



**Planetary Health Report Card
(Veterinary Medicine):**

*Ontario Veterinary College,
University of Guelph*



2023 Contributing Team

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Please note: This report card was completed in the summer of 2023 and was thus based on initiatives present up until that point and curriculum from the 2022-2023 academic year.

Land acknowledgement

We acknowledge that the University of Guelph resides on the ancestral lands of the Attawandaron, the Anishinaabe, and Haudenosaunee peoples and the treaty lands and territory of the Mississaugas of the Credit. We currently share this land with diverse First Nations, Inuit and Metis peoples. We also recognize the significance of the Dish with One Spoon Covenant and express respect and gratitude to all the Indigenous Peoples of Turtle Island who have cared for this land, the water and its creatures for generations. We see this report as a small stepping stone to ensuring this land, water and creatures continue to thrive for generations to come.

Summary of Findings

Overall	C
<u>Curriculum</u>	D
<ul style="list-style-type: none"> ● Planetary health concepts are included in the core curriculum, predominantly in the Phase 1 and 2 One Health modules in Health Management I and II. Integration across courses and Phases is not evident. ● Connections between animal health and human health are frequently made, but these connections are rarely extended to the context of the environment and the climate crisis. ● Significant gaps exist on the impact of the climate crisis on animals and veterinary systems. ● Opportunities are readily available for inclusion of additional planetary health aspects in the core curriculum. ● Recommendations: Conduct a comprehensive review of the curriculum to identify key areas of opportunities for inclusion of additional planetary health components, including animal health impacts of a changing climate and the role of veterinary systems in combating the climate crises. Develop a collaborative plan to revise the curriculum across courses and phases. 	
<u>Interdisciplinary Research</u>	B+
<ul style="list-style-type: none"> ● The Ontario Veterinary College excels in this regard. The One Health Institute contributes greatly to interdisciplinary research, of which OVC faculty are frequently involved. ● Recommendations: Implement a formal process or working group in which communities that are disproportionately impacted by climate change have opportunities to guide the research agenda. Join a national group dedicated to environmental health and sustainable veterinary care and become a member of the Planetary Health Alliance. 	
<u>Community Outreach and Advocacy</u>	C
<ul style="list-style-type: none"> ● There have been notable efforts to translate research findings to the broader community, including pet caregivers and producers. Some of this research connects climate change with impacts on animal health. ● The Ontario Veterinary College has many strong pre-existing community partnerships, but there is an untapped opportunity to incorporate initiatives around environmental health. These partnerships are with communities that have or will be greatly impacted by climate change (e.g., vulnerable communities, Indigenous Peoples, local farmers). ● Recommendations: Engage in conversations with community partners on how current initiatives could be expanded to include an environmental health focus. 	
<u>Support for Student-Led Initiatives</u>	A
<ul style="list-style-type: none"> ● There is strong support for student-led initiatives. This comes predominantly from the Institution's Sustainability Office and not from the College itself. ● Recommendations: Establish a 'Green Team' within the College to focus on sustainability that includes strong student representation. 	
<u>Campus Sustainability</u>	D+

- Initial goals have been established by the University to enhance sustainability but at this time sufficient actionable plans are not in place for most plans. The Ontario Veterinary College does not have any goals related to sustainability, aside from those connected to the broader University.
- **Recommendations:** Collaborate with University administration to develop an actionable plan to reach net zero by 2040. Establish a 'Green Team' with the College to target actions specific to the veterinary college (e.g., laboratory spaces, teaching hospital).

Statement of Purpose

Planetary health is animal 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 all species is dependent on our environment, and our environment is changing rapidly and in disastrous ways. The World Health Organization has called climate change “the greatest threat to global health in the 21st century,” and health professionals need to be prepared to respond to this growing threat.

A fundamental component to this preparation lies in the hands of the institutions providing our professional training. It is imperative that we hold our institutions accountable for educating 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, 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, a Planetary Health Report Card (PHRC) tool was developed by medical students that could be used to grade and compare their home institutions on an annual basis. The original PHRC has since been adopted by other allied health professions, including veterinary medicine. This student-driven initiative aims to compare veterinary schools nationally and internationally on the basis of discrete metrics in five main category areas: 1) planetary health curriculum, 2) interdisciplinary research in animal health and environment, 3) university support for student planetary health initiatives, and 4) community outreach centered on environmental health impacts 5) veterinary school campus sustainability.

Definitions & Other Considerations

Definitions:

- **Planetary Health:** is described by the Planetary Health Alliance as “the health of human civilization 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 veterinary medical 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 vetcare:** 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 minimizes use of healthcare services. For this veterinary specific assessment, we have modified this language to ‘sustainable vetcare’.
- **Education for Sustainable Vetcare (ESV):** is defined as the process of equipping current and future veterinary professionals with the knowledge, attitudes, skills and capacity to provide environmentally sustainable services through health professional education, thus working to decrease the enormous overall 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 vetcare as well as being part of the broader knowledge needed to fully protect and promote health. In summary, ESV 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. For veterinary medicine these have been expanded to include both domestic and wild animal species:
 1. Describe how the environment and 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 veterinarian to protect and promote health is shaped by the dependence of health on the local and global environment.
- **Veterinary School vs. Institution:** When “veterinary school” is specified in the report card, this only refers to curriculum and resources offered by the School / College of Veterinary 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 veterinary students, no matter where in the institution the resource comes from or if it is specifically targeted for veterinary students, can meet this metric.

- **Environmental history (Metric #22 in Curriculum Section):** This is a series of questions providers are taught to ask during medical encounters that elicit 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 life course, ‘occupational’ history, food and water sources, and exposure to air pollution.
- **Elective:** The word “elective” refers to an optional course or lecture series that a veterinary 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. Some schools may not have elective courses.
- **Clinical rotation:** This is a term used in the USA and Canada to refer to placements that veterinary students go on (e.g., ophthalmology, surgery, cardiology).

Other considerations:

- If there are more than one “tracks” at your veterinary school with two different curricula (for example, Virginia-Maryland College of Veterinary Medicine offers students to track in small animal, food animal, or equine at the end of their first year), 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.

