

Planetary Health Report Card (Medicine):

University of Basel





2022-2023 Contributing Team:

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Summary of Findings

Overall	
Curriculum	C

Curriculum

- The Medical Faculty (MFac) of the University of Basel developed a comprehensive longitudinal Planetary Health curriculum and started implementing courses in autumn semester 2022. Correspondingly, several topics are still missing. Three elective courses on Planetary Health are offered for master students.
- **Recommendations**: Teaching about strategies for communication with patients about the effects of environmental crises should be integrated in the core curriculum as well as components of sustainable clinical practice. Apart from frontal lectures, seminar and group sessions/project work would be valuable. Elective courses should be made available for bachelor students.

Interdisciplinary Research

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- The Sustainable Future Research Network at the University of Basel coordinates interdisciplinary research in the field of sustainability. However, Planetary Health is not a designated research field yet. The Swiss Tropical and Public Health Institute (Swiss TPH) conducts research in some fields of Planetary Health.
- Recommendations: The MFac could facilitate interdisciplinary research projects on Planetary Health and offer master/doctoral thesis on the topic. The MFac should continue hosting yearly events (e.g. conference or symposium) related to Planetary Health, maybe in collaboration with other Swiss faculties.

Community Outreach and Advocacy

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- The MFac is a member of the Planetary Health Alliance, its European Hub and the GCCHE, but is not part of community partnerships. In 2022 the MFac organised an event open to the community and intends to organise yearly events for a community audience.
- **Recommendations**: The MFac could facilitate events related to Planetary Health together with local organisations, students and teachers in order to involve the local community. Professional postgraduate education activities could be promoted and educational material for patients could be developed.

Support for Student-Led Initiatives

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- The student organisation Health for Future at the MFac dedicated to Planetary Health works with faculty members on courses and events. The University offers a funding program to lecturers and students to integrate sustainability topics into their courses.
- **Recommendations**: The MFac could increase support to students interested in sustainable initiatives for example by creating and updating content on Planetary Health on its website (current developments, research opportunities, funding programs, mentors, etc.). The student representatives that serve on decision-making committees of the MFac could represent Planetary Health topics more prominently.

Campus Sustainability

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- Sustainability is anchored in the University's Strategy 2022-2030 and Mission Statement. The Sustainability Office coordinates numerous projects and is currently developing a climate-neutrality strategy. Both the MFac as well as the University Hospital of Basel source about 70 % renewable energy.
- **Recommendations**: A systematic review regarding the integration of sustainability criteria for procurement and events is still pending and the MFac should engage in these efforts as well. Environmental-friendly mobility could be facilitated and incentivised and measures for sustainable building practices need to be applied.

Statement of Purpose

Planetary health is human health.

The Planetary Health Alliance describes 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 definition is intentionally broad, intended to encompass the multitude of ways that the environment can affect health, including water scarcity, changing food systems, urbanization, biodiversity shifts, natural disasters, climate change, changing land use and land cover, global pollution, and changing biogeochemical flows. The health of humanity is dependent on our environment, and our environment is changing rapidly and in disastrous ways. Although the World Health Organization has called climate change "the greatest threat to global health in the 21st century," many medical school's institutional priorities do not reflect the urgency of this danger to human health.

As future health professionals, we must be prepared to address the impacts of human-caused environmental changes on our patients' health. This preparation is in the hands of the institutions providing our medical training. It is imperative that we hold our institutions accountable for educating medical students about the health impacts of climate change and other anthropogenic environmental changes, generating research to better understand health impacts and solutions, supporting related student initiatives, embracing sustainable practices as much as possible, and engaging with surrounding communities that are most affected by environmental threats. Because climate change and environmental threats disproportionately affect vulnerable populations (for example, communities of color, older adults sensitive to health threats, and individuals in low-resource settings), these issues are inherently ones of equity and justice.

With the purpose of increasing planetary health awareness and accountability among medical schools, we have created a Planetary Health Report Card that medical students internationally can use to grade and compare their home institutions on an annual basis. This medical-student-driven initiative aims to compare medical schools nationally and internationally on the basis of discrete metrics in five main category areas: 1) planetary health curriculum, 2) interdisciplinary research in health and environment, 3) university support for student planetary health initiatives, and 4) community outreach centered on environmental health impacts 5) medical school campus sustainability.

Definitions & Other Considerations

Definitions:

- Planetary Health: is described by the Planetary Health Alliance as "the health of human civilisation and the state of the natural systems on which it depends." For example, topics such as climate change, declining biodiversity, shortages of arable land and freshwater, and pollution would all fall under the realm of planetary health. Both planetary health and traditional 'environmental health' examine the relationship between human health and the external environment, including extreme temperatures, chemicals, vector-borne diseases, etc. Planetary health explicitly concerns itself with the potential health harms associated with human-caused perturbations of natural systems. Therefore, the human health focus of planetary health makes the field well-adapted for the context of medical school education. Throughout this report card, we use the term planetary health to refer to this broad swath of topics, but resources do not need to explicitly include the term "planetary health" to satisfy the metric.
- Sustainable Healthcare: As defined by the Academy of Royal Colleges, sustainable
 healthcare involves ensuring the ability to provide good quality care for future generations by
 balancing the economic, environmental, and social constraints and demands within health
 care settings. A sustainable healthcare system maintains population health, reduces disease
 burden and minimises use of healthcare services.
- Education for Sustainable Healthcare (ESH): is defined as the process of equipping current and future health professionals with the knowledge, attitudes, skills and capacity to provide environmentally sustainable services through health professional education, thus working to decrease the enormous environmental impact of the healthcare industry. Planetary Health Education is an integral part of this education rather than an end in itself. This is because knowledge on Planetary Health is required to be able to fully understand the necessity of sustainable healthcare as well as being part of the broader knowledge needed to fully protect and promote health. In summary, ESH is covered by the three Priority Learning Outcomes of the Centre of Sustainable Healthcare below, and Planetary Health Education is embraced in the first learning objective and is a fundamental requirement to achieve learning outcomes 2 and 3:
 - 1. Describe how the environment and human health interact at different levels.
 - 2. Demonstrate the knowledge and skills needed to improve the environmental sustainability of health systems.
 - 3. Discuss how the duty of a doctor to protect and promote health is shaped by the dependence of human health on the local and global environment.
- Medical School vs. Institution: When "medical school" is specified in the report card, this
 only refers to curriculum and resources offered by the School of Medicine and does not
 include offerings from other parts of the university (e.g. undergraduate departments (USA),
 other related departments (e.g. Public Health, Population Health departments). In contrast,
 when "institution" is specified in the report card, we are referring to the university more

broadly. Any resource reasonably accessible by medical students, no matter where in the institution the resource comes from or if it is specifically targeted for medical students, can meet this metric.

