

The University of Alberta is located within ᑭᓐᖃᔪᕐᗵᓂᓴᓱ (amiskwaciwâskahikan) on Treaty 6 territory, which is unceded indigenous land and a traditional gathering place for diverse Indigenous peoples including the Nêhiyawak (Cree), Niitsitapi (Blackfoot), Métis, Nakota Sioux, Iroquois, Dene, Ojibway/ Saulteaux/Anishinaabe, Inuit, and many others whose lives and practices enrich and protect the natural environments and the land that hosts and nurtures us.

## Summary of Findings

<b>Overall Grade</b>	<b>C-</b>
<b>Curriculum</b>	<b>C-</b>
<ul style="list-style-type: none"> <li>The University of Alberta has an incomplete planetary health curriculum, and lacks integration longitudinally. Most of the planetary health education comes from one 50 minute lecture.</li> <li><b>Recommendations:</b> There are more areas throughout the curriculum where planetary health issues can be inserted, including neuropsychological and reproductive effects of environmental events, exposures, and changes. Furthermore, there is an opportunity to incorporate planetary health equity and sustainability from an indigenous lens. More case-based discussion of planetary health issues are needed. Social justice and planetary health equity topics can be integrated within various areas of the curriculum. The addition of a planetary health elective team would also be beneficial to the diversification of the curriculum.</li> </ul>	
<b>Interdisciplinary Research</b>	<b>D+</b>
<ul style="list-style-type: none"> <li>The University of Alberta lacks an interdisciplinary planetary health community that can engage in research and scholarship. Moreover, resources for students to participate in planetary health research are scarce. It is imperative that the Climate Change + Health Hub receive more publicity so students know what options are currently available, as well as highlight areas where this community can improve.</li> <li><b>Recommendations:</b> Currently, planetary health resources are not accessible to students. Compiling a research database that identifies available projects, research groups and opportunities would be helpful in navigating scholarship. Additionally, creating a dedicated and interdisciplinary group or society for planetary health research would be beneficial to both students and to furthering planetary health research at our institution.</li> </ul>	
<b>Community Outreach and Advocacy</b>	<b>D+</b>
<ul style="list-style-type: none"> <li>University of Alberta Medical School currently has limited outreach and advocacy programs in place.</li> <li><b>Recommendations:</b> We recommend the creation of a task force that will be able to identify the needs of the community and evaluate the areas in which improvements are necessary. Then, we can begin addressing these issues more systematically. Additionally, lobbying to Alberta Health Services for the inclusion of more patient-targeted planetary health resources would be critical. Lastly, more dedicated partnerships with national and local planetary and environmental health communities such as CAPE can benefit the institution.</li> </ul>	
<b>Support for Student-Led Initiatives</b>	<b>C</b>
<ul style="list-style-type: none"> <li>The University of Alberta has adequate support for student-led initiatives surrounding topics of environmental sustainability. However, the Medical School itself lacks such support.</li> <li><b>Recommendations:</b> We suggest the formation of a faculty-supported, student-led planetary health group to better facilitate student-led initiatives. Moreover, centralization of environmental sustainability groups on campus can help create community and support for students and their initiatives.</li> </ul>	
<b>Campus Sustainability</b>	<b>C-</b>
<ul style="list-style-type: none"> <li>The University of Alberta Medical school has made some progress to become a more sustainable campus in conjunction with the wider University, however more work must be done.</li> <li><b>Recommendations:</b> Simple infrastructural changes, such as the introduction of compost bins to the medical</li> </ul>	

building could further these efforts. Moreover, creating updated and concrete energy plans are recommended.

## 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 analysing 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, urbanisation, 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 colour, 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 health professional schools, we have created a Planetary Health Report Card that students internationally can use to grade and compare their institutions on an annual basis. This student-driven initiative aims to compare health professional 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 centred 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/Department vs. Institution:** When “Medical school” is specified in the report card, this only refers to curriculum and resources offered by the School/department 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 including all of its campuses. 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 students 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 mould 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. Please be as specific as possible when providing evidence for this metric.
- **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.
- **Core Curriculum:** This refers to taught material that is delivered to the entire cohort of students in one year.
- **Clerkship / Outreach:** 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, outreach or placements. This is a relatively short (approximately 4-8 weeks) period of study and patient-centred clinical experience that takes place as part of the undergraduate programme.
- **Clinical rotation:** This is a term used to refer to placements that students go on (e.g., ophthalmology, surgery, cardiology).
- **Physiotherapy vs Physical Therapy:** For the purposes of this report card these terms are considered interchangeable. However, physiotherapy will be used primarily.
- **Community organisations:** For most institutions, there are existing groups that are not directly affiliated with the university and exist as a product of what the community the institution exists in cares about or needs. These specific community organisations relevant to this report include those that are focused around some aspect of climate and health preservation. These community organisations can include but are not limited to local mutual aid initiatives, underserved-resource distribution groups, clean-up and nature conservation groups, community gardeners, and other environmental-related organisations. If your institution does not have access to local volunteerships with community groups, please report any community organisations your institution or school has collaborated with.
- **Climate justice:** The idea that certain population groups and geographical locations which are disproportionately more impacted by climate change are already economically and socially disadvantaged. This double vulnerability sits alongside pre-existing social justice concerns and should therefore shift policy and practice to mitigate the inequitable effects of the climate crisis.
- **Extractivism:** The removal of natural resources typically in large quantities. Within anthropology this term is often used in the context of colonialism to refer to the

historic seizing of natural resources, a practice which has developed business models tied to ecological degradation and loss of biodiversity.

- **Global South:** Nations that often have less economic and industrial development and are typically in the southern hemisphere. These nations have been found to be disproportionately impacted by the climate crisis.
- **Low socioeconomic status (SES):** An individual or geographical area that across a variety of socioeconomic factors (e.g., income, education, race/ethnicity) is considered vulnerable. This vulnerability has been correlated to more adverse health outcomes often as a consequence of encountering more barriers in accessing and receiving healthcare.
- **Low and Middle-Income Countries (LMIC):** Countries that have lower degrees of economic affluence.
- **Anthropogenic:** Created through human activity
- **Marginalized communities:** Groups excluded from mainstream economic, educational, social, and/or cultural experiences due to race, gender identity, sexual orientation, age, physical ability, language, and/or immigration status (Sevelius et al., 2020).

**Other considerations:**

- If there are more than one “tracks” at your institution 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). Where possible please indicate the proportion of students that are on each track.