Added to our resources in 2022, the Planetary Health Report Card [Literature Review by Metric](#) 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. Please take note this has not yet been updated for veterinary medicine.

Planetary Health Curriculum

Section Overview: *This section evaluates the integration of relevant planetary health topics into the veterinary school curriculum. Today's veterinary students will be on the frontlines of tackling the animal and public health effects of climate and other environmental changes. Therefore, it is critical that veterinary students are trained to understand the health effects of these changes, as well as planetary health issues and principles more broadly. Topics like the seven exposure pathways (i.e., air, temperature, extreme events/ disasters, food, water, vector-borne diseases, and animal welfare), environmental health inequities, and disaster response principles must be part of every veterinary school's core curriculum.*

Curriculum: General

1. Did your <u>veterinary school</u> offer elective courses (student selected modules) to engage students in Education for Sustainable Vetcare or Planetary Health in the last year?	
3	Yes, the veterinary school has offered more than one elective whose primary focus is ESV/planetary health in the past year.
2	Yes, the veterinary school has offered one elective whose primary focus is ESV/planetary health in the past year.
1	The veterinary school does not have any electives whose primary focus is ESV/planetary health, but there are one or more electives that include a lecture on planetary health.
0	No, the veterinary school has not offered any electives on planetary health or electives that include ESV/planetary health topics in the past year.
<p>Score explanation: 3 points.</p> <p>The Ontario Veterinary College offered 3 elective courses related to planetary health in the past academic year.</p> <p>For students in Phase 3 of the DVM program, VETM*4530 Health Management III consists of several elective modules of which students are required to choose two for credit with the option of auditing any number of additional modules. One Health is offered as an elective module within this course, in which “emphasis is directed towards developing the skills, knowledge, and attitudes that will permit the entry-level veterinarian to recognize the interconnections between human, animal and environmental health, to work with other disciplinary specialists to advise on and develop solutions to complex health challenges, and to acknowledge the various roles that veterinarians may play in public health, agricultural production, conservation and more.”</p> <p>Phase 4 of the DVM program consists primarily of clinical rotations. In the previous academic year, students had the opportunity to enroll in a one week One Health rotation, and a two-week field-based Ecosystem Health rotation. These rotations focus on case studies that expose students to complex issues at the intersection of human, animal, and environmental health. Many examples explored connect animal health issues to a changing environment.</p>	

Curriculum: Health Effects of Climate Change

2. Does your veterinary school curriculum address the relationship between increasing temperatures and animal health?	
3	This subject was addressed in depth by the core curriculum.
2	This subject was moderately addressed by the core curriculum.
1	This subject was addressed briefly in the core curriculum, <u>or</u> in any depth by other non-core learning experiences (e.g., elective coursework).
0	This subject was not covered.
<p><i>Score explanation: 2 points.</i></p> <p>The One Health module in VETM*3400 Health Management I, a mandatory course in Phase 1 of the DVM program, discusses the relationship between rising temperatures and animal health. In One Health Lecture 2: Determinants of Health, rising temperature is used as an example of environmental determinants of health in a changing world. This is not a testable learning objective as stated in the course outline but was discussed in lecture. Similarly, in Phase 1 and 2 Animal Welfare modules, heat stress is discussed as a welfare issue for livestock in particular, and students are reminded that they will be dealing with very different animal welfare issues in their careers as a result of global warming. Heat stress was briefly mentioned as a factor affecting sperm quality in VETM*3460 Theriogenology, a mandatory course in Phase 2, but this was not a learning outcome nor was the relationship to climate change highlighted.</p>	

3. Does your veterinary school curriculum address the impacts of extreme weather on animal health and veterinary systems?	
3	This subject was addressed in depth by the core curriculum.
2	This subject was moderately addressed by the core curriculum.
1	This subject was addressed briefly in the core curriculum, <u>or</u> in any depth by other non-core learning experiences (e.g., elective coursework).
0	This subject was not covered.
<p><i>Score explanation: 1 point.</i></p> <p>In Phase 1, students are required to take VETM*3400 Health Management I as part of the core curriculum. The One Health module in this course briefly discusses extreme weather events and animal health in Lecture 2: Determinants of Health, though this is not a testable learning objective as stated in the course outline.</p>	

4. Does your veterinary school curriculum address the management of animals during climate associated disasters?	
3	This subject was addressed in depth by the core curriculum.

2	This subject was moderately addressed by the core curriculum.
1	This subject was addressed briefly in the core curriculum, <u>or</u> in any depth by other non-core learning experiences (e.g., elective coursework).
0	This subject was not covered.
<p><i>Score explanation: 1 point.</i></p> <p>The Ontario Veterinary College does not cover management of animals during climate-associated disasters in the core DVM curriculum. Managing animals during extreme weather events was briefly discussed in the elective One Health module in VETM*4530 Health Management III during a lecture and discussion on climate change in veterinary medicine.</p> <p>Outside of the curriculum, there is a newly formed Emergency Response Club aiming to educate and provide hands-on experience for DVM students, but this is extracurricular only, which highlights the fact that students recognize a need for this kind of training and are willing to investigate this topic outside of the curriculum.</p>	

5. Does your veterinary school curriculum address the impact of climate change on the changing patterns (e.g., distribution and prevalence) of vector-borne diseases?	
3	This subject was addressed in depth by the core curriculum.
2	This subject was moderately addressed by the core curriculum.
1	This subject was addressed briefly in the core curriculum, <u>or</u> in any depth by other non-core learning experiences (e.g., elective coursework).
0	This subject was not covered.
<p><i>Score explanation: 1 point.</i></p> <p>The One Health module in VETM*3400 Health Management I discusses the relationship between climate change and vector-borne diseases as an example of One Health applications in practice. This is not a testable learning objective as stated in the course outline but was discussed in lecture through a mind-mapping activity. In VETM*3450 Principles of Disease, vector-borne diseases are discussed as important animal health issues, though the connection to climate change was made in passing.</p> <p>In elective curriculum, the clinical parasitology lectures in the Phase 3 VETM*4530 Health Management III Companion Animal module discusses changes in disease patterns of mosquito and tick-borne diseases, highlighting the environmental factors such as climate change, reforestation, and intermediate host distribution.</p>	

6. Does your veterinary school curriculum address the health effects of climate change and air pollution?	
3	This subject was addressed in depth by the core curriculum.
2	This subject was moderately addressed by the core curriculum.
1	This subject was addressed briefly in the core curriculum, <u>or</u> in any depth by other non-core learning experiences (e.g., elective coursework).
0	This subject was not covered.