- Environmental history (Metric #19 in Curriculum Section): This is a series of questions providers are taught to ask during medical encounters that elicits patients' exposures and environmental risk factors. Historically, this has included consideration of exposures like pesticides, asbestos, and lead, though in the modern era shaped by climate change, it can be expanded to include things like wildfire smoke exposure, air pollution and mold after flooding. Key components include place of residence over the lifecourse, occupational history, food and water sources (e.g. meat from industrial feeding operations, regular fishing in contaminated water, access to clean drinking water), and exposure to air pollution.
- **Elective:** The word "elective" refers to an optional course or lecture series that a medical student can opt to take part in but is not a requirement in the core curriculum. Generally, these elective courses take place in the preclinical curriculum but vary by school.
- Clerkship: This is a term used in the USA to refer to placements that medical students go on e.g. Pediatrics, General medicine, Psychiatry. In the UK these are referred to as rotations or placements.

Other considerations:

• If there are more than one "tracks" at your medical school with two different curricula (for example, Harvard Medical School has a Pathways and HST curriculum track), you can choose to fill out a report card for each track, or fill out just one report card and average the scores received by each track in cases where the scores are different (see the 2021 Harvard or Oxford report cards as examples).

Added to our resources this year, the Planetary Health Report Card <u>Literature</u>

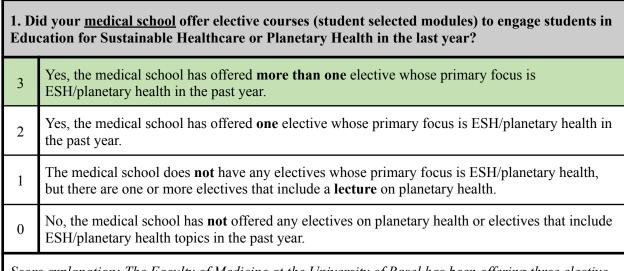
<u>Review by Metric</u> collates the evidence behind each of the metrics in the Planetary

Health Report Card. It serves as a collection of references for further learning and a resource for those advocating for increased planetary health engagement at their institutions.

Planetary Health Curriculum

Section Overview: This section evaluates the integration of relevant planetary health topics into the medical school curriculum. Today's medical students will be on the frontlines of tackling the health effects of climate and other environmental changes. Therefore, it is critical that medical students are trained to understand the health effects of these changes, as well as planetary health issues and principles more broadly. Topics like the changing geography of vector-borne diseases, the health consequences of air pollution, environmental health inequities, and disaster response principles must be part of every medical school's core curriculum.

Curriculum: General



Score explanation: The Faculty of Medicine at the University of Basel has been offering three elective projects for Master's students since the spring semester 2021: "Planetary Health - what is the climate and biodiversity crisis doing to our health? (Winter School), "Green Hospital: Sustainability in Healthcare" (Winter School) and "Nutrition and Medicine" (Summer School). Further elective projects for Bachelor students are being planned.

Curriculum: Health Effects of Climate Change

2. Does your <u>medical school</u> curriculum address the relationship between extreme heat, health risks, and climate change?	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.

Score explanation: In the lecture "Introduction to Planetary Health" in the introductory block in the 1st BA study year, the connections between the climate crisis, heat waves and the effects on health are

introduced. Additionally, the topic is covered in depth in the lecture "Climate change and heat related mortality" in the thematic block "Body/Subject/Environment" ("Körper/Subject/Umwelt").

3. Does your <u>medical school</u> curriculum address the impacts of extreme weather events on individual health and/or on healthcare systems?	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.

1 This topic was covered in **elective** coursework.

0 This topic was **not** covered.

Score explanation: In the introductory block in the 1st BA year, the effects of extreme weather events on the health of individuals and on health systems are addressed in the lecture "Introduction to Planetary Health" and in ecology lectures. In addition, an elective project for Master's students is offered that deals with the role of healthcare systems ("Green Hospital: Sustainability in Healthcare"). From 2023 onwards, the topic will be addressed in greater depth in further lectures in the core curriculum in the areas of emergency medicine, ethics and psychiatry, among others.

4. Does your <u>medical school</u> curriculum address the impact of climate change on the changing patterns of infectious diseases?

- 3 This topic was explored **in depth** by the **core** curriculum.
- 2 This topic was **briefly** covered in the **core** curriculum.
- 1 This topic was covered in **elective** coursework.
- 0 This topic was **not** covered.

Score explanation: In the introductory block in the 1st BA year, the effects of the climate crisis on patterns of infectious diseases are addressed in the lecture "Introduction to Planetary Health", in lectures on Public Health (thematic block Körper-Subjekt-Umwelt) and in ecology lectures. From 2023 onwards, the topic will be addressed in greater depth in lectures in the core curriculum, including epidemiology, public health and pharmacotherapy. In addition, an elective project for Master's students is offered that deals with the influence of environmental changes on communicable diseases in more detail ("Planetary Health - what is the climate and biodiversity crisis doing to our health?").

5. Does your <u>medical school</u> curriculum address the respiratory health effects of climate change and air pollution?

- 3 This topic was explored **in depth** by the **core** curriculum.
- 2 This topic was **briefly** covered in the **core** curriculum.
- 1 This topic was covered in **elective** coursework.

0 This topic was **not** covered.

Score explanation: In the introductory block in the 1st BA year, the effects of the climate crisis and air pollution on the respiratory system are addressed in the lecture "Introduction to Planetary Health" and in ecology lectures.

6. Does your <u>medical school</u> curriculum address the cardiovascular health effects of climate change, including increased heat?

- This topic was explored **in depth** by the **core** curriculum.
- 2 This topic was **briefly** covered in the **core** curriculum.
- 1 This topic was covered in **elective** coursework.
- 0 This topic was **not** covered.