Completed in 2022 a [Literature Review by Metric](#) is available for the 2022 medicine report card metrics. We are in the process of updating this review and making it more applicable to all the disciplines. However the review serves as a rough 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

<b>1.1. Did your <u>medical school</u> offer elective courses (student selected modules) to engage students in Education for Sustainable Healthcare or Planetary Health in the last year?</b>	
Yes, the medical school has offered <b>more than one</b> elective whose primary focus is ESH/planetary health in the past year. (3 points)	
Yes, the medical school has offered <b>one</b> elective whose primary focus is ESH/planetary health in the past year. (2 points)	
The medical school does <b>not</b> have any electives whose primary focus is ESH/planetary health, but there are one or more electives that include a <b>lecture</b> on planetary health. (1 points)	
No, the medical school has <b>not</b> offered any electives on planetary health or electives that include ESH/planetary health topics in the past year. (0 points)	
Score Assigned:	3
<p><i>Score explanation:</i></p> <p><i>New this year, we launched a Planetary Health Elective for pre-clerkship students. This 12-hour elective offers a unique opportunity to explore the intersection of human health and environmental well-being. You'll learn how to address health impacts driven by climate change—like extreme weather events and air pollution—and gain practical skills in climate-conscious patient care, sustainable healthcare practices, and advocacy for public policy that supports health and sustainability. This year, we have 9 students enrolled in the course.</i></p> <p><i>Starting last summer, the University of Alberta Department of Family Medicine also launched a new two-week summer elective experience in Planetary Health. Discussion points include high yield planetary health topic discussion and their clinical significance, exposure to Indigenous knowledge and teachings, land-based learning, a simulation day tailored at environmental/disaster response, wellness activities in a multi-level learning with pre-clerkship, clerkship and Family Medicine residents</i></p>	

## Curriculum: Health Effects of Climate Change

**1.2. Does your medical school curriculum address the relationship between extreme heat, health risks, and climate change?**

This topic was explored **in depth** by the **core** curriculum. (3 points)

This topic was **briefly** covered in the **core** curriculum. (2 points)

This topic was covered in **elective** coursework. (1 point)

This topic was **not** covered. (0 points)

Score Assigned:

2

*Score explanation:*

*This topic was briefly covered in a few of our blocks including foundations, cardiology and pulmonology. In the former two blocks the topic was mentioned in passing and not extensively. In the Y1 Pulmonology Block, there is a 50 minute block dedicated to "Climate Change" as a topic. This lecture includes all topics ranging from food security to migration to extreme weather to infectious diseases. However, due to the short block dedicated to the topic and the placement of the lecture on the week of the Pulmonology final exam, these topics were only briefly covered and not discussed in depth. However, this topic is further explored in electives such as Wilderness medicine where adverse health events are only taught in the context of hyper and hypothermia and not from a planetary health lens.*

**1.3. Does your medical school curriculum address the impacts of extreme weather events on individual health and/or on healthcare systems?**

This topic was explored **in depth** by the **core** curriculum. (3 points)

This topic was **briefly** covered in the **core** curriculum. (2 points)

This topic was covered in **elective** coursework. (1 point)

This topic was **not** covered. (0 points)

Score Assigned:

2

*Score explanation:*

*The topic was only brought up in passing in a few blocks including foundations, cardiology and pulmonology. The most time spent on the exploration of this topic has been within the Y1 pulmonology block, through a 50 minute lecture on "Climate Change." The impact of climate change on health systems has also been briefly discussed through a talk organized by our Global Health elective team.*

**1.4. Does your medical school curriculum address the impact of climate change on the changing patterns of infectious diseases?**



This topic was explored <b>in depth</b> by the <b>core</b> curriculum. (3 points)	
This topic was <b>briefly</b> covered in the <b>core</b> curriculum. (2 points)	
This topic was covered in <b>elective</b> coursework. (1 point)	
This topic was <b>not</b> covered. (0 points)	
Score Assigned:	2
<p><i>Score explanation:</i></p> <p><i>The topic was brought up very briefly in our Y1 foundations block during an infectious diseases lecture, where it was contextualised in a discussion of migratory patterns of animals and the changes to these patterns because of climate events. The topic was also discussed within our Y1 pulmonology block in a lecture on "Climate Change," which explored changes in vector-borne and zoonotic disease patterns with respect to climate change. There has been some discussion of the topic in talks facilitated by our Global Health elective program on the topic in the past.</i></p>	

<b>1.5. Does your <u>medical school</u> curriculum address the respiratory health effects of climate change and air pollution?</b>	
This topic was explored <b>in depth</b> by the <b>core</b> curriculum.	
This topic was <b>briefly</b> covered in the <b>core</b> curriculum.	
This topic was covered in <b>elective</b> coursework.	
This topic was <b>not</b> covered.	
Score Assigned:	2
<p><i>Score explanation:</i></p> <p><i>We have a few lectures on these topics in our pulmonary block. Air pollution was briefly mentioned in our "Asthma" lecture as a risk factor. Additionally, the topic was explored further in a lecture on "Climate Change" where air quality was further discussed in terms of ground-level ozone, allergens and forest fires. However, these lectures are often placed during the very last week of the block, right before our final exam and are not well-attended by students. Even though they are often examined in our tests, the coverage is very brief and low stakes.</i></p>	

<b>1.6. Does your <u>medical school</u> curriculum address the cardiovascular health effects of climate change, including increased heat</b>	
This topic was explored <b>in depth</b> by the <b>core</b> curriculum.	

This topic was <b>briefly</b> covered in the <b>core</b> curriculum.	
This topic was covered in <b>elective</b> coursework.	
This topic was <b>not</b> covered.	
Score Assigned:	2
<p><i>Score explanation:</i></p> <p><i>Heat stroke was briefly discussed in our cardiology block and more in depth in our pulmonology block in a lecture on "Climate Change." This lecture also discussed the cardiovascular effects of air pollution, however, the focus of the lecture was mostly on pulmonary health. Once again, this topic is further explored in electives such as Wilderness medicine where adverse cardiovascular events are taught in the context of hyper and hypothermia and not from a planetary health lens.</i></p>	

<b>1.7. Does your <u>medical school</u> curriculum address the mental health and neuropsychological effects of environmental degradation and climate change?</b>	
This topic was explored <b>in depth</b> by the <b>core</b> curriculum.	
This topic was <b>briefly</b> covered in the <b>core</b> curriculum.	
This topic was covered in <b>elective</b> coursework.	
This topic was <b>not</b> covered.	
Score Assigned:	0
<p><i>Score explanation:</i></p> <p><i>Climate anxiety was mentioned in passing in our "Anxiety Disorders" lecture, however, it was not covered in enough depth for us to consider it as such.</i></p>	