Score explanation: 1 point.

In the course VETM*3120 Veterinary Histology and General Pathology in Phase 1 of the DVM program, anthracosis in lung tissue was briefly discussed as a common incidental finding upon necropsy of companion animals living in cities. This was not discussed in-depth and there was no mention of how air pollution contributes to other respiratory or cardiovascular pathologies in this course.

This topic was also discussed briefly in the Wildlife elective module in Phase 3 VETM*4530 Health Management III, in the context of threats to species at risk.

7. Does your veterinary school curriculum address the relationship between animal welfare and the effects of environmental degradation and climate change?

3	This subject was addressed in depth by the core curriculum.
2	This subject was moderately addressed by the core curriculum.
1	This subject was addressed briefly in the core curriculum, <u>or</u> in any depth by other non-core learning experiences (e.g., elective coursework).
0	This subject was not covered.

Score explanation: 1 point.

The Ontario Veterinary College's core DVM program does not explicitly address the relationship between animal welfare and environmental degradation and climate change, though this was briefly discussed in the One Health elective module in VETM*4530 Health Management III in a lecture and discussion. In Phase 1 and 2 core curriculum, comments are made by the instructor during lectures and labs that students should expect to see different animal welfare challenges throughout their careers as a result of environmental change such as increased rain leading to muddier pastures, and increased heat stress. However, this was not written in the slides and was not a learning outcome.

8. Does your veterinary school curriculum address how animal health is impacted by climate-related changes in water availability and quality?

3	This subject was addressed in depth by the core curriculum.
2	This subject was moderately addressed by the core curriculum.
1	This subject was addressed briefly in the core curriculum, <u>or</u> in any depth by other non-core learning experiences (e.g., elective coursework).
0	This subject was not covered.

Score explanation: 1 point.

The Ontario Veterinary College's DVM core curriculum briefly addresses eutrophication leading to increased algal bloom frequency, leading to toxicity in livestock and companion animals, though the connection to climate and algal blooms is not a learning outcome. This is discussed again in the elective One Health module in VETM*4530 Health Management III with a focus on domestic animals, wildlife, and humans.

9. Does your veterinary school curriculum address how climate change can threaten the production, quality, and access to food for animals?

3	This subject was addressed in depth by the core curriculum.
2	This subject was moderately addressed by the core curriculum.
1	This subject was addressed briefly in the core curriculum, <u>or</u> in any depth by other non-core learning experiences (e.g., elective coursework).
0	This subject was not covered.

Score explanation: 1 point.

The Ontario Veterinary College's DVM program briefly discusses climate impacts on access to appropriate food for animals in the One Health module of VETM*4530 Health Management III.

10. Does your veterinary school curriculum address the outsized impact of *climate change* on marginalized populations (e.g., low SES, women, communities of color, Indigenous communities, children, unhoused populations, and older adults) and indirectly the animals in their care?

3	This subject was addressed in depth by the core curriculum.
2	This subject was moderately addressed by the core curriculum.
1	This subject was addressed briefly in the core curriculum, <u>or</u> in any depth by other non-core learning experiences (e.g., elective coursework).
0	This subject was not covered.

Score explanation: 0 points.

The Ontario Veterinary College has recently introduced a curriculum based on community healthcare and public partnerships into the DVM program, where there is a focus on vetcare in underserved communities. Though students are often faced with the realities of climate change's impact on marginalized communities while on rotation, (e.g., communities in Southern Ontario facing a longer heartworm season due to climate-related changes in vector distribution), it is not discussed in lecture at this time.

11. Does your veterinary school curriculum address the unequal regional health impacts of climate change globally?

3	This subject was addressed in depth by the core curriculum.
2	This subject was moderately addressed by the core curriculum.
1	This subject was addressed briefly in the core curriculum, <u>or</u> in any depth by other non-core learning experiences (e.g., elective coursework).
0	This subject was not covered.

Score explanation: 0 points.

The Ontario Veterinary College's DVM curriculum does not address the unequal regional health impacts of climate change globally.

12. Does your veterinary school curriculum address how climate change can affect inherently vulnerable animal populations (e.g., endangered species, immunocompromised species, fragmented wildlife populations)?

3	This subject was addressed in depth by the core curriculum.
2	This subject was moderately addressed by the core curriculum.
1	This subject was addressed briefly in the core curriculum, <u>or</u> in any depth by other non-core learning experiences (e.g., elective coursework).
0	This subject was not covered.

Score explanation: 1 point.

This topic was discussed briefly in the Wildlife elective module in Phase 3 VETM*4530 Health Management III, in the context of threats to species at risk, particularly reptiles and amphibians.

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

13. Does your veterinary school curriculum address the health effects of anthropogenic toxins (e.g., pollution, pesticides) on animal health?

3	This subject was addressed in depth by the core curriculum.
2	This subject was moderately addressed by the core curriculum.
1	This subject was addressed briefly in the core curriculum, <u>or</u> in any depth by other non-core learning experiences (e.g., elective coursework).
0	This subject was not covered.

Score explanation: 3 points.

In VETM*3450 Principles of Disease, the Toxicology module includes multiple lectures and labs discussing anthropogenic toxins and animal health. This includes lectures 4.3 Feed and Water Toxicants, 4.5 Pesticides, Rodenticides and Herbicides, and 4.6 Industrial and Environmental toxicants. These lectures included nitrogen toxicity as a result of fertilizer use, organophosphate and organocarbamate pesticide toxicity, and heavy metal toxicities.

14. Does your veterinary school curriculum address important human-caused environmental threats that are relevant to the university's surrounding community?

3	This subject was addressed in depth by the core curriculum.
2	This subject was moderately addressed by the core curriculum.