Score explanation: In the lecture "Introduction to Planetary Health" in the introductory block in the 1st BA year, the effects of the climate crisis on cardiovascular health are addressed. From 2023 onwards, the topic will be dealt with in greater depth in further lectures in the core curriculum in the cardiovascular topic block.

7. Does your <u>medical school</u> curriculum address the mental health and neuropsychological effects of environmental degradation and climate change?

- This topic was explored in depth by the core curriculum.
- 2 This topic was **briefly** covered in the **core** curriculum.
- 1 This topic was covered in **elective** coursework.
- 0 This topic was **not** covered.

Score explanation: The topic is addressed in the lecture "Introduction to Planetary Health" in the introductory block in the 1st BA year. From the spring semester 2023, the effects of the climate crisis and other environmental changes on mental health will be dealt with in depth in a new lecture in the subject block Psyche/Ethics/Law in the 2nd Bachelor's degree year.

8. Does your <u>medical school</u> curriculum address the relationships between health, individual patient food and water security, ecosystem health, and climate change?

- 3 This topic was explored in depth by the core curriculum.
- 2 This topic was **briefly** covered in the **core** curriculum.
- 1 This topic was covered in **elective** coursework.
- 0 This topic was **not** covered.

Score explanation: In the introductory block in the 1st BA year in the segment "General Biology", the connections between ecosystem health, the climate crisis and further planetary boundaries and health are covered in several ecology lectures. The link to individual patient food, however, is only established in the elective course "Green Hospital: Sustainability in Healthcare" and needs to be made in the core curriculum as well.

9. Does your <u>medical school</u> curriculum address the outsized impact of climate change on
marginalized populations such as those with low SES, women, communities of color, Indigenous
communities, children, homeless populations, and older adults?

- This topic was explored **in depth** by the **core** curriculum.
- 2 This topic was **briefly** covered in the **core** curriculum.
- 1 This topic was covered in **elective** coursework.
- 0 This topic was **not** covered.

Score explanation: In the lecture "Introduction to Planetary Health" in the introductory block of the first BA year, the disproportionate effects of environmental changes on disadvantaged and marginalised population groups are addressed. Additionally, the topic is covered in the thematic block "Körper-Subjekt-Umwelt" in the lecture "Social inequalities and health". However, the focus lies on countries in the global north (Switzerland) and the link to the disproportionate effects of environmental risks on marginalised populations is not made explicitly. This will be addressed from 2023 onwards.

$10. \ Does \ your \ \underline{medical \ school} \ curriculum \ address \ the \ unequal \ regional \ health \ impacts \ of \ climate \ change \ globally?$

- This topic was explored **in depth** by the **core** curriculum.
- 2 This topic was **briefly** covered in the **core** curriculum.
- 1 This topic was covered in **elective** coursework.
- 0 This topic was **not** covered.

Score explanation: In the lecture "Introduction to Planetary Health" in the introductory block in the 1st BA year, the regionally unequal effects of environmental changes are addressed. From HS 2023 onwards, the topic will also be dealt with in greater depth in the thematic block Healthy-Sick-Tumour on the theme day "Healthy and Sick in the Context of Habitat, Cultures, Migration and Gender".

Curriculum: Environmental Health & the Effects of Anthropogenic Toxins on Human Health

11. Does your <u>medical school</u> curriculum address the reproductive health effects of industry-related environmental toxins (e.g. air pollution, pesticides)?

- This topic was explored **in depth** by the **core** curriculum.
- 2 This topic was **briefly** covered in the **core** curriculum.

1	This topic was covered in elective coursework.
0	This topic was not covered.

Score explanation: In the lecture "Ecology and Health" in the subject block Body-Subject-Environment in the 1st BA year, the effects of environmental toxins on health are dealt with, part of which deals with reproductive health. From 2023 onwards, reproductive health will also be dealt with more specifically in the subject block Reproduction in the 2nd Master's year.

12. Does your medical school curriculum address important human-caused environmental threats that are relevant to the university's surrounding community? 3 This topic was explored in depth by the core curriculum. 2 This topic was briefly covered in the core curriculum. 1 This topic was covered in elective coursework. O This topic was not covered.

Score explanation: The introductory block in the 1st BA year in the segment "General Biology" deals with examples of anthropogenic environmental threats that are relevant to the Basel region.

13. To what extent does your medical school emphasize the importance of Indigenous knowledge and value systems as essential components of planetary health solutions? 3 Indigenous knowledge and value systems are integrated throughout the medical school's planetary health education 2 Indigenous knowledge and value systems as essential components of planetary health solutions are included briefly in the core curriculum. 1 Indigenous knowledge and value systems as essential components of planetary health solutions are included in elective coursework. O This topic was not covered.

Score explanation: As far as we know, this topic is not yet included in the curriculum or elective courses. The integration is planned for the study years 2023/2024.

14. Does your <u>medical school</u> curriculum address the outsized impact of anthropogenic environmental toxins on marginalized populations such as those with low SES, women, communities of color, children, homeless populations, Indigenous populations, and older adults?	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.

0 This topic was **not** covered.

Score explanation: In the elective project "Planetary Health - what is the climate and biodiversity crisis doing to our health?" for Master's students, the topic is addressed. However, it is not yet specifically addressed in the core curriculum. From 2023 onwards, the topic will be addressed in lectures on social inequalities and determinants of health.

Curriculum: Sustainability

15. Does your <u>medical school</u> curriculum address the environmental and health co-benefits of a plant-based diet?	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.

Score explanation: The topic is specifically addressed in the lecture "Introduction to Planetary Health" in the introductory block in the 1st BA year. Master's students are also offered an elective project on the topic of nutrition (Summer School), which deals with the ecological and health benefits of a plant-based diet. From the autumn semester 2023 onwards, the topic will also be addressed at the Nutrition theme day in the core curriculum.

16. Does your medical school curriculum address the carbon footprint of healthcare systems? This topic was explored in depth by the core curriculum. This topic was briefly covered in the core curriculum. This topic was covered in elective coursework. This topic was not covered.

Score explanation: The lecture "Introduction to Planetary Health" in the introductory block in the 1st BA year deals with the carbon footprint of the healthcare system. For Master's students, the elective project "Green Hospital: Sustainability in Healthcare" is also offered together with the University Hospital Basel (Winter School). This gives students an insight into the environmental aspects of everyday clinical hospital life during tours of particularly sensitive hospital areas such as the operating theatre/anaesthetics, sterilisation, waste and wastewater management, and shows how the healthcare system can be made more sustainable.

