stakeholders may not be able to find common ground.

Weeks 4 to 8: students will conduct field research by approaching stakeholders and specifying the problem to a lower level. For example, they can contact a farmer affected by proposed legislation and ask relevant questions to gain information about the issue. They can also reach out to policymakers to learn more about the proposed legislation. By gathering information and contacting stakeholders, students can focus on a single farm and research how it can become more sustainable.

Weeks 8 to 12: an example of a solution on a lower level with the nitrogen crisis is for students to develop a plan to make the farm more sustainable and reduce its nitrogen emissions. This plan can be presented in a report, which should outline what a sustainable farm looks like and how it can be achieved with government support. The report should also explain how the specific farm in question can implement the proposed changes. Overall, this assignment aims to understand the Dutch nitrogen crisis, identify stakeholders, and develop sustainable solutions for individual farms.

Case #2 ~ Tata steel

Case Description: According to the GGD, inhabitants of IJmuiden are shown to have a significantly increased risk of suffering from heart and vascular diseases. This increased risk is due to the emissions of PAK chemicals and lead by the local TATA steel factory. Inhabitants of Ijmuiden rely on the factory for income but suffer as a result of their labor.

Case approach: The goal of this assignment is to investigate the health risks associated with industrial emissions in IJmuiden, specifically, the emissions of PAK chemicals and lead by the TATA steel factory. Through research and analysis, students will be able to identify a specific problem within this case and develop innovative solutions to address this issue.

Case structure:

Weeks 1 to 4: Students will begin by gathering information about the case, identifying relevant stakeholders, and other actors involved. They will also be required to specify particular issues within the case. For example, they can research the health risks associated with industrial emissions, examine the impact of these emissions on the local community, and investigate the economic benefits and drawbacks of the TATA steel factory.

Weeks 4 to 8: During this period, students will conduct field research, engage with stakeholders, and employ appropriate techniques to gain more knowledge about the case. For instance, they can visit the local community and conduct interviews with inhabitants to gather first-hand information about the impact of industrial emissions on their health and well-being. Students can also contact relevant organizations, such as the TATA steel factory, the GGD, and other stakeholders, to gather additional information.

Weeks 8 to 12: After collecting and analyzing the information gathered, students will formulate an appropriate solution relevant to the specific issue identified in weeks 1 and 2. For example, students have outlined that there is insufficient monitoring of emissions by TATA steel factory, as a solution students could propose setting up a citizen science program that allows residents to monitor the levels of pollutants in the air, soil and water around the factory; these findings are then reported to the relevant authorities. This plan can be presented in a report, which should outline the problem, the proposed solution, and how the solution can be implemented.

Case #3 ~ Amsterdamse donut economy (Solution based)

Case Description: The doughnut economy is a model developed by economist Kate Raworth that seeks to create a sustainable economic system that can support both people and the planet. The model is based on the idea that economic activity should be bounded by two concentric circles: an inner ring, which represents the minimum level of resources required for a good quality of life, and an outer ring, which represents the environmental limits of the planet. The goal of the doughnut economy is to ensure that economic activity takes place within these boundaries, so that we can meet the needs of all people without exceeding the limits of the planet. This means that we need to create an economy that is regenerative, distributive, and inclusive. In Amsterdam, the city government has adopted the doughnut economy as a framework for its economic policy. The city has committed to becoming a "doughnut city" by 2050, which means that it will work towards meeting the needs of all citizens within the boundaries of the planet's resources.

Some of the specific solutions that Amsterdam is pursuing as part of this initiative include:

1. Encouraging circular economy: Amsterdam is focusing on a circular economy where waste is minimized, and resources are used more efficiently.

2. Developing sustainable transportation: Amsterdam aims to make it easier and more affordable for people to use public transportation and bicycles, rather than cars.

3. Promoting renewable energy: The city is working to shift to 100% renewable energy sources to reduce its carbon footprint.