<b>1.8. Does your <u>medical school</u> curriculum address the relationships between health, individual patient food and water security, ecosystem health, and climate change?</b>	
This topic was explored <b>in depth</b> by the <b>core</b> curriculum.	
This topic was <b>briefly</b> covered in the <b>core</b> curriculum.	
This topic was covered in <b>elective</b> coursework.	
This topic was <b>not</b> covered.	
Score Assigned:	2
<p><i>Score explanation:</i></p>	

*This topic was briefly covered in our Y1 Pulmonology block in a lecture on “Climate Change”, where food and water security, as well as migration was discussed.*

**1.9. Does your medical school curriculum address the outsized impact of climate change on marginalised populations such as those with low SES, women, communities of colour, Indigenous communities, children, homeless populations, and older adults?**

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 Assigned:

2

*Score explanation:*

*This topic has been explored in certain electives such as the Global Health elective as well as in interest groups such as through the Equity, Diversity and Inclusivity group. In didactic lectures, this topic was covered briefly in our Y1 pulmonology block in a lecture on “Climate Change,” where Indigenous health and forced migration were discussed.*

**1.10. Does your medical school curriculum address the unequal regional health impacts of climate change globally?**

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 Assigned:

2

*Score explanation:*

*This topic was briefly explored in our Y1 Pulmonology block in a lecture on “Climate Change” where forced migration was discussed. However, the implications of forced migration were not further explored.*

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

**1.11. Does your medical school 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.

This topic was <b>briefly</b> covered in the <b>core</b> curriculum.	
This topic was covered in <b>elective</b> coursework.	
This topic was <b>not</b> covered.	
Score Assigned:	1
<i>Score explanation:</i> <i>This topic was not explored in the core curriculum as part of teratology during our Y2 reproductive block.</i> <i>However, it is a topic of discussion in the Planetary Health electives.</i>	

1.12. Does your <u>medical school</u> curriculum address important human-caused environmental threats that are relevant to the university's surrounding community?	
This topic was explored <b>in depth</b> by the <b>core</b> curriculum.	
This topic was <b>briefly</b> covered in the <b>core</b> curriculum.	
This topic was covered in <b>elective</b> coursework.	
This topic was <b>not</b> covered.	
Score Assigned:	1
<i>Score explanation:</i> <i>Despite the many human-caused environmental threats in Alberta, this topic has not been explored in our core curriculum. The topic was not broached within the context of indigenous health either.</i>  <i>It is a topic of discussion in the Planetary Health electives, most notably the healthcare system's environmental impact.</i>	

1.13. To what extent does your <u>medical school</u> emphasise the importance of Indigenous knowledge and value systems as essential components of planetary health solutions?	
This topic was explored <b>in depth</b> by the <b>core</b> curriculum.	
This topic was <b>briefly</b> covered in the <b>core</b> curriculum.	
This topic was covered in <b>elective</b> coursework.	
This topic was <b>not</b> covered.	
Score Assigned:	1
<i>Score explanation:</i>	

*Indigenous knowledge and value systems are emphasized in our curriculum, however, not from a sustainability lens.*

*However, the Planetary Health electives include this topic. The summer elective, in particular, has a learning objective of exposing students to Indigenous knowledge and teachings. Indigenous health and Global health elective talks have also discussed the topic in events such as the Intersectional Environmentalism Speaker Series.*

**1.14. Does your medical school curriculum address the outsized impact of anthropogenic environmental toxins on marginalised populations such as those with low SES, women, communities of colour, children, homeless populations, Indigenous populations, and older adults?**

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 Assigned:

1

*Score explanation:*

*Though the topic of health disparities has not been discussed in core curriculum, it has been well explored in the Planetary Health elective where learning objectives include: Understand the concepts of procedural and distributive justice, and apply them when considering case studies pertaining to environmental racism and other social inequities and describe several key ways in which climate and environmental change impact human health, including impacts on vulnerable populations such as pediatrics.*

### ***Curriculum: Sustainability***

**1.15. Does your medical school curriculum address the environmental and health co-benefits of a plant-based diet?**

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 Assigned:

0

*Score explanation:*

*Though in our Y2 gastroenterology block the topic of plant-based diets was discussed in the context of mineral deficiencies, this topic has not been explored deeply.*

1.16. Does your <u>medical school</u> curriculum address the carbon footprint of healthcare systems?	
This topic was explored <b>in depth</b> by the <b>core</b> curriculum.	
This topic was <b>briefly</b> covered in the <b>core</b> curriculum.	
This topic was covered in <b>elective</b> coursework.	
This topic was <b>not</b> covered.	
Score Assigned:	1
<i>Score explanation:</i> This topic is a learning objective of the Planetary Health pre-clerkship elective: Describe the magnitude of the healthcare system's environmental footprint, and identify several key strategies that advance sustainability in healthcare. The Planetary Health summer elective also included a couple of presentations on sustainable healthcare.	

1.17. Does your <u>medical school</u> curriculum cover these components of sustainable clinical practice in the <u>core</u> curriculum? (points for each)	Score
The health <b>and</b> environmental <b>co-benefits</b> of <b>avoiding</b> over-medicalisation, over-investigation and/or over-treatment (2 points)	0
The environmental impact of <b>pharmaceuticals</b> and over-prescribing as a cause of climate health harm. Alternatively teaching on <b>deprescribing</b> where possible and its environmental and health co-benefits would fulfil this metric. (2 points) .	0
The health <b>and</b> environmental <b>co-benefits</b> of <b>non-pharmaceutical management</b> 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 point)	0
Environmental impact of <b>surgical</b> healthcare on planetary health and the climate crisis, and how can it be mitigated. (1 point)	0
The impact of <b>anaesthetic</b> gases on the healthcare carbon footprint and ways to reduce anaesthesia's environmental impacts, such as total intravenous anaesthesia or choosing less environmentally harmful anaesthetic gas options with reduced greenhouse gas emissions. (1 point)	0
The impact of <b>inhalers</b> on the healthcare carbon footprint and the environmental benefit of dry powdered inhalers over metered dose inhalers. (1 point)	0
<b>Waste production</b> within healthcare <b>clinics</b> and strategies for reducing waste in clinical activities (e.g. single use items in the inpatient or outpatient setting) (1 point)	0
<i>Score explanation: None of these topics have been discussed.</i>	

*Curriculum: Clinical Applications*

<b>1.18. 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?</b>	
Yes, there are strategies introduced for having conversations with patients about climate change in the <b>core</b> curriculum. (2 points)	
Yes, there are strategies introduced for having conversations with patients about climate change in <b>elective</b> coursework. (1 points)	
No, there are <b>not</b> strategies introduced for having conversations with patients about climate change. (0 points)	
Score Assigned:	1
<i>Score explanation:</i> <i>This topic is explored in the Planetary Health elective: Counseling patients regarding how to adapt to and mitigate environmental health risks, and engage in health promoting behaviors that have environmental co-benefits. This is practiced during case based learning sessions.</i>	