In the future, the ecological impact of medical facilities should be included in more depth in the core curriculum as well.

17. Does your <u>medical school</u> curriculum cover these components of sustainable clinical practice in the core curriculum? (points for each)

2	The health and environmental co-benefits of avoiding over-medicalisation, over-investigation and/or over-treatment
2	The environmental impact of pharmaceuticals and over-prescribing as a cause of climate health harm. Alternatively teaching on deprescribing where possible and its environmental and health co-benefits would fulfill this metric.
1	The health and environmental co-benefits of non-pharmaceutical management of conditions where appropriate such as exercise or yoga classes for type 2 diabetes; social group activities such as gardening for mental health conditions; active transport such as bicycle schemes. This is commonly known as social prescribing in the UK.
1	Environmental impact of surgical healthcare on planetary health and the climate crisis, and how can it be mitigated
1	The impact of anaesthetic gases on the healthcare carbon footprint and ways to reduce anesthesia environmental impacts, such as total intravenous anaesthesia or choosing less environmentally harmful anaesthetic gas options with reduced greenhouse gas emissions
1	The impact of inhalers on the healthcare carbon footprint and the environmental benefit of dry powdered inhalers over metered dose inhalers.
1	Waste production within healthcare clinics and strategies for reducing waste in clinical activities (e.g. single use items in the inpatient or outpatient setting)
	Score explanation: These components of sustainable clinical practice are not yet covered in the core curriculum. Some of them are addressed in the elective course "Green Hospital: Sustainability in Healthcare".

Curriculum: Clinical Applications

18. In training for patient encounters, does your <u>medical school's</u> curriculum introduce strategies to have conversations with patients about the health effects of climate change?	
2	Yes, there are strategies introduced for having conversations with patients about climate change in the core curriculum.
1	Yes, there are strategies introduced for having conversations with patients about climate change in elective coursework.
0	No, there are not strategies introduced for having conversations with patients about climate change

Score explanation: So far as we know, no strategies for communicating information on the climate crisis have been taught. In the future, strategies for communicating health co-benefits (active mobility, contact with nature, renewable energies) will be addressed.

19. In training for patient encounters, does your <u>medical school's</u> curriculum introduce strategies for taking an environmental history or exposure history?

Yes, the core curriculum includes strategies for taking an environmental history.
 Only elective coursework includes strategies for taking an environmental history.
 No, the curriculum does not include strategies for taking an environmental history.

Score explanation: The questioning of the 'exposure history', e.g. in work, travel and social anamnesis, is partially taught. However, this should be expanded because more and more environmental exposures are occurring and are gaining importance. Some environmental factors and their effect on health are explained in an elective course called "Planetary Health" which can be selected by master students.

Curriculum: Administrative Support for Planetary Health

20. Is your <u>medical school</u> currently in the process of implementing or improving Education for Sustainable Healthcare (ESH)/planetary health education?

- Yes, the medical school is currently in the process of making **major** improvements to ESH/planetary health education.
- Yes, the medical school is currently in the process of making **minor** improvements to ESH/planetary health education.
- 0 No, there are **no** improvements to planetary health education in progress.

Score explanation: The Faculty of Medicine has created a paid position for a staff member to oversee and evaluate the integration of Planetary Health into teaching for 2021-24. A curriculum for "Planetary Health and Sustainability in Health Care" was designed, which provides for a long-term, longitudinal integration of the topics in the core curriculum. Implementation began in the autumn semester 2022 and will continue for the following semesters.

21. How well are the aforementioned planetary health/Education for Sustainable Healthcare topics integrated longitudinally into the <u>core</u> curriculum?

- 6 Planetary health/ESH topics are **well integrated** into the core medical school curriculum.
- Some planetary health/ESH topics are appropriately integrated into the core medical student curriculum.
- 2 Planetary health/ESH is not integrated and is primarily addressed in (a) standalone lecture(s).
- 0 There is **minimal/no** education for sustainable healthcare.

Score explanation: At the Faculty of Medicine of the University of Basel, topics on Planetary Health will be embedded in the core curriculum on a long-term and longitudinal basis. As of January 2023, this includes an introductory lesson, lectures in biology, biogeochemistry, public health (climate change and heat-related mortality) and in medical action and physician-patient-relationship. For the upcoming semesters, Planetary health topics are also planned to be integrated in lectures on nephrology, geriatrics, dermatology, gastroenterology, psychiatry, ethics, epidemiology, endocrinology, pneumology, cardiology, paediatrics, reproductive health, pharmacotherapy, emergency medicine, prevention and health economics. (see <u>Curriculum online</u>).

22. Does your <u>medical school</u> employ a member of faculty to specifically oversee and take responsibility for the incorporation of planetary health and sustainable healthcare as a theme throughout the course?

- Yes, the medical school has a specific faculty/staff member responsible for overseeing curricular integration of planetary health and sustainable healthcare.
- No, the medical school does not have a specific faculty/staff member responsible for overseeing curricular integration of planetary health and sustainable healthcare.

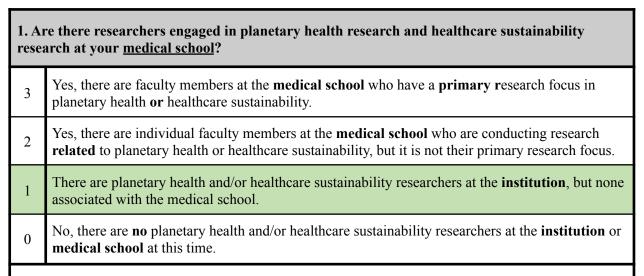
Score explanation: The Faculty of Medicine has created a paid position for a staff member to oversee and evaluate the integration of Planetary Health into teaching for 2021-24.

Section Total (39 out of 72)	54.17%
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Interdisciplinary Research

Section Overview: This section evaluates the quality and quantity of interdisciplinary planetary health research at the medical school and broader institution. Interactions between health and the environment are complex and multifactorial. While climate change has been extensively studied from an environmental science perspective, planetary health is an emerging field. As leading health institutions with talented researchers and research resources, medical schools should fund research studying the health effects of climate change and anthropogenic environmental toxins. This obligation is particularly strong because the public and policymakers are more attentive to climate change when its implications for human health are emphasized.