1	This subject was addressed briefly in the core curriculum, <u>or</u> in any depth by other non-core learning experiences (e.g., elective coursework).
0	This subject was not covered.
<p><i>Score explanation: 0 points.</i></p> <p>The Ontario Veterinary College’s DVM program does not address anthropogenic environmental threats that are relevant to the Guelph area’s community. Climate related threats to the community are highlighted in the City of Guelph’s Climate Adaptation Plan, and include a focus on clean energy and water conservation.</p>	

<p>15. Does your <u>veterinary 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 and indirectly the animals in their care?</p>	
3	This subject was addressed in depth by the core curriculum.
2	This subject was moderately addressed by the core curriculum.
1	This subject was addressed briefly in the core curriculum, <u>or</u> in any depth by other non-core learning experiences (e.g., elective coursework).
0	This subject was not covered.
<p><i>Score explanation: 0 points.</i></p> <p>The Ontario Veterinary College’s DVM curriculum does not address the impact of anthropogenic toxins on marginalized human or animal populations.</p>	

Curriculum: Sustainability

<p>16. Does your <u>veterinary school</u> curriculum address educating clients on environmental and health co-benefits of a healthy animal’s diet (e.g., seaweed in ruminant diets to reduce methane emissions, the difference between CO₂ emissions in production of dry vs. wet dog food)?</p>	
3	This subject was addressed in depth by the core curriculum.
2	This subject was moderately addressed by the core curriculum.
1	This subject was addressed briefly in the core curriculum, <u>or</u> in any depth by other non-core learning experiences (e.g., elective coursework).
0	This subject was not covered.
<p><i>Score explanation: 0 points.</i></p>	

The Ontario Veterinary College's DVM curriculum does not address educating clients on the health and environmental co-benefits of patient diets.

17. Does your veterinary school curriculum address the carbon footprint of vetcare systems?

3	This subject was addressed in depth by the core curriculum.
2	This subject was moderately addressed by the core curriculum.
1	This subject was addressed briefly in the core curriculum, <u>or</u> in any depth by other non-core learning experiences (e.g., elective coursework).
0	This subject was not covered.

Score explanation: 0 points.

The topic of vetcare systems and their associated carbon footprint are not covered by the Ontario Veterinary College's core or elective curriculum.

18. Does your veterinary school 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-medicalization, 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, physical therapy, mental stimulus, and enrichment.
1	Environmental impact of surgical vetcare on planetary health and the climate crisis, and how can it be mitigated
1	The impact of anesthetic gasses on the vetcare carbon footprint and ways to reduce anesthesia environmental impacts, such as total intravenous anesthesia or choosing less environmentally harmful anesthetic gas options with reduced greenhouse gas emissions
1	The impact of veterinary-medicine-produced toxins on the environment (e.g., barbiturates from buried animals, drugs used in food animals)
1	Waste production within vetcare clinics and strategies for reducing waste in clinical activities (e.g., single use items in the inpatient or outpatient setting)

Score explanation: 1 point.

In VETM*3470 Anesthesiology & Pharmacology, a mandatory Phase 2 course, students are given a lecture on methods of euthanasia. Pentobarbital's effect on scavenging animals in the environment was discussed and it was highlighted that euthanasia must include careful disposal.

The core DVM curriculum frequently places emphasis on avoiding over-medicalization, deprescribing pharmaceuticals, and non-pharmaceutical management, but does not include an environmental benefit as a learning outcome, though individual instructors frequently comment on this.

19. To what extent does your veterinary 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 veterinary school's planetary health education
2	Indigenous knowledge and value systems as essential components of planetary health solutions are included at a moderate depth in the core curriculum.
1	Indigenous knowledge and value systems as essential components of planetary health solutions are included briefly in the core curriculum or in any depth in elective coursework.
0	This topic was not covered.

Score explanation: 2 points.

At the Ontario Veterinary College, new curriculum on Community Healthcare Partnership Program (CHPP) is being incorporated into the DVM program. At the time of this assessment, CHPP curriculum in VETM*3210 Art of Veterinary Medicine I includes lectures on Indigenous traditional knowledges, cultural humility, and recognizing and deconstructing Eurocentric views. Guest speakers from Indigenous communities are part of content delivery. Given that this has only been rolled out in Phase 1 and 2 curriculum at the time of this assessment, Indigenous knowledge is not yet fully integrated into the curriculum, though it will be provided to all students in upcoming years.

20. Does your veterinary school curriculum address/demonstrate how to be environmentally sustainable in your hospital operations?

3	This subject was addressed in depth by the core curriculum.
2	This subject was moderately addressed by the core curriculum.
1	This subject was addressed briefly in the core curriculum, <u>or</u> in any depth by other non-core learning experiences (e.g., elective coursework).
0	This subject was not covered.

Score explanation: 0 points.

At the time of this assessment, the Ontario Veterinary College does not address or demonstrate how to be environmentally sustainable in hospital settings.

21. Does your veterinary school curriculum address the impact of climate change on access to veterinary care?

3	This subject was addressed in depth by the core curriculum.
2	This subject was moderately addressed by the core curriculum.
1	This subject was addressed briefly in the core curriculum, <u>or</u> in any depth by other non-core learning experiences (e.g., elective coursework).
0	This subject was not covered.
<p><i>Score explanation: 0 points.</i> The Ontario Veterinary College's DVM curriculum does not address the impact of climate change on access to veterinary care.</p>	

Curriculum: Client Communication Applications

22. Does your veterinary school's curriculum introduce strategies to have conversations with clients about the health effects of climate change?	
2	Yes, a comprehensive list of strategies are introduced for having conversations with patients about climate change in the core curriculum.
1	Yes, some strategies are introduced for having conversations with patients about climate change in the core coursework, or at any depth in elective coursework.
0	No strategies introduced for having conversations with patients about climate change
<p><i>Score explanation: 0 points.</i> The Ontario Veterinary College's DVM curriculum does not currently include strategies for communicating with clients on the topic of climate change.</p>	