<b>1.19. In training for patient encounters, does your <u>medical school's</u> curriculum introduce strategies for taking an environmental history or exposure history?</b>	
Yes, the <b>core</b> curriculum includes strategies for taking an environmental history. (2 points)	
Only <b>elective</b> coursework includes strategies for taking an environmental history. (1 point)	
No, the curriculum does <b>not</b> include strategies for taking an environmental history. (0 points)	
Score Assigned:	2
<i>Score explanation:</i> <i>Taking an environmental/exposure history was emphasized in our pulmonology and reproductive blocks.</i>	

*Curriculum: Administrative Support for Planetary Health*

<b>1.20. Is your <u>medical school</u> currently in the process of implementing or improving Education for Sustainable Healthcare (ESH)/planetary health education?</b>	
Yes, the medical school is currently in the process of making <b>major</b> improvements to ESH/planetary health education. (4 points)	
Yes, the medical school is currently in the process of making <b>minor</b> improvements to ESH/planetary health education. (2 points)	
No, there are <b>no</b> improvements to planetary health education in progress. (0 points)	

Score Assigned:	2
<p><i>Score explanation:</i>  <i>The school actively reflects upon planetary health content at the end of each block. Most of the effort to change the curriculum is student-driven, there are some initial steps and guidance from administration in implementing more topics into the general curriculum in the preclerkship years. The administration is supportive of curriculum changes to improve ESH/planetary health education.</i></p> <p><i>Introduction of the Planetary Health electives were proposed by medical residents with supporting faculty support as well as Family Medicine Program Directors.</i></p>	

<b>1.21. How well are the aforementioned planetary health/Education for Sustainable Healthcare topics integrated longitudinally into the <u>core</u> curriculum?</b>	
Planetary health/ESH topics are <b>well integrated</b> into the core medical school curriculum. (6 points)	
<b>Some</b> planetary health/ESH topics are appropriately integrated into the core medical student curriculum. (4 points)	
Planetary health/ESH is not integrated and is primarily addressed in <b>(a) standalone lecture(s)</b> . (2 points)	
There is <b>minimal/no</b> education for sustainable healthcare. (0 points)	
Score Assigned:	2
<p><i>Score explanation:</i>  <i>Though certain topics are mentioned throughout the core curriculum, they are not discussed in depth. Most of the ESH/planetary health education in our curriculum is provided through one lecture on climate change in the Y1 pulmonary block.</i></p>	

<b>1.22. 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?</b>	
<b>Yes</b> , the <b>medical school</b> has a specific faculty/staff member responsible for overseeing curricular integration of planetary health and sustainable healthcare. (1 point)	
<b>No</b> , the <b>medical school</b> does <b>not</b> have a specific faculty/staff member responsible for overseeing curricular integration of planetary health and sustainable healthcare. (0 points)	



Score Assigned:	0
<p><i>Score explanation:</i>  <i>Since planetary health is not integrated into our curriculum, no one is assigned to overseeing this task at our medical school. However, currently our largest planetary health education comes from a lecture in our Y1 pulmonary block, which is overseen by the course coordinator of the block.</i></p> <p><i>The Planetary Health electives are spearheaded on a volunteer-basis by residents, staff, and students.</i></p>	

<b>Section Total (31 out of 72)</b>	<b>43.06%</b>
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# Interdisciplinary Research

**Section Overview:** *This section evaluates the quality and quantity of interdisciplinary planetary health research at the 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, institutions 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 emphasised.*

<b>2.1. Are there researchers engaged in planetary health research and healthcare sustainability research at your <u>institution</u>?</b>	
Yes, there are faculty members at the <b>institution</b> who have a <b>primary</b> research focus in planetary health <b>or</b> sustainable healthcare/vetcare. (3 points)	
Yes, there are individual faculty members at the <b>institution</b> who are conducting research <b>related</b> to planetary health or healthcare sustainability, OR are part of a national/international sustainability working group, but it is not their primary research focus. (2 points)	
There are sustainability researchers at the <b>institution</b> , but not specifically associated with healthcare/vetcare. (1 point)	
No, there are <b>no</b> planetary health and/or sustainability researchers at the <b>institution</b> at this time. (0 points)	
Score Assigned:	2
<p><i>Score explanation:</i>  <i>The University of Alberta Faculty of Medicine and Dentistry does not have any research groups solely focusing on Planetary health. However, our nursing and public health programs do. Instead, some clinical and associated faculty members are working on research projects that are related to healthcare sustainability (e.g. Department of Anaesthesia and Pain Medicine).</i></p>	

<b>2.2. Is there a dedicated department or institute for interdisciplinary planetary health research at your <u>institution</u>?</b>	
There is <b>at least one</b> dedicated department or institute for interdisciplinary planetary health research. (3 points)	
There is <b>not currently</b> a department or institute for interdisciplinary planetary health research, but there are <b>plans</b> to open one in the next 3 years. (2 points)	
There is an <b>Occupational and Environmental Health department</b> , but no interdisciplinary department or institute for planetary health research. (1 points)	
There is <b>no</b> dedicated department or institute. (0 points)	

Score Assigned:	1
<p><i>Score explanation:</i></p> <p><i>The University of Alberta has various research groups studying environmental sciences (biological sciences) and environmental health (school of public health). However, there is no interdisciplinary planetary health research team or institute at our school.</i></p> <p><i>UAlberta's <a href="#">Occupational and Environmental Health</a> department is more focused on environmental exposures as opposed to concepts like climate change. To our knowledge, there are no plans to open an institute for planetary health research.</i></p> <p><i>As of 2020, the <a href="#">STARS report</a> found that 45% of faculty are engaged in sustainable research, including healthcare. These faculty members are dispersed throughout various programs and faculties.</i></p>	

<b>2.3. 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 institution?</b>	
Yes, there is a process in which community members impacted by climate and environmental injustice have <b>decision-making power</b> in the climate + environmental research agenda. (3 points)	
Yes, there is a process in which community members impacted by climate and environmental injustice <b>advise</b> the climate + environmental research agenda. (2 points)	
<b>No</b> , but there are <b>current efforts</b> to establish a process for community members to advise or make decisions on the research agenda. (1 points)	
There is <b>no</b> process, and <b>no</b> efforts to create such a process. (0 points)	
Score Assigned:	0
<p><i>Score explanation: Based on the currently available information to us, there is no such process at the University of Alberta.</i></p>	