Score explanation: The Swiss Tropical and Public Health Institute (Swiss TPH) is an institutional partner of the University of Basel and is in charge of the Public Health curriculum at the medical faculty. They conduct research in various fields of planetary health such as climate change, declining biodiversity, pollution, extreme temperatures, vector-borne diseases and others.

2. Is there a dedicated department or institute for interdisciplinary planetary health research at your institution? There is at least one dedicated department or institute for interdisciplinary planetary health research. There is not currently a department or institute for interdisciplinary planetary health research, but there are plans to open one in the next 3 years. There is an Occupational and Environmental Health department, but no interdisciplinary department or institute for planetary health research. There is no dedicated department or institute.

Score explanation: The University of Basel's <u>Sustainable Future research network</u> serves to coordinate and strengthen interdisciplinary research in the field of sustainability at the University of Basel across departmental and faculty boundaries. Planetary Health is not a designated research field yet. Furthermore, the Swiss Tropical and Public Health Institute is an institutional partner of the University of Basel and covers different aspects of environmental health and planetary health research.

3. Is there a process by which communities disproportionately impacted by climate change and environmental injustice give input or make decisions about the research agenda at your <u>medical</u> school?

- Yes, there is a process in which community members impacted by climate and environmental injustice have **decision-making power** in the climate + environmental research agenda.
- Yes, there is a process in which community members impacted by climate and environmental injustice **advise** the climate + environmental research agenda.
- No, but there are **current efforts** to establish a process for community members to advise or make decisions on the research agenda.
- There is **no** process, and **no** efforts to create such a process.

Score explanation: Currently there are no efforts to create such a process at the medical faculty in Basel.

4. Does your <u>institution</u> have a planetary health website that centralizes ongoing and past research related to health and the environment?

- There is an **easy-to-use**, **adequately comprehensive** website that **centralizes** various campus resources related to health and the environment including all of the following: upcoming events, leaders in planetary health at your institution, and relevant funding opportunities.
- There is a website that **attempts to centralize** various campus resources related to health and the environment, but it is hard-to-use, not updated, or not adequately comprehensive.
- The **institution** has an **Office of Sustainability website** that includes **some** resources related to health and the environment.
- 0 There is **no** website.

Score explanation: The Sustainability Unit of the University of Basel has a <u>website</u> with information on events and resources on sustainability in general. Specific resources on the topic of planetary health are not (yet) available.

5. Has your <u>institution</u> recently hosted a conference or symposium on topics related to planetary health?

- Yes, the **medical school** has hosted at least one conference or symposium on topics related to planetary health in the past year.
- Yes, the **institution** has hosted at least one conference or symposium on topics related to planetary health in the past year.
- Yes, the **institution** has hosted a conference on topics related to planetary health in the past three years.

- The **institution** has not hosted any conferences directly, but they have provided financial support for a local planetary health event.
- No, the **institution** has not hosted a conference on topics related to planetary health in the past three years.

Score explanation: As part of the University of Basel's Sustainability Week, the Faculty of Medicine, together with the University Hospital Basel, organised an evening event on the topic of health and sustainability on 23 March 2022 with the title "The climate crisis is a medical emergency! - Planetary Health as an opportunity?". Several experts from Swiss TPH, the University Hospital Basel, the German Climate Change and Health Alliance and Health for Future presented and discussed the interactions between human health and environmental changes, as well as challenges and solutions for a more sustainable health system.

6. Is your <u>medical school</u> a member of a national or international planetary health or ESH organization?

- Yes, the medical school is a member of a national or international planetary health **or** ESH organization
- No, the medical school is **not** a member of such an organization

Score explanation: The Faculty of Medicine at the University of Basel is a member of the Planetary Health Alliance and the Global Consortium on Climate and Health Education.

Section Total (8 out of 17)	47.06%
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Are there additional research resources offered at your medical school or institution not yet asked about that you would like to describe? If so, please do so below.

Community Outreach and Advocacy

Section Overview: This section evaluates medical school engagement in community outreach and advocacy efforts associated with planetary health. Researching and teaching planetary health is necessary but not sufficient. It is critical that institutions also directly engage with communities most affected by environmental health harms. Although climate change is a problem largely created by those with power and resources, its impacts fall disproportionately on under-resourced populations and communities of color. Institutions should partner with local communities affected by climate change and pollution to share information about environmental health threats, advocate together for change, and provide opportunities for students to be a part of this work.

1. Does your <u>medical school</u> partner with community organizations to promote planetary and environmental health?	
3	Yes, the medical school meaningfully partners with multiple community organizations to promote planetary and environmental health.
2	Yes, the medical school meaningfully partners with one community organization to promote planetary and environmental health.
1	The institution partners with community organizations, but the medical school is not part of that partnership.
0	No, there is no such meaningful community partnership.
Score explanation: There are different partnerships, but none of them are specifically with the medical	

school (see Website University of Basel: dialogue & research).

2. Does your <u>medical school</u> offer community-facing courses or events regarding planetary health?			
3	The medical school offers community-facing courses or events at least once every year.		
2	The medical school offers courses or events open to the community at least once per year, but they are not primarily created for a community audience.		
1	The institution has offered community-facing courses or events, but the medical school was not involved in planning those courses or events.		
0	The institution/medical school have not offered such community-facing courses or events.		

Score explanation: As part of the University of Basel's Sustainability Week, the Faculty of Medicine, together with the University Hospital Basel, organised an evening event on the topic of health and sustainability on 23 March 2022 with the title "The climate crisis is a medical emergency! - Planetary Health as an opportunity?". Several experts from Swiss TPH, the University Hospital Basel, the German Climate Change and Health Alliance and Health for Future presented and discussed the interactions between human health and environmental changes, as well as challenges and solutions for a more sustainable health system.

The medical school plans to organise such events yearly. Courses for a community audience are not planned yet.

3. Do	oes your <u>medical sc</u>	<u>hool</u> have regular c	coverage of issues	related to planetary	health and/or
susta	inable healthcare i	n university update	e communications	s?	

- Yes, all students **regularly** receive communication updates dedicated to planetary health and/or sustainable healthcare.
- Yes, planetary health and/or sustainable healthcare topics are **sometimes** included in communication updates.
- O Students **do not** receive communications about planetary health or sustainable healthcare.