23. In training for client encounters, does your <u>veterinary school's</u> curriculum introduce strategies for taking an environmental history or exposure history?	
2	Yes, the core curriculum includes a comprehensive exploration of strategies for taking an environmental history.
1	Yes, the core curriculum includes some strategies for taking an environmental history (or in any depth in the elective curriculum).
0	No, the curriculum does not include strategies for taking an environmental history.
<p><i>Score explanation: 2 points.</i> Across Phases 1, 2, and 3, student veterinarians at the Ontario Veterinary College, students are trained to take a full history in Clinical Medicine I, II, and III, in which environmental exposures are included. In Phase 3, students combine their clinical knowledge with the communication skills built in Art of Veterinary Medicine I, II, and III, with the expectation that they are able to apply this in simulated client interviews.</p>	

24. Does your veterinary school's curriculum introduce strategies to discuss protection of animals from environmental harms? (e.g., disaster planning preparedness, animal management during smoke events)

2	Yes, the core curriculum includes a comprehensive exploration of strategies for discussing protection of animals from environmental harms.
1	Yes, the core curriculum includes some strategies for discussing protection of animals from environmental harms.
0	No, the curriculum does not include strategies for discussing protection of animals from environmental harms.

Score explanation: 0 points.

The Ontario Veterinary College's DVM curriculum does not include strategies for discussing protection of animals from environmental harms.

Curriculum: Administrative Support for Planetary Health

25. Is your veterinary school currently in the process of implementing or improving Education for Sustainable Vetcare (ESV)/planetary health education?

4	Yes, the veterinary school is currently in the process of making major improvements to ESV/planetary health education.
2	Yes, the veterinary school is currently in the process of making minor improvements to ESV/planetary health education.
0	No, there are no improvements to planetary health education in progress.

Score explanation: 0 points.

At the time of this assessment, there are no planned improvements to the Ontario Veterinary College's curriculum in regard to planetary health concepts. The One Health modules are not undergoing any significant changes at this time. The CHPP curriculum is beginning to be phased into the curriculum.

26. How well are the aforementioned planetary health/Education for Sustainable Vetcare topics integrated longitudinally into the core curriculum?

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

Score explanation: 2 points.

The Ontario Veterinary College's One Health core curriculum contains the majority of all planetary health related concepts in Phase 1 and 2. These are isolated lectures that cover several concepts briefly, but do not always make the connection to environmental health and climate. There is opportunity to integrate planetary health concepts in other courses throughout the core curriculum to allow these concepts to be explored in-depth.

27. Does your veterinary school employ a member of faculty to specifically oversee and take responsibility for the incorporation of planetary health and sustainable vetcare as a theme throughout the course?

1	Yes, the <u>veterinary school</u> has a specific faculty/staff member responsible for overseeing curricular integration of planetary health and sustainable healthcare
0	No, the <u>veterinary school</u> does not have a specific faculty/staff member responsible for overseeing curricular integration of planetary health and sustainable healthcare.

Score explanation: 0 points.

The Ontario Veterinary College does not have an appointed faculty member that oversees planetary health or sustainable vetcare concepts integrated throughout courses in the DVM curriculum.

Section Total (23 out of 86)

27%

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Interdisciplinary Research

Section Overview: This section evaluates the quality and quantity of interdisciplinary planetary health research at the veterinary 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, veterinary 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 health are emphasized.

1. Are there researchers engaged in planetary health research and vetcare sustainability research at your veterinary school ?	
3	Yes, there are faculty members at the veterinary school who have a primary research focus in planetary health or vetcare sustainability.
2	Yes, there are individual faculty members at the veterinary school who are conducting research related to planetary health or vetcare sustainability, but it is not their primary research focus.
1	There are planetary health and/or vetcare sustainability researchers at the institution , but none associated with the veterinary school.
0	No, there are no planetary health and/or vetcare sustainability researchers at the institution or veterinary school at this time.
<p><i>Score explanation: 3 points.</i></p> <p>The Ontario Veterinary College has faculty representatives on the One Health Institute Advisory Board and several affiliated faculty. The Director of the One Health Institute is Ontario Veterinary College's Dr. Cate Dewey, whose research focuses on prevention of zoonotic and food-borne disease, as well as community based projects to enhance the livelihoods of small-holder farmers. In addition, other Ontario Veterinary College faculty conduct research on topics such as vector-borne and zoonotic disease, public health informatics, sustainable parasite control, social and environmental determinants of health, wildlife and ecosystem health, and water, public health, and agriculture.</p>	

2. Is there a dedicated department or institute for interdisciplinary planetary health research at your institution ?	
3	There is at least one dedicated department or institute for interdisciplinary planetary health research.
2	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.
1	There is an Occupational and Environmental Health department , but no interdisciplinary department or institute for planetary health research.
0	There is no dedicated department or institute.

Score explanation: 3 points.

The Ontario Veterinary College, along with every other College at the University of Guelph, has faculty representatives on the One Health Institute Advisory Board. The [One Health Institute's partners](#) include the Arrell Food Institute, Centre for Advancing Responsible and Ethical Artificial Intelligence, Centre for Public Health and Zoonoses, Guelph Institute for Developmental Studies, Guelph Institute for Environmental Research, and the G360 Institute for Groundwater 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 veterinary school?

3	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.
2	Yes, there is a process in which community members impacted by climate and environmental injustice advise the climate + environmental research agenda.
1	No , but there are current efforts to establish a process for community members to advise or make decisions on the research agenda.
0	There is no process, and no efforts to create such a process.

Score explanation: 0 points.

The Ontario Veterinary College does not have a research agenda per se, as faculty lead their own research programs (although there is a strategic plan). There are many researchers who garner input from vulnerable communities as part of their research process. However, there is no formalized process in place and to our knowledge, no effort to establish one.

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

3	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.
2	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.
1	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: 3 points.

The University of Guelph's [One Health Institute website](#) includes several web pages that comprise resources related to health and the environment. This includes events, news, seminars, ongoing research, and funding opportunities. The [Guelph Institute for Environmental Research](#) similarly has a comprehensive website.

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

4	Yes, the veterinary school has hosted at least one conference or symposium on topics related to planetary health in the past year.
3	Yes, the institution has hosted at least one conference or symposium on topics related to planetary health in the past year.
2	Yes, the institution has hosted a conference on topics related to planetary health in the past three years.
1	The institution has not hosted any conferences directly, but they have provided financial support for a local planetary health event.
0	No, the institution has not hosted a conference on topics related to planetary health in the past three years.