<b>2.4. Does your institution have a planetary health website that centralises ongoing and past research related to health and the environment?</b>	
There is an <b>easy-to-use, adequately comprehensive</b> website that <b>centralises</b> 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. (3 points)	
There is a website that <b>attempts to centralise</b> various campus resources related to health and the environment, but it is hard-to-use, not updated, or not adequately comprehensive. (2 points)	
The <b>institution</b> has an <b>Office of Sustainability website</b> that includes <b>some</b> resources related to health and the environment. (1 point)	

There is <b>no</b> website. (0 points)	
Score Assigned:	1
<p><i>Score explanation: There are no websites specific to planetary health efforts at our institution.</i></p> <p><i>The website of the Vice President Facilities and Operations has a compiled page for initiatives in <a href="#">Energy and Climate Action</a>, which includes sustainability grants.</i></p> <p><i>This includes a <a href="#">full webpage</a> of green technology innovations at the institution, including an <a href="#">interactive project map</a> of renewable and alternative energy installations, Zero Waste, water efficiency upgrades and more.</i></p>	

2.5. Has your <b>institution</b> recently hosted a conference or symposium on topics related to planetary health?	
Yes, the <b>institution</b> has hosted at least one conference or symposium on topics related to planetary health in the past year. (4 points)	
Yes, the <b>institution</b> has hosted at least one conference or symposium on topics related to sustainable healthcare/vetcare in the past year. (3 points)	
Yes, the <b>institution</b> has hosted a conference on topics related to planetary health / sustainable healthcare/vetcare in the past three years. (2 points)	
The <b>institution</b> has not hosted any conferences directly, but they have provided financial support for a local planetary health event. (1 point)	
No, the <b>institution</b> has not hosted a conference on topics related to planetary health in the past three years. (0 points)	
Score Assigned:	1
<p><i>Score explanation: Most recently, the University of Alberta sponsored the virtual portion of the Alberta College of Family Physicians' Family Medicine Summit in March of 2023. This event's main focus was not planetary health, however there were planetary health-related talks included in the conference. Otherwise, we were not able to find records of any planetary health or related conferences hosted by the medical school or by the university over the past 3 years.</i></p>	

2.6. Is your <b>institution</b> a member of a national or international planetary health or ESH/ESV organisation?	
Yes, the institution is a member of a national or international planetary health <b>or</b> ESH/ESV organisation. (1 points)	
No, the institution is <b>not</b> a member of such an organisation. (0 points)	
Score Assigned:	1

*Score explanation: The University of Alberta's School of Public Health is a member of the [Global Consortium on Climate and Health Education](#).*

**Section Total (6 out of 17)**

**35.29%**

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# 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 colour. 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.

<b>3.1. Does your <u>institution</u> partner with community organisations to promote planetary and health?</b>	
Yes, the <b>institution</b> meaningfully partners with <b>multiple</b> community organisations to promote planetary and environmental health. (3 points)	
Yes, the <b>institution</b> meaningfully partners with <b>one</b> community organisation to promote planetary and environmental health. (2 points)	
The <b>institution</b> does not partner with community organisations, but has participating in community focused events relating to planetary health. (1 point)	
No, there is <b>no</b> such meaningful community partnership. (0 points)	
Score Assigned:	0
Score explanation: There are no such partnerships that we're aware of.	

<b>3.2. Does your <u>institution</u> offer community-facing courses or events regarding planetary health?</b>	
The <b>institution</b> offers community-facing courses or events at least once every year. (3 points)	
The <b>institution</b> offers courses or events open to the community at least once per year, but they are not primarily created for a community audience. (2 points)	
The <b>institution</b> has promoted community-facing courses or events, but was not involved in planning those courses or events. (1 point)	
The <b>institution/medical school</b> have not offered such community-facing courses or events. (0 points)	
Score Assigned:	2

*Score explanation: The sustainability council has and continues to hold a biweekly [lecture series](#) on various topics ranging from sustainability to planetary health.*

**3.3. Does your institution have regular coverage of issues related to planetary health and/or sustainable healthcare in university update communications?**

Yes, all students **regularly** receive communication updates dedicated to planetary health and/or sustainable healthcare. (2 points)

Yes, planetary health and/or sustainable healthcare topics are regularly included in communication updates to **some courses**. (1 point)

Students **do not** receive communications about planetary health or sustainable healthcare. (0 points)

Score Assigned:

1

*Score explanation: The Office of Sustainability has an option on their website to subscribe to Sustainability News, their email newsletter to learn about upcoming events and meet the students and researchers on the forefront of sustainability. However, students are not automatically added to the mailing list. Additionally, there are no dedicated communications to medical students specifically. However, certain key events and information regarding conferences and similar events can be shared through school-wide email updates.*

**3.4. Does the institution or main affiliated hospital trust 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. (2 points)

Yes, the **institution** or **main affiliated hospital trust** offers one course relating to planetary health and/or sustainable healthcare for post-graduate provider. (1 point)

There are **no** such accessible courses for post-graduate providers. (0 points)

Score Assigned:

0

*Score explanation: Based on the current information available to us, there are no such courses offered for students post graduation. However, one Alberta Health Services hospital ([Rockyview General Hospital](#)) leads a program called Green 'n Healthy, encouraging frontline healthcare workers to reduce their environmental impact and carbon footprint, and to increase environmental sustainability.*

**3.5. Does your institution or its affiliated teaching hospitals have accessible educational materials for patients about environmental health exposures?**

Yes, the **medical school** or **all affiliated hospitals** have accessible educational materials for patients. (2 points)

**Some** affiliated hospitals have accessible educational materials for patients. (1 point)

**No** affiliated medical centres have accessible educational materials for patients. (0 points)

Score Assigned:

2

*Score explanation: We are not sure yet if this information is available in hardcopy format at each site. But, Alberta Health Services has [online resources](#) dedicated to environmental public health and exposures. These resources include drinking water information and guidance for sampling water; as well as coping with emergencies. Patients are also provided opportunities to [take courses](#) in environmental public health both in-person and online.*

**3.6. Does your institution or its affiliated teaching hospitals have accessible educational materials for patients about the health impacts of climate change?**

Yes, the **medical school** or **all affiliated hospitals** have accessible educational materials for patients. (2 points)

**Some** affiliated hospitals have accessible educational materials for patients. (1 point)

**No** affiliated hospitals have accessible educational materials for patients. (0 points)

Score Assigned:

0

*Score explanation: There are no such resources available at affiliated hospitals or the medical school, to our knowledge. However, there are [online resources](#) from a hospital (Rockyview General Hospital) in Calgary, another major city in our province, available on the Alberta Health Services website, which is accessible to anyone.*