Score explanation: The Sustainability Office of the University sends out regular newsletters, but Planetary Health is only partially a topic. The Faculty of Medicine does not send out regular information updates in general.

4. Does the <u>institution</u> or <u>main affiliated hospital trust</u> engage in professional education activities targeting individuals post graduation with the aim of ensuring their knowledge and skills in planetary health and sustainable healthcare remain up to date during their professional career?

- Yes, the **institution** or **main affiliated hospital trust** offers multiple in-person or online courses relating to planetary health and/or sustainable healthcare for post-graduate providers, including at least one with a primary focus of planetary health.
- Yes, the **institution** or **main affiliated hospital trust** offers one course relating to planetary health and/or sustainable healthcare for post-graduate providers
- There are **no** such accessible courses for post-graduate providers

Score explanation: The advanced training programm DAS (Diploma of Advanced Studies) on <u>Public Health</u> contains a course on Planetary Health. The University Hospital Basel does not offer specific courses on planetary health. However, the topic is picked up in short facultative courses (e.g. within a series of leadership courses).

Furthermore, the affiliated institution FHNW (Fachhochschule Nordwestschweiz) [University of Applied Sciences and Arts Northwestern Switzerland] offers a CAS (Certificate of Advanced Studies) on <u>Health and Environment</u>.

5. Does your <u>medical school</u> or its primary <u>affiliated hospital</u> have accessible educational materials for patients about environmental health exposures?

- 2 Yes, **all** affiliated hospitals have accessible educational materials for patients.
- 1 **Some** affiliated hospitals have accessible educational materials for patients.
- **No** affiliated medical centers have accessible educational materials for patients.

Score explanation: The University Hospital Basel does not offer educational material for patients about environmental health exposures.

6. Does your medical school or its primary affiliated hospital have accessible educational materials for patients about climate change and health impacts? 2 Yes, all affiliated hospitals have accessible educational materials for patients. 1 Some affiliated hospitals have accessible educational materials for patients. 0 No affiliated hospitals have accessible educational materials for patients. Score explanation: The University Hospital Basel does not offer educational material for patients about climate change and health impacts.

Section Total (4 out of 14)	28.57%
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Are there additional community engagement and advocacy resources offered at your medical school or institution not yet asked about that you would like to describe? If so, please do so below.

Support for Student-Led Planetary Health Initiatives

<u>Section Overview:</u> This section evaluates institutional support for student-led planetary health initiatives, such as funding, fellowships, programming, and student groups. Planetary health is a young field and, as young people facing a future deeply shaped by climate change, students are often some of the first at an institution to engage with it. Institutions should provide support for students to engage in sustainability quality improvement (QI) initiatives, discover mentors in their area of interest, and receive funding for planetary health projects.

1. Does your medical school or your institution offer support for medical students interested in enacting a sustainability initiative/QI project? Yes, the medical school or institution either offers grants for students to enact sustainability initiatives/QI projects or sustainability QI projects are part of the core curriculum. The medical school or institution encourages sustainability QI projects (to fulfill clerkship or longitudinal requirements) and offers resources to help students succeed in these projects, but

No, **neither** the medical school or the institution offer opportunities or support for sustainability initiatives or QI projects.

there is no student funding available and there is no requirement to participate.

Score explanation: There is no specific funding programme of the Faculty of Medicine for the area of sustainability. However, the University of Basel's <u>Impulse funding programme</u> supports lecturers and students from all disciplines in integrating sustainability topics into their courses. They do support for example the following professorships: "Public Health" and "Health Economics". For Master's students, the elective project "Green Hospital: Sustainability in Healthcare" is also supported and the Master's project "Sustainable Nutrition and Medicine" will be supported from the spring semester 2023.

2. Does your <u>institution</u> offer opportunities for medical students to do research related to planetary health and/or sustainable healthcare?

- The **institution** has a **specific** research program or fellowship for students interested in doing planetary health/sustainable healthcare research.
- There are research opportunities for students to perform research related to planetary health/sustainable healthcare, but these **require student initiative** to seek these out and carry them out in their spare time.
- There are **no opportunities** for students to engage in planetary health/sustainable healthcare research.

Score explanation: There are research opportunities for students, e.g. within the framework of the Master's thesis and through their own initiative. There is no specific research programme.

3. Does the <u>medical school</u> have a webpage where medical students can find specific information related to planetary health and/or sustainable healthcare activities and mentors within the

medical school? For example, projects achieved, current initiatives underway at the medical school and/or contact of information of potential mentors.

The medical school has a webpage with specific information related to planetary health or sustainable healthcare that includes up-to-date information on relevant initiatives and contact information of potential mentors.

There is a medical school webpage that features some information on projects and mentors within planetary health and sustainable healthcare within the medical school, but it lacks key information.

There is no medical-school specific webpage for locating planetary health and/or sustainable

Score explanation: The Faculty of Medicine also has a <u>website</u> that introduces the longitudinal curriculum on Planetary Health and Sustainability in Health Care and provides further information. Continuously updated information on Planetary Health, initiatives, events and mentors is lacking.

- 4. Does your <u>medical school</u> have registered student groups dedicated towards fostering a culture of planetary health engagement, scholarship, and advocacy on campus, supported by faculty advisors?
- Yes, there is a student organization **with faculty support** at my medical school dedicated to planetary health or sustainability in healthcare.
- Yes, there is a student organization at my medical school dedicated to planetary health or sustainability in healthcare but it **lacks faculty support.**
- No, there is **not** a student organization at my institution dedicated to planetary health or sustainability in healthcare.

Score explanation: There is a local section of the national "Health for Future Switzerland" association which is active in Basel and at the medical school. Among other things, they co-organise elective courses for medical students and participate in the institution's sustainability week. Health for Future Basel also generally advocates for sustainability in healthcare and medical education. They collaborate with the project coordinator for sustainability at the medical school and its affiliated hospital, as well as with the institution's office of sustainability.

- 5. Is there a student liaison representing sustainability interests who serves on a <u>medical school</u> or <u>institutional</u> decision-making council to advocate for curriculum reform and/or sustainability best practices?
- Yes, there is a student representative that serves on a medical school or institutional decision-making council/committee.
- 0 No, there is no such student representative.

healthcare projects or mentors.