Score explanation: 4 points.

The Ontario Veterinary College has hosted conferences related to climate and health. Notable examples include the Centre for Public Health and Zoonoses Symposium, and the One Health and Development for a World Under Pressure conference. Here is a comprehensive list of past [events that the Ontario Veterinary College has hosted](#).

6. Is your veterinary school a member of a national or international planetary health or ESV organization?

1	Yes, the veterinary school is a member of a national or international planetary health or ESV organization
0	No, the veterinary school is not a member of such an organization

Score explanation: 0 points.

The Ontario Veterinary College is not a member of a national or international planetary health organization.

Section Total (13 out of 17)

76%

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Community Outreach and Advocacy

Section Overview: This section evaluates veterinary 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 veterinary school partner with community organizations to promote planetary and environmental health?	
3	Yes, the veterinary school meaningfully partners with multiple community organizations to promote planetary and environmental health.
2	Yes, the veterinary school meaningfully partners with one community organization to promote planetary and environmental health.
1	The institution partners with community organizations, but the veterinary school is not part of that partnership.
0	No, there is no such meaningful community partnership.
<p><i>Score explanation: 0 points.</i></p> <p>The Ontario Veterinary College does have strong partnerships with several organizations and communities. These are primarily through the Community Healthcare Partnership Program and focuses on accessible veterinary care but does not include a strong environmental focus at this time. This presents a future opportunity to expand into efforts to promote planetary and environmental health.</p>	

2. Does your veterinary school offer community-facing courses or events regarding planetary health?	
3	The veterinary school offers community-facing courses or events at least once every year.
2	The veterinary 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 veterinary school was not involved in planning those courses or events.
0	The institution/veterinary school have not offered such community-facing courses or events.
<p><i>Score explanation: 2 points.</i></p> <p>The University of Guelph's One Health Institute provides a lecture series intended for post-secondary students and academics called the One Health Seminar series, where topics include vector-borne diseases, food sustainability, and nature and mental wellbeing.</p>	

3. Does your veterinary school have regular coverage of issues related to planetary health and/or sustainable vetcare in university update communications?

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

Score explanation: 1 point.

Veterinary students at the Ontario Veterinary College receive weekly emails from the OVC Communications, which occasionally includes planetary health related communication. Students can sign up to receive emails from the One Health Institute or One Health Student Committee bi-weekly if they choose for more consistent planetary health related communication.

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 vetcare remain up to date during their professional career?

2	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.
1	Yes, the institution or main affiliated hospital trust offers one course relating to planetary health and/or sustainable healthcare for post-graduate providers
0	There are no such accessible courses for post-graduate providers

Score explanation: 0 points.

The institution does not offer courses relating to planetary health or sustainable healthcare. Some lectures by faculty can be approved for continuing professional development, but this is done at the presenter's discretion and there is not an institutional mandate or initiative to provide these opportunities.

5. Does your veterinary school or its primary affiliated hospital 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.
0	No affiliated veterinary centers have accessible educational materials for patients.

Score explanation: 2 points.

The Ontario Veterinary College's Marketing & Communications team regularly produce advocacy and knowledge translation materials targeted towards clients (i.e., three magazines per year, approx. 2-3

news articles per week, educational videos multiple times per year, social media posts almost every day, 5-10 digital signs per month). Much of the topics on environmental health exposures have come from accessible news articles.

6. Does your veterinary 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: 2 points.

The Ontario Veterinary College's Marketing & Communications team regularly produce advocacy and knowledge translation materials targeted towards clients (i.e., three magazines per year, approx. 2-3 news articles per week, educational videos multiple times per year, social media posts almost every day, 5-10 digital signs per month). Much of the topics on climate change and health impacts have come from accessible news articles.

Section Total (7 out of 14)

50%

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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.

1. Does your <u>veterinary school</u> or your <u>institution</u> offer support for veterinary students interested in enacting a sustainability initiative/QI project?	
2	Yes, the veterinary school or institution <i>either</i> offers grants for students to enact sustainability initiatives/QI projects <i>or</i> sustainability QI projects are part of the core curriculum.
1	The veterinary school or institution encourages sustainability QI projects (to fulfill 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.
0	No, neither the veterinary school or the institution offer opportunities or support for sustainability initiatives or QI projects.
<p><i>Score explanation: 2 points.</i></p> <p>The University of Guelph offers support for students enacting sustainability initiatives, through grants such as the Student Life Enhancement Fund and Gordon Nixon Leadership Award, which are not necessarily sustainability-oriented but have been used to fund a student-led lab coat reuse program and nitrile glove recycling program. The Sustainability Action Fund, which is funded by student tuition (Bachelor's and DVM students) and must be matched by department funding, is set to go live in early 2024 and is being pursued by OVC for a project aiming to recycle non-hazardous surgical waste from teaching labs. Additionally, the Alumni fund created an energy conservation fund and a sustainability fund which is available to students. Other grants for projects are available from off-campus sources which are facilitated by the Sustainability Office.</p>	

2. Does your <u>institution</u> offer opportunities for veterinary students to do research related to planetary health and/or sustainable vetcare?	
2	The institution has a specific research program or fellowship for students interested in doing planetary health/sustainable healthcare research.
1	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.
0	There are no opportunities for students to engage in planetary health/sustainable healthcare research.
<p><i>Score explanation: 1 point.</i></p>	

The University of Guelph's One Health Institute offers undergraduate research opportunities, including undergraduate awards which provide two domestic students and one international student the opportunity to be involved in a summer research studentship (though this is not exclusive to veterinary students). Other projects may be available (dependent on the year) for veterinary students during the summer months through summer student research assistantships.

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

2	The veterinary school has a web page 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.
1	There is a veterinary school webpage that features some information on projects and mentors within planetary health and sustainable healthcare within the veterinary school, but it lacks key information.
0	There is no veterinary-school specific webpage for locating planetary health and/or sustainable healthcare projects or mentors.

Score explanation: 2 points.