**Section Total (5 out of 14)**

**35.71%**

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# Support for Student-Led Planetary Health Initiatives

**Section Overview:** 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.

## 4.1. Does your institution offer support for students interested in enacting a sustainability initiative/QI project?

Yes, the **institution** *either* offers grants for students to enact sustainability initiatives/QI projects *or* sustainability QI projects are part of the core curriculum. (2 points)

The **institution** encourages sustainability QI projects (to fulfil clerkship or longitudinal requirements) and offers resources to help students succeed in these projects, **but** there is no student funding available and there is no requirement to participate. (1 point)

No, **neither** the medical school or the institution offer opportunities or support for sustainability initiatives or QI projects. (0 points)

Score Assigned:

2

*Score explanation: The medical school shows support of student initiatives that may incorporate climate action topics. This includes talks led by the Medical Students' Association such as "Climate Impact in Healthcare."*

*Most support is provided more broadly to all students at the institution. For example, the [Campus as a Living Lab](#) is a program that offers experiential research and learning opportunities to students, academic staff and support staff. These sustainability-focused living lab projects use the university campus (including grounds, buildings, biodiversity and communities) as a testing ground to develop sustainability solutions and meet sustainability goals. Campus as a Living Lab connects the classroom and the real world, creating opportunities for solution-based teaching, research and experience.*

*Funding is available to undergraduate students through the Undergraduate Research Initiative (URI), and to students, staff, and faculty through the Campus Sustainability Grants program.*

## 4.2. Does your institution offer opportunities for students to do research related to planetary health and/or sustainable healthcare/vetcare?

The **institution** has a **specific** research program or fellowship for students interested in doing planetary health/sustainable healthcare/vetcare research. (2 points)

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. (1 point)

There are **no opportunities** for students to engage in planetary health/sustainable healthcare research. (0 points)

Score Assigned:

1

*Score explanation: University of Alberta offers a URI Undergraduate Researcher Stipend enables undergraduate students to carry out mentored, interdisciplinary research projects. Students in any year and any discipline can find a supervisor and apply for a \$6,000 stipend for 4–12 months. Campus Sustainability Grants worth \$2,000 to \$5,000 are also offered by the university. [More information can be found here](#). The student must connect with a project idea in mind - the Sustainability Council then provides guidance on finding a mentor.*

*There is no specific research program at this time.*

**4.3. Does the institution have a webpage where students can find specific information related to planetary health and/or sustainable healthcare/vetcare activities and mentors within the institution? For example, projects achieved, current initiatives underway at the medical school and/or contact of information of potential mentors.**

The institution has a webpage with specific information related to planetary health or sustainable healthcare/vetcare that includes up-to-date information on relevant initiatives and contact information of potential mentors. (2 points)

There is an institution webpage that features some information on projects and mentors within planetary health and sustainable healthcare within the medical school, but it lacks key information. (1 point)

There is **no institution** specific webpage for locating planetary health and/or sustainable healthcare projects or mentors. (0 points)

Score Assigned:

2

*Score explanation: Currently, the University of Alberta has a dedicated webpage through the medical school for students for Health, Safety and Environment [available here](#). This is mostly related to hazard safety. However, the notion of zoologic pathogens on human health is recognized.*

**4.4. Does your institution 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 organisation **with faculty support** at my medical school dedicated to planetary health or sustainability in healthcare. (2 points)

Yes, there is a student organisation at my medical school dedicated to planetary health or sustainability in healthcare but it **lacks faculty support**. (1 point)

No, there is **not** a student organisation at my institution dedicated to planetary health or sustainability in healthcare. (0 points)

Score Assigned:	0
<i>Score explanation: There is no such organization at our medical school. However, there are various students who independently collaborate with national organizations such as CFMS Heart, which focus on scholarship and advocacy. Moreover, our Medical Students' Association has designated roles for Environmental Sustainability Representatives, who focus on engagement and advocacy. There is no direct support from the faculty.</i>	

<b>4.5. Is there a student liaison representing sustainability interests who serves on a <u>department or institutional</u> decision-making council to advocate for curriculum reform and/or sustainability best practices?</b>	
Yes, there is a student representative that serves on a department or institutional decision-making council/committee. (1 points)	
No, there is no such student representative. (0 points)	
Score Assigned:	0
<i>Score explanation: The Medical Students' Association, which is supported by the Faculty, has two Environmental Sustainability Representatives that receive funding for initiatives. These representatives liaise with administration to determine if there are opportunities to prioritise sustainability.</i>	

<b>4.6. In the past year, has the <u>institution</u> had one or more co-curricular planetary health programs or initiatives in the following categories? (1 point each)</b>	<b>Score</b>
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 urban agriculture projects.	1
Panels, speaker series, or similar events related to planetary health that have students as an intended audience.	1
Events in which students learn directly from members of a local environmental justice community about the climate and environmental challenges they face, and how health professionals can partner with their community to address these exposures and impacts.	0
Cultural arts events, installations or performances related to planetary health that have students as an intended audience.	0
Local volunteer opportunities related to building community resilience to anthropogenic environmental impacts.	0
Wilderness or outdoors programs (e.g., that organise hiking, backpacking, kayaking, or other outings for students)	1

*Score explanation: The University of Alberta Students' Union's [Sustainability group](#) organizes volunteer opportunities at the university gardens, as well as a biking library initiative, including workshops.*

*The faculty has advertised research talks such as Climate Change & Health: Moving Local Research into International Policy with Dr. Sherilee Harper, MSc, PhD during events such as the Global Health Fair. Moreover, the Sustainability council has a lecture series on environmental sustainability.*

*There is a Wilderness Medicine elective both in pre-clerkship and clerkship. Content delivery includes lecture-style presentations, hands-on practice and suggested resources for continued learning. Some sessions take place in an outdoor setting (weather permitting). Additionally, there are student groups that organize outdoor activities, such as the [University of Alberta Outdoor Club](#).*

*Via the Sustainability Council at the university, there are [several programs and events](#) that are available for student involvement. This includes the Student Sustainability Summit, which is chaired by [Sustain SU](#), a student-led service by the University of Alberta Students' Union (SU).*

<b>Section Total (8 out of 15)</b>	<b>53.33%</b>
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# Campus Sustainability

***Section Overview:*** This section evaluates the support and engagement in sustainability initiatives by the 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 endeavour, the healthcare sector is well poised to lead the world to a more sustainable future. This will involve scrutinising 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 minimising environmental impact.