4. Fostering community cohesion: Amsterdam is working to create a more inclusive and equitable society by promoting social connections and community engagement.

Overall, the doughnut economy initiative in Amsterdam aims to create a sustainable and inclusive economy that can meet the needs of all citizens while respecting the limits of the planet's resources.

Case structure:

Weeks 1 to 4: students will gather information about the model and its implementation in Amsterdam. They will identify the stakeholders involved, such as the city government, citizens, businesses, and environmental groups. Students will also need to consider the challenges faced by the city in implementing the model, such as balancing economic growth with sustainability.

Weeks 4 to 8: Students will conduct field research by approaching stakeholders and focusing on a single aspect of the doughnut economy implementation in Amsterdam. For example, they could contact a local business and ask about their sustainability practices or reach out to a community organization to learn about their efforts towards helping the environment. By gathering information and contacting stakeholders, students can develop a deeper understanding of the challenges and opportunities of implementing the doughnut economy in Amsterdam.

Weeks 8 to 12: Students can propose a solution relevant to their specific area of focus. For instance, they could develop a plan to help a local business become more sustainable or propose ways to make a specific community more environmentally friendly. This solution can be presented in a report, which should outline how the proposed changes align with the doughnut economy model and how they can benefit the city of Amsterdam as a whole.

6. Scientific justification

6.1. Multidisciplinarity

The Planetary Health course aims to take up an interdisciplinary perspective that highlights the interdependence between the well-being of the planet and all living organisms. Given the significance of Planetary Health to everyone, the course aims to foster collaboration among all stakeholders, including the 9 faculties of the Vrije Universiteit of Amsterdam.

Multidisciplinary education is able to provide many benefits for students. Multidisciplinary education can help students develop lifelong learning skills that are essential for future learning experiences. Some of the advantages connected to interdisciplinary education are enhancing communication skills, expanding students' knowledge beyond a single discipline, advancing critical thinking, and enhancing creativity (Casey Jones, 2009).

Another beneficial outcome of multidisciplinary education is that students gain the ability to approach problems with a broader perspective. The real life world is complex. Real life phenomena and problems cannot be understood from one perspective. Therefore, in order to be able to understand these phenomena and come-up with solutions to real life problems a holistic perception is important (O.P. Jindal Global University, 2020).

6.2. Problem-based learning

The seminars, which are centered around the case study projects, are based on an educational approach referred to as problem-based learning (PBL). With this approach, a real-life problem is the start of the project. The topic can be formulated by the teacher, but students can also choose to participate in participant-directed learning, in which the students come up with their own topic for a case study.

Seven steps of PBL can be identified, namely: 1. clarify the concepts; 2. define the problem; 3. analyze the problem; 4. find the explanation; 5. formulate the learning objective; 6. search for further information; and 7. report and test new information (De Graaf & Kolmos, 2003). As one can see, the structure of the seminars are based on these steps. Firstly, the students need to identify what they are studying exactly. After that, they look at what they already know about the topic, and research what they do not know yet. An important extra element is that part of this research process also involves getting information from relevant stakeholders. When the students have to report and

test new information, they do not only do this with each other, but also with the relevant stakeholders and the course coordinator.

Problem-based learning is based on the background, expectations and interests of the students. Given that this will be an honors class with high-performing students from a variety of backgrounds, this approach will already be very interesting. Additionally, students are usually more motivated, and spend more time on their project when there is a PBL approach in place (De Graaf & Kolmos, 2003). Lastly, also generic skills, like teamworking, chairing a group, listening, recording, cooperation, respecting colleagues' views, critically evaluating literature, self directed learning, use of resources and presentation skills are trained (Wood, 2003).