The University of Guelph's One Health Institute has a [webpage of affiliated faculty](#), which includes links to contact information and up-to-date research interests. This page includes faculty from several departments across the institution.

4. Does your veterinary school have registered student groups dedicated towards fostering a culture of planetary health engagement, scholarship, and advocacy on campus, supported by faculty advisors?

2	Yes, there is a student organization with faculty support at my veterinary school dedicated to planetary health or sustainability in vetcare.
1	Yes, there is a student organization at my veterinary school dedicated to planetary health or sustainability in vetcare but it lacks faculty support .
0	No, there is not a student organization at my institution dedicated to planetary health or sustainability in vetcare.

Score explanation: 2 points.

The One Health Student Committee is a student group which consists of undergraduate, DVM, and graduate students dedicated to promoting awareness, opportunities for initiatives and education, collaboration across disciplines, advocacy and giving back to the local community. The OHSC is supported by faculty advisor Dr. Jane Parmley, receives an annual stipend from the One Health Institute, and qualifies for funding from grants offered by the Central Student Association and the College of Biological Sciences.

5. Is there a student liaison representing sustainability interests who serves on a veterinary school or institutional decision-making council to advocate for curriculum reform and/or sustainability best practices?

1	Yes, there is a student representative that serves on a veterinary school or institutional decision-making council/committee.
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0	No, there is no such student representative.
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Score explanation: 0 points.

There is no such position available for a veterinary student at this time. In 2016, the institution put together the [President's Advisory Committee on Sustainability](#) but the Ontario Veterinary College is not represented on this committee.

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)

1	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.
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1	Panels, speaker series, or similar events related to planetary health that have students as an intended audience.
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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.
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1	Cultural arts events, installations or performances related to planetary health that have students as an intended audience.
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1	Local volunteer opportunities related to building community resilience to anthropogenic environmental impacts.
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1	Wilderness or outdoors programs (e.g., that organize hiking, backpacking, kayaking, or other outings for students)
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Score explanation: 6 points.

- The Arrell Food Institute has research projects on sustainable agriculture which often allow student participation. Researchers from the College of Biological Science, Ontario Agricultural College, Ontario Veterinary College, and the Gordon S. Lang School of Business and Economics look at environmental impact of agriculture and sustainable practices, all of which offer undergraduate student research opportunities. Outside of academia, the Sustainability Office supported a student-led UofG Fresh Food Market, which offered sliding scale prices for fresh food for students weekly throughout each semester. The Guelph Centre for Urban and Organic Farming hires students and allows for volunteers, and hosts tours several times each semester. There is also a Food Security Working Group available to students and staff, facilitated by the Sustainability Office.

2. Panels and events for students based on planetary health principles include the One Health Speaker Series run by the One Health Institute, Sustainable Development Goals events with student clubs which are facilitated by the Sustainability Office such as Climate Change events with the David Suzuki Foundation and a Sustainability in Business seminar.
3. The Sustainability Office has facilitated several events which allow community members to teach students about the issues they face. A monthly Climate Café event is held in which students can have discussions on eco-anxiety and grief and one of the events was facilitated by a psychotherapist. Climate-aware therapy was a key theme, and training was offered to attendees, which allows development of emotional awareness around talking to people about environmental issues. There was also a Food Justice Dinner which had a keynote speech by a migrant worker's rights activist, in which the health impacts of heat stress was a key theme.
4. One of the Earth Day events run by the Sustainability Office was an artwork event where Indigenous paints were used to allow students to make their own art.
5. There are several volunteer opportunities for students and staff that aim to build community resilience to anthropogenic impacts. Many of these have been student-led projects facilitated by the Sustainability Office. This includes the Biodiversity Inventory, in which anyone can join the project on the citizen science app iNaturalist and the goal is to catalogue the biodiversity on campus, to be used for monitoring. Other projects include [Bird Safe Guelph](#), a student group working to reduce bird window collisions, and Green Labs Guelph, a student club that aims to increase sustainability awareness and initiatives in lab spaces. The University of Guelph has been designated a [bee-friendly campus](#) by Bee City Canada, and part of further efforts to restore biodiversity include planting pollinator gardens across campus, including one at the Sustainability Office and another being built at the Ontario Veterinary College's animal hospital courtyard. There are working groups that include students and staff that meet once per month on Biodiversity and Food Security respectively.
6. The University of Guelph Arboretum hosts workshops and community walks throughout the school year. In addition, the office of Student Experience offers a canoeing trip on the Two Rivers based on Indigenous stewardship.

Section Total (13 out of 15)

87%

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Campus Sustainability

Section Overview: This section evaluates the support and engagement in sustainability initiatives by the veterinary 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 veterinary 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 <u>veterinary school</u> and/or <u>institution</u> 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 veterinary 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 veterinary school and/or hospital sustainability.
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
<p><i>Score explanation: 2 points.</i> The University of Guelph has an established Sustainability Office. At the time of this assessment, the Sustainability Office is staffed by 1 full-time staff member, and variable part-time and student staff. The Sustainability Office oversees sustainability operations for the entire institution; there is no designated staff member that oversees sustainability operations at the Ontario Veterinary College.</p>	

2. How ambitious is your <u>institution/veterinary school</u> plan to reduce its own carbon footprint?	
5	The institution/veterinary school has a written and approved plan to achieve carbon neutrality by 2030
3	The institution/veterinary school has a written and approved plan to achieve carbon neutrality by 2040
1	The institution/veterinary 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/veterinary school does not meet any of the requirements listed above
<p><i>Score explanation: 1 point.</i> Our Time: University of Guelph Strategic Plan 2022-2027 commits the institution, including the Ontario Veterinary College, to carbon neutrality by 2040. There is currently no publicly available plan that outlines the work needed to achieve this goal. At the time of this assessment, staff across the</p>	

institution are creating a roadmap to completing this plan, which includes hiring consultants, feasibility studies, energy audits, and financial planning.

3. Do buildings/infrastructure used by the veterinary school for teaching (not including the hospital) utilize renewable energy?

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

Score explanation: 1 point.