5.1. Does your <u>institution</u> have an Office of Sustainability?	
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 <b>at least one designated staff member</b> for sustainability at the hospital. (3 points)	
There is an Office of Sustainability with one or more full-time staff dedicated to campus sustainability, but <b>no specific staff member</b> in charge of hospital sustainability. (2 points)	
There are <b>no salaried sustainability staff</b> , but there is a sustainability task force or committee. (1 point)	
There are <b>no</b> staff members <b>or</b> task force responsible for overseeing campus sustainability. (0 points)	
Score Assigned:	2
<p><i>Score explanation: The University of Alberta has an Office of Sustainability, a Sustainability Council and staff members that hold a sustainability portfolio. For example, there is a Zero Waste Program Director within the Buildings, Grounds, and Environmental Services (Facilities &amp; Operations).</i></p> <p><i>However, no such staff member is in charge of the medical school. To our knowledge, there is no staff member at the University of Alberta Hospital specifically.</i></p>	

5.2. How ambitious is your <u>institution's</u> plan to reduce its own carbon footprint?	
The institution has a <b>written and approved plan</b> to achieve carbon neutrality by <b>2030</b> (5 points)	
The institution has a <b>written and approved plan</b> to achieve carbon neutrality by <b>2040</b> (3 points)	
The institution has a stated goal of carbon neutrality by <b>2040</b> but has <b>not created a plan</b> to reach that goal or the <b>plan is inadequate</b> (1 point)	
The institution/medical school does <b>not</b> meet any of the requirements listed above (0 points)	
Score Assigned:	0

*Score explanation: The University of Alberta has a Greenhouse Gas Emissions Reduction Plan (2005-2020) that can be [accessed here](#). There is also a Sustainability Plan (2016-2022) available [here](#). Additionally, Envision is UAlberta's energy management program. Envision will invest \$35 million to prevent 30,000 tonnes of greenhouse gas emissions from entering the atmosphere each year (outlined in the [Energy Reduction Master Plan](#).)*

*While the goal of carbon neutrality is declared and the plan is currently being written by the university, to our knowledge, there is no set year to achieve that goal. Instead, current goals are to reduce greenhouse gas emissions 17 per cent from 2005 levels by 2020.*

**5.3. Do buildings/infrastructure used by the institution for teaching (not including the hospital) utilize renewable energy?**

Yes institution buildings are **100%** powered by renewable energy. (3 points)

Institution buildings source **>80%** of energy needs from off-site and/or on-site renewable energy. (2 points)

Institution buildings source **>20%** of energy needs from off-site and/or on-site renewable energy. (1 point)

Institution buildings source **<20%** of energy needs from off-site and/or on-site renewable energy. (0 points)

Score Assigned:

0

*Score explanation: The medical school is predominantly integrated into the larger campus. Currently, the main medical building (Katz Group Centre for Pharmacy and Health Research) [has a BOMA BEST Silver certification](#). The university uses solar energy to fulfil a very small proportion of the campus' power needs. However, most of the medical school's energy is provided through non-renewable resources such as natural gas.*

**5.4. Are sustainable building practices utilised for new and old buildings on the institution's campus, with design and construction of new buildings and remodelling of old buildings conforming to a published sustainability rating system or building code/guideline?**

Yes, sustainable building practices are utilised for new buildings on the institution's campus and the **majority** of old buildings **have been retrofitted** to be more sustainable. (3 points)

Sustainable building practices are utilised for new buildings on the institution's campus, but most old buildings have **not been retrofitted**. (2 points)

Sustainable building practices are **inadequately or incompletely** implemented for new buildings. (1 point)

Sustainability is **not considered** in the construction of new buildings. (0 points)

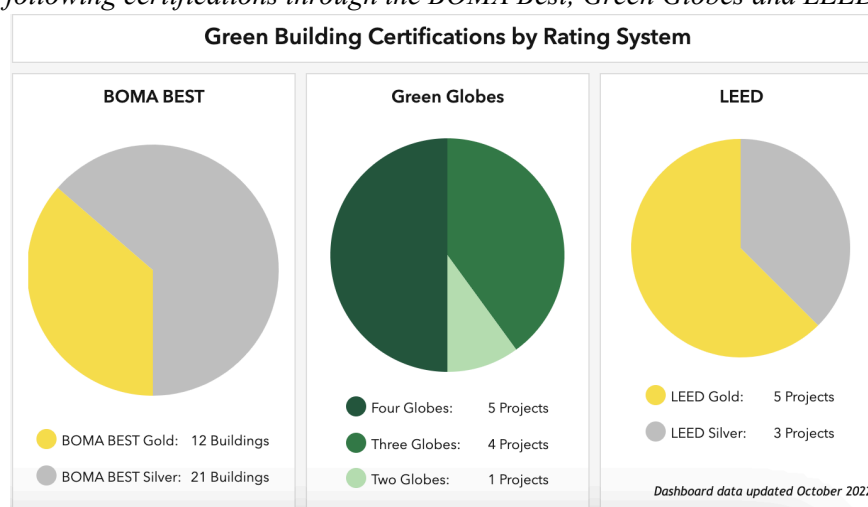
Score Assigned:

2

*Score explanation: The medical school is integrated into the larger campus more broadly. This information can be viewed via the [Sustainability Information Management System \(SIMS\)](#), which is a library of resources and materials related to the sustainability features of University of Alberta buildings.*

*The [Envision project](#) also outlines which buildings have been retrofitted on campus since 2012, and outlines an implementation plan for other buildings between 2022-2030. From this project, implementing [Aircuity](#) systems in the medical school's main building (Katz Group Centre) has saved 6,472 tonnes of CO2 emissions. Aircuity monitors air quality and occupancy in laboratories and informs the building ventilation system of the appropriate levels of fresh air to provide.*

*As of October 2022, the University scored 37.7% in Green Certified Building Space, with the following certifications through the BOMA Best, Green Globes and LEED certifications:*



**5.5. Has the institution implemented strategies to encourage and provide environmentally-friendly transportation options for students and reduce the environmental impact of commuting?**

Yes, the institution 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-utilised by students. Alternatively, the campus location is not amenable to unsustainable forms of transportation by default. (2 points)

The institution has implemented **some** strategies to provide environmentally-friendly transportation options, but the options are **unsatisfactorily** accessible or advertised. (1 point)

The institution has **not** implemented strategies to encourage and provide environmentally-friendly transportation options. (0 points)

Score Assigned:

2

*Score explanation: The medical school itself does not offer strategies to reduce the cost of commuting. However, the university offers the U-Pass included in student fees.*

The [Universal Transit Pass \(U-Pass\)](#) is an initiative of the Students' Union and the Graduate Students' Association, the local transit authorities, and the University of Alberta to deliver affordable and sustainable transit to the students of the University of Alberta. In 2007, students of the University voted to accept a mandatory fee assessment for the U-Pass.