Score explanation: Students of the University Basel are represented at the leading group for climate neutrality and the sustainability council. This allows them to have strategic oversight over the university's engagement in sustainability. The medical school has student seats on some of its councils

(faculty assembly, curriculum committee and appeals committee), thereby allowing for a student liaison to represent sustainability interests. However, the relationships should be deepened so that sustainability interests are represented more effectively.

6. In the past year, has the institution had one or more co-curricular planetary health programs or initiatives in the following categories? (1 point each) Projects where students are able to gain experience in organic agriculture and sustainable food systems, such as gardens, farms, community supported agriculture (CSA), fishery programs, or 1 urban agriculture projects. Panels, speaker series, or similar events related to planetary health that have students as an 1 intended audience. Events in which students learn directly from members of a local environmental justice 1 community about the climate and environmental challenges they face, and how health professionals can partner with their community to address these exposures and impacts. Cultural arts events, installations or performances related to planetary health that have students as 1 an intended audience. Local volunteer opportunities related to building community resilience to anthropogenic 1 environmental impacts. Wilderness or outdoors programs (e.g., that organise hiking, backpacking, kayaking, or other outings for students)

Score explanation: The university disposes of 3 student run gardens, serving as a place to meet, exchange interest in nature, and learn gardening and plantation from each other.

The University also hosts an annual sustainability week, including a panel discussion on the impact of climate change on health in 2022. This panel discussion was co-organised with the medical school and the university hospital, and amongst others included a member of health for future basel, as well as the hospital's director of sustainability.

The sustainability office also organised a clean-up day, where students and university employees helped free the streets of littering.

Lastly the university has numerous excursions, be it in the form of a sports offering, incorporated into a group project on human physiology in the mountains, or a research trip to study human impact on the environment.

73.33%

Section Total (11 out of 15)

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Are there additional student-led initiative resources offered at your medical school or institution not yet asked about that you would like to describe? If so, please do so below.

Campus Sustainability

Section Overview: This section evaluates the support and engagement in sustainability initiatives by the medical school and/or institution. The healthcare industry is a major contributor to greenhouse gas emissions as well as pollution that harms local, regional, and global ecosystems. While healthcare is, by nature, a resource-intensive endeavor, the healthcare sector is well poised to lead the world to a more sustainable future. This will involve scrutinizing every aspect of how our systems operate, from where we source our energy, to how we build our infrastructure, to what companies we invest in. Our medical schools, clinics, and hospitals must set the standard for sustainable practices, and show other sectors what is possible when it comes to minimizing environmental impact.

1. Does your medical school and/or institution have an Office of Sustainability?			
3	Yes, there is an Office of Sustainability with multiple full-time staff dedicated to campus sustainability. If the Office of Sustainability serves the entire campus, there is at least one designated staff member for sustainability at the hospital and/or medical school.		
2	There is an Office of Sustainability with one or more full-time staff dedicated to campus sustainability, but no specific staff member in charge of medical school and/or hospital sustainability.		
1	1 There are no salaried sustainability staff , but there is a sustainability task force or committee		
0	There are no staff members or task force responsible for overseeing campus sustainability		

Score explanation: The Sustainability Office is responsible for the entire University of Basel. The University Hospital Basel also has a sustainability office with several employees and the Faculty of Medicine has a project coordinator for sustainability.

2. How ambitious is your <u>institution/medical school</u> plan to reduce its own carbon footprint?			
5	The institution/medical school has a written and approved plan to achieve carbon neutrality by 2030		
3	The institution/medical school has a written and approved plan to achieve carbon neutrality by 2040		
1	The institution/medical school has a stated goal of carbon neutrality by 2040 but has not created a plan to reach that goal or the plan is inadequate		
0	The institution/medical school does not meet any of the requirements listed above		
	Score explanation: The University of Basel's Sustainability office is currently in the active process of developing a strategy to achieve climate neutrality. The goals will be communicated in 2023.		

3. Do buildings/infrastructure used by the medical school for teaching (not including the hospital)

utilize renewable energy?			
3	Yes medical school buildings are 100% powered by renewable energy		
2	Medical school buildings source >80% of energy needs from off-site and/or on-site renewable energy.		
1	Medical school buildings source >20% of energy needs from off-site and/or on-site renewable energy.		
0	Medical school buildings source <20% of energy needs from off-site and/or on-site renewable energy.		

Score explanation: The buildings used by the medical school for teaching are partly owned by the University and partly by the University Hospital. The University as well as the University Hospital source 100% of the electricity needs from renewable energy (hydropower). Additionally, photovoltaic systems have been installed on two buildings of the University. Heating is provided by a local district heating network which is ca. 50% renewable. This accounts to a total estimate of 65-70% of energy needs that are sourced from renewable energy.

- 4. Are sustainable building practices utilized for new and old buildings on the <u>medical school</u> campus, with design and construction of new buildings and remodeling of old buildings conforming to a published sustainability rating system or building code/guideline?
- Yes, sustainable building practices are utilized for new buildings on the medical school campus and the **majority** of old buildings **have been retrofitted** to be more sustainable.
- 2 Sustainable building practices are utilized for new buildings on the medical school campus, but most old buildings have **not been retrofitted.**
- 1 Sustainable building practices are **inadequately or incompletely** implemented for new buildings.
- Sustainability is **not considered** in the construction of new buildings.

Score explanation: The buildings used by the medical school for teaching are partly owned by the University and partly by the University Hospital. Both have strategies for sustainable, energy-optimised constructing of new buildings. Concerning existing buildings, only smaller measures are being taken (e.g. replacement of lamps with LED). Currently, there are no new buildings being built for the name of the medical faculty.

5. Has the <u>medical school</u> implemented strategies to encourage and provide environmentally-friendly transportation options for students and reduce the environmental impact of commuting?

Yes, the medical school has implemented strategies to encourage and provide **environmentally-friendly transportation options** such as safe active transport, public transport, or carpooling and these options are well-utilized by students. Alternatively, the campus location is not amenable to unsustainable forms of transportation by default.

- The medical school has implemented **some** strategies to provide environmentally-friendly transportation options, but the options are **unsatisfactorily** accessible or advertised.
- The medical school has **not** implemented strategies to encourage and provide environmentally-friendly transportation options.