The University of Guelph and by extension, the Ontario Veterinary College, are powered by the Ontario Electricity Grid and the campus' on-site steam energy. The [Ontario Electricity Grid](#) is majorly made up of nuclear, gas, hydro, and wind energy. The heating of buildings is provided by natural gas-powered steam boilers, whereby steam is transported through tunnels across campus, and has additional uses for sterilization, autoclaves, and some degree of water cooling. Based on data from 2021, gas consumption accounts for 72.1% of energy use. Energy supplied by renewables accounts for 28%.

The University's Physical Resources department is in the process of updating the performance standards to meet the University's goal of carbon neutrality by 2040, in which decarbonizing energy is a main goal.

4. Are sustainable building practices utilized for new and old buildings on the veterinary school campus, with design and construction of new buildings and remodeling of old buildings conforming to a published sustainability rating system or building code/guideline?

3	Yes, sustainable building practices are utilized for new buildings on the veterinary 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 veterinary school campus, but most old buildings have not been retrofitted .
1	Sustainable building practices are inadequately or incompletely implemented for new buildings.
0	Sustainability is not considered in the construction of new buildings.

Score explanation: 2 points.

The University of Guelph's Physical Resources department is responsible for all construction across the institution, including the Ontario Veterinary College. Their department of Design, Engineering, and Construction build new buildings according to LEED standards, but do not consistently seek the LEED certification due to financial constraints. According to the [U of G's submission to STARS by AASHE](#)

(the Association for the Advancement of Sustainability in Higher Education) in 2020, there are 36,015 square meters of LEED certified BD + C Gold buildings, and 24,605 square meters that are designed according to LEED standards but not verified with any certification. Of note are the OVC Enhanced Clinical Learning Addition, OVC James Archibald Small Animal Clinic, and the Production Animal Isolation Unit which are designed to LEED Silver but not certified. Old buildings have not been retrofitted. Currently, Design, Engineering and Construction are updating their building guidelines and is pursuing future building certification through other organizations, such as BREEAM.

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

2	Yes, the veterinary 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.
1	The veterinary school has implemented some strategies to provide environmentally-friendly transportation options, but the options are unsatisfactorily accessible or advertised.
0	The veterinary school has not implemented strategies to encourage and provide environmentally-friendly transportation options.

Score explanation: 1 point.

The University of Guelph includes a discounted City of Guelph Bus Pass to all enrolled students as part of compulsory fees included in tuition, including veterinary students. There are bike racks on the veterinary school campus. The institution has a Bike Centre that serves as a repair shop and learning hub, but this is not explicitly advertised by the veterinary school to students. There is no mention of sustainable transportation during orientation. Many students drive in upper years due to external rotations and off-campus sites being hard to access without a car.

6. Does your veterinary school have an organics recycling program (compost) and a conventional recycling program (aluminum/paper/plastic/glass)?

2	Yes, the veterinary school has both compost and recycling programs accessible to students and faculty.
1	The veterinary school has either recycling or compost programs accessible to students and faculty, but not both.
0	There is no compost or recycling program at the veterinary school.

Score explanation: 1 point.

There are recycling bins on campus that accept conventional and mixed recycling, but the campus' composting program has not expanded to include post-consumer composting for students and staff at the Ontario Veterinary College. Efforts by the Sustainability Office and Hospitality Services are underway to expand post-consumer composting across campus, including the OVC Cafeteria.

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

3	Yes, the veterinary school 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.
2	There are sustainability guidelines for food and beverages, but they are insufficient or optional . The veterinary school is engaged in efforts to increase food and beverage sustainability.
1	There are sustainability guidelines for food and beverages, but they are insufficient or optional . The veterinary school is not engaged in efforts to increase food and beverage sustainability.
0	There are no sustainability guidelines for food and beverages.

Score explanation: 2 points.

The Ontario Veterinary College's decisions on food and catering are made by the institution's Hospitality Services, which manage the OVC Cafeteria and provide catering for events. There are purchasing guidelines that are not mandatory but generally followed across campus. This includes partnerships with campus research farms and local growers to purchase more local food and reduce the amount of plastic water bottles and containers used. Hospitality Services has drastically reduced the amount of red meat offerings, in which the goal is a 20% reduction from 2017. There has been an expansion of plant-based offerings.

8. Does the veterinary school or institution apply sustainability criteria when making decisions about supply procurement?

3	Yes, the veterinary 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 veterinary 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 veterinary school is not engaged in efforts to increase sustainability of procurement.
0	There are no sustainability guidelines for supply procurement.

Score explanation: 0 points.

Neither the institution nor the Ontario Veterinary College have publicly available sustainable procurement guidelines.

9. Are there sustainability requirements or guidelines for events hosted at the veterinary school?

2	Every event hosted at the veterinary school must abide by sustainability criteria.
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1	The veterinary school strongly recommends or incentivizes sustainability measures, but they are not required .
0	There are no sustainability guidelines for veterinary school events.
<p><i>Score explanation: 0 points.</i></p> <p>Event guidelines are dictated by Hospitality Services when there is food or catering involved. Large community events now require RSVPs through a ticketing system to gauge how many people are coming to prevent over-ordering food, though this is not a requirement for smaller events. Other guidelines for events are largely internal and dictated by the organizers, such as the Central Student Association or Central Veterinary Student Association. There are no sustainability guidelines for organizers to adhere to, though the Sustainability Office is in the beginning stages of an event guideline that would be recommended to all event organizers.</p>	

10. Does your <u>veterinary school</u> have programs and initiatives to assist with making lab spaces more environmentally sustainable?	
2	Yes, the veterinary school has programs and initiatives to assist with making lab spaces more environmentally sustainable.
1	There are guidelines on how to make lab spaces more environmentally sustainable, but not programs or initiatives.
0	There are no efforts at the veterinary school to make lab spaces more sustainable.
<p><i>Score explanation: 0 points.</i></p> <p>The Ontario Veterinary College does not have guidelines on how to make lab spaces more environmentally sustainable. Any sustainability initiatives that may be in place would be undertaken by individual labs.</p>	

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.
<p><i>Score explanation: 2 points.</i></p> <p>In April of 2020, the University of Guelph's Board of Governors voted in favor of divesting from fossil fuels over