In 2019, the [Office of the University Architect](#) consulted the community on their experiences walking and [cycling along 89 Avenue](#), an important corridor at the heart of North Campus. The resulting plan proposes changes that will make pedestrian access more welcoming, create safer lanes and facilities for cyclists, and improve public transit.

**5.6. Does your institution have an organics recycling program (compost) and a conventional recycling program (aluminium/paper/plastic/glass)?**

Yes, the institution has **both** compost **and** recycling programs accessible to students and faculty. (2 points)

The institution has **either** recycling **or** compost programs accessible to students and faculty, but not both. (1 point)

There is **no** compost or recycling program at the medical school. (0 points)

Score Assigned:

1

*Score explanation: The medical school has multiple recycling bins located within our primary medical building, accessed by both students and faculty. However, there is not an organic recycling program with compost bins.*

*Other buildings at the university do have both compost and recycling programs.*

**5.7. Does the institution apply sustainability criteria when making decisions about the campus food and beverage selections (e.g. local sourcing, reduced meat, decreased plastic packaging)?**

Yes, the institution has **adequate** sustainability requirements for food and beverages, including meat-free days or no red-meat, and **is engaged** in efforts to increase food and beverage sustainability. (3 points)

There are sustainability guidelines for food and beverages, but they are **insufficient or optional**. The institution **is engaged** in efforts to increase food and beverage sustainability. (2 points)

There are sustainability guidelines for food and beverages, but they are **insufficient or optional**. The institution is **not** engaged in efforts to increase food and beverage sustainability. (1 point)

There are **no** sustainability guidelines for food and beverages. (0 points)

Score Assigned:

1

*Score explanation: Currently, the medical school is supportive of student groups interested in university-wide student-led initiatives such as [DishZero](#), which is a reusable dish program. It is*



*largely up to student groups to provide vegetarian options when hosting events - students are not actively encouraged to do so.*

*The institution itself has [several sustainable dining services](#) and programs. This includes a Sustainable Food Working Group, Fair Trade Campus designation and Sustainable Seafood Certifications.*

**5.8. Does the institution apply sustainability criteria when making decisions about supply procurement?**

Yes, the institution has **adequate** sustainability requirements for supply procurement **and** is **engaged** in efforts to increase sustainability of procurement. (3 points)

There are sustainability guidelines for supply procurement, but they are **insufficient or optional**. The institution is **engaged** in efforts to increase sustainability of procurement. (2 points)

There are sustainability guidelines for supply procurement, but they are **insufficient or optional**. The institution is **not engaged** in efforts to increase sustainability of procurement. (1 point)

There are **no** sustainability guidelines for supply procurement. (0 points)

Score Assigned:

2

*Score explanation: While the medical school does not offer any specific guidelines for supply procurement, the institution has guidelines and supplier code for [Sustainable Procurement](#).*

*The UofA does have a [preferred suppliers list](#). The intention of this list is to reduce the volume of delivery traffic on campus, and increase the demand for more sustainable products and services. They also offer [sustainable purchasing workshops](#) upon request about the life cycle of a product from beginning to end (extraction of raw materials to disposal).*

*The medical school itself is not engaged in efforts to increase sustainability of procurement.*

**5.9. Are there sustainability requirements or guidelines for events hosted at the institution?**

Every event hosted at the institution **must** abide by sustainability criteria. (2 points)

The institution **strongly recommends or incentivizes** sustainability measures, but they are **not required**. (1 point)

There are **no** sustainability guidelines for institution events. (0 points)

Score Assigned:

1

*Score explanation: The UofA currently offers resources such as the "[swag bag](#)" procurement guide. Additionally, the Vice President Facilities and Operations has a "[Plan a Sustainable Event](#)" webpage.*

**5.10. Does your institution have programs and initiatives to assist with making lab spaces more environmentally sustainable?**

Yes, the institution has **programs** and **initiatives** to assist with making lab spaces more environmentally sustainable. (2 points)

There are **guidelines** on how to make lab spaces more environmentally sustainable, but not programs or initiatives. (1 point)

There are **no** efforts at the institution to make lab spaces more sustainable. (0 points)

Score Assigned:

2

*Score explanation: The FoMD offers a [3 hour course](#) titled Green Labs, which is a joint initiative between HSE and Energy Management and Sustainable Operations. The intent of the course is to provide strategies for more environmentally responsible research and learning, including the following:*

- Sustainability
- Waste handling
- Energy reduction
- Green chemistry
- Water use
- Fieldwork & "Leave no trace" principles

*The Vice President of Facilities and Operations also offers a [one page poster on Lab Plastic Recycling](#).*

**5.11. Does your institution's endowment portfolio investments include fossil-fuel companies?**

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. (4 points)

The institution is **entirely divested** from fossil fuels. (3 points)

The institution has **partially divested** from fossil fuel companies **or** has made a **commitment to fully divest**, but **currently** still has fossil fuel investments. (2 points)

The institution has **not divested** from fossil-fuel companies, but faculty and/or students are **conducting organised advocacy** for divestment. (1 point)

Yes, the institution has investments with fossil-fuel companies and there have been **no efforts** to change that. (0 points)

Score Assigned:

1

*Score explanation: The University of Alberta has investments with fossil-fuel companies and no efforts to change that. No commitments have been made to be listed on the Global Fossil Fuel Divestment Commitments Database.*

However, the university's [Annual Investment Report 2022](#) includes a section on environmental investment opportunities.

**Section Total (14 out of 32)**

**43.75%**

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# 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%
B	60% - 79%
C	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 University of Alberta School of Medicine

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

Section	Raw Score %	Letter Grade
<b>Planetary Health Curriculum (30%)</b>	$(31/72) \times 100 = 43.06\%$	C-
<b>Interdisciplinary Research (17.5%)</b>	$(6/17) \times 100 = 35.29\%$	D+
<b>Community Outreach and Advocacy (17.5%)</b>	$(5/14) \times 100 = 35.71\%$	D+
<b>Support for Student-led Planetary Health Initiatives (17.5%)</b>	$(8/15) \times 100 = 53.33\%$	C
<b>Campus Sustainability (17.5%)</b>	$(14/32) \times 100 = 43.75\%$	C-
<b>Institutional Grade</b>	$(0.4306 \times 0.3 + 0.3529 \times 0.175 + 0.3571 \times 0.175 + 0.5333 \times 0.175 + 0.4375 \times 0.175) = 42.33\%$	C-

# Report Card Trends

## Section Overview

This graph demonstrates trends in overall and section grades for the years in which The University of Alberta has participated in the Planetary Health Report Card initiative.

## Planetary Health Report Card Trends for University of Alberta