6.3. Assessment

Formative assessment

Our course is designed to help students acquire new skills and knowledge on the topic of planetary health (see learning goals). To monitor their progress, we employ a formative form of assessment. Formative assessment refers to all the activities taken up by teachers and students that provide information about the student's progress, which is then used to adjust teaching and learning activities accordingly (Black & William, 2010). By means of observation, discussion and the reading of students' work, teachers can keep track of their progress and difficulties with learning. To further assist students, extra instruction and guidance can be provided, for example, in the form of additional explanation or feedback. This form of assessment is positively linked to learning gains and thus seems to be an effective addition to our course (Black & William, 2010; Hattie & Timperley, 2007; Wisniewski et al., 2020). We have implemented formative assessment by organizing meetings that encourage interaction between teachers and students. Every second meeting of the week students get the opportunity to work on their case, share their progress with both the other groups and the course coordinator, and request a personal feedback session. Once students complete the first draft of their proposal, it is highly recommended that they send their work to stakeholders related to the case they are investigating, and request constructive feedback. If needed, the course coordinator is also available to review their work and provide feedback. These features of the course provide a strong foundation for catering to the unique needs of each student and generating the intended learning gains.

Self-assessment

Self-assessment is closely related to the notion of formative assessment since through self-assessment students reflect on the quality of their work, evaluate the degree to which it reflects explicitly formulated goals or criteria, and make fitting adjustments (Andrade & Vatlcheva, 2009). By engaging students in the evaluation of their work, they can be made aware of the intended goals of the task they're working on and check their progress towards them. This can lead to an increase in self-regulation and academic achievement (Schunk, 2003). Our course includes an element of self-assessment: students will be in charge of evaluating their own proposal and at the end of the course they will grade their work accordingly. After they have finished the first draft of their proposal, students are asked to use the rubric to reflect on the quality of their work. Actively involving students in using a rubric to self-assess has been associated with noticeable academic improvements (Andrade & Vatlcheva, 2009). Once the students have been given the opportunity to compare their work against the expected goals and criteria, they can use the feedback received to make necessary improvements for their final draft. This step in the self-assessment process is added because opportunities to revise and improve the tasks that students are working on can be seen as a requirement for self-assessment to be effective (Andrade & Vatlcheva, 2009). At the end of the course, students will grade their own final proposal based on the same rubric with additional criteria that refers to the process made in the

learning process. Research indicates that students are generally honest and reliable in accessing themselves (Black & William, 2010; Sticca et al., 2017) It can thus be expected that the final grades will accurately reflect the students' achievement and personal progress.

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Appendix

A. Contacts

Faculty of social sciences	
Contact	Anthropology - Harry Wels
e-mail	h.wels@vu.nl
Contact	Project facilitator Activ8-Planet - Soesja van Wijgerden
e-mail	s.van.wijgerden@vu.nl

Faculty of religion and theology	
Contact	Professor in Spiritual Care and Religious humanism with research focus on Spiritual Care and Planetary Health - Hans Alma
E-mail	h.a.alma@vu.nl
Lecture idea	We often think of spiritual care in terms of individual counseling in personal matters, but how can we speak of spiritual health when we don't take our relationship to other living beings and to the earth into account? The lecture will explore the role of the spiritual caregiver when it comes to ecological challenges and the existential issues these raise. Requirements for research into this field will be discussed.

Faculty of law	
Contact	Clemens Kaupa
E-mail	c.kaupa@vu.n
Lecture idea	Different things could be covered, depending on the structure and needs of the overall course. The lecture could provide an overview over the relevant legal framework to combat climate change (Paris Agreement, EU Climate Law); it could also give an overview over court cases to force states and companies to reduce emissions (Urgenda, Shell v Milieudefensie). The connection to planetary health: the main cause of "planetary sickness" is human behavior. Law is the central mechanism to regulate human behavior. It is consequently a central intervention tool to change human behavior in order to protect planetary health.

Amsterdam Academic Center for Dentistry	
Contact	Egija Zaura
E-mail	e.zaura@acta.nl
Lecture idea	Sustainability in healthcare (the use of disposable items)