Score explanation: The lecture rooms are located in the city center and are easily accessible by bicycle as well as by public transport. Due to the situation of parking spaces in the vicinity of the premises, a journey by private car is unattractive. The medical school also utilises hybrid lectures, thereby allowing a reduction in commute for students living far away.

- 6. Does your <u>medical school</u> have an organics recycling program (compost) and a conventional recycling program (aluminum/paper/plastic/glass)?
- Yes, the medical school has **both** compost **and** recycling programs accessible to students and faculty.
- The medical school has **either** recycling **or** compost programs accessible to students and faculty, but not both.
- There is **no** compost or recycling program at the medical school.

Score explanation: The medical school offers a conventional recycling program at their lecture rooms but there is no organics recycling program.

- 7. Does the <u>medical school</u> apply sustainability criteria when making decisions about the campus food and beverage selections (e.g. local sourcing, reduced meat, decreased plastic packaging)?
- Yes, the medical school has a**dequate s**ustainability requirements for food and beverages, including meat-free days or no red-meat, and **is engaged** in efforts to increase food and beverage sustainability.
- There are sustainability guidelines for food and beverages, but they are **insufficient or optional**. The medical school **is engaged** in efforts to increase food and beverage sustainability.
- There are sustainability guidelines for food and beverages, but they are **insufficient or optional.**The medical school is **not** engaged in efforts to increase food and beverage sustainability.
- There are **no** sustainability guidelines for food and beverages.

Score explanation: The medical school does not have its own facilities for food or beverages. However, the University of Basel launched several projects to contribute to sustainable catering. Since 2019, greenhouse gas emissions and food waste are decreasing. The menu offer is 50% vegetarian or vegan, using a variety of food with Fairtrade standards or from IP-Suisse cultivation. The proportion of certified fish and meat from animal-friendly husbandry has increased. Twice a year, the One Climate Day takes place, on which only climate-friendly menus are sold. In addition, the proportion of food transported by air is very low.

8. Does the <u>medical school</u> or <u>institution</u> apply sustainability criteria when making decisions

about supply procurement?			
3	Yes, the medical school has adequate sustainability requirements for supply procurement and is engaged in efforts to increase sustainability of procurement.		
2	There are sustainability guidelines for supply procurement, but they are insufficient or optional. The medical school is engaged in efforts to increase sustainability of procurement.		
1	There are sustainability guidelines for supply procurement, but they are insufficient or optional. The medical school is not engaged in efforts to increase sustainability of procurement.		
0	There are no sustainability guidelines for supply procurement.		

Score explanation: In some cases, sustainability criteria have already been integrated into the procurement process (e.g., consideration of sustainability criteria in the tender for office equipment supply companies). A systematic review regarding the integration of sustainability criteria is still pending. The university guidelines also apply to the Medical Faculty.

9. Are there sustainability requirements or guidelines for events hosted at the medical school? Every event hosted at the medical school must abide by sustainability criteria. The medical school strongly recommends or incentivizes sustainability measures, but they are not required. There are no sustainability guidelines for medical school events.

Score explanation: The medical school does recommend to carry out events in a sustainable manner, however, the guidelines could be more concrete and incentivized. The last bigger event in 2022 used sustainable beverages and gifts for the participants of the panel.

10. Does your medical school have programs and initiatives to assist with making lab spaces more environmentally sustainable? Yes, the medical school has programs and initiatives to assist with making lab spaces more environmentally sustainable. There are guidelines on how to make lab spaces more environmentally sustainable, but not programs or initiatives. There are no efforts at the medical school to make lab spaces more sustainable.

Score explanation: The Department of Biomedicine (DBM) started an initiative to make labs more sustainable. Since the project just started, there is no programme in place yet. The programme will be developed in 2023.

11. Does your <u>institution's</u> endowment portfolio investments include fossil-fuel companies?

4	The institution is entirely divested from fossil fuels and has made a commitment to reinvest divested funds into renewable energy companies or renewable energy campus initiatives.	
3	The institution is entirely divested from fossil fuels.	
2	The institution has partially divested from fossil fuel companies or has made a commitment to fully divest , but currently still has fossil fuel investments.	
1	The institution has not divested from fossil-fuel companies, but faculty and/or students are conducting organized advocacy for divestment.	
0	Yes, the institution has investments with fossil-fuel companies and there have been no efforts to change that.	

Score explanation: Since 2021, investments have only been made in companies that meet minimum standards in terms of ecology, social behaviour and corporate governance (ESG criteria) - according to a "best in class" approach. An exclusion list prevents investments in fossil energy companies (as well as armaments, tobacco, etc.). However, 5% shares are still invested in such companies.

Section Total (18 out of 32)	56.25%
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Are there additional sustainability resources offered at your medical school or institution not yet asked about that you would like to describe? If so, please do so below.

Grading

Section Overview

This section focuses on the grading of the report card. The institution received a grade for each of the individual sections as well as an overall institutional grade. Section point totals were tallied, divided by the total points available for the section, and converted to a percentage. The overall institutional grade is a weighted average of the section grades, with curriculum receiving a higher weight owing to its larger number of metrics. Letter grades for each section and the institution overall were then assigned according to the table below.

Letter Grade*	Percentage	
A	80% - 100%	
В	60% - 79%	
С	40% - 59%	
D	20% - 39%	
F	0% - 19%	

^{*}Within each grade bracket, a score in the top 5% ($_5$ to $_9\%$), receives a "+", and a score in the bottom 5% ($_0$ - $_4\%$) receives a "--". For example, a percentage score of 78% would be a B+.

Planetary Health Grades for the Basel School of Medicine

The following table presents the individual section grades and overall institutional grade for the Basel School of Medicine on this medical-school-specific Planetary Health Report Card.

Section	Raw Score %	Letter Grade
Planetary Health Curriculum (30%)	$(39/72) \times 100 = 54.17\%$	С
Interdisciplinary Research (17.5%)	(8/17) x 100 = 47.06%	С
Community Outreach and Advocacy (17.5%)	(4/14) x 100 = 28.57%	D
Support for Student-led Planetary Health Initiatives (17.5%)	(11/15) x 100= 73.33%	В
Campus Sustainability (17.5%)	(18/32) x 100 = 56.25%	C+
Institutional Grade	(Ax0.3 + Bx0.175 + Cx0.175 + Dx0.175 + Ex0.175) = 52.16%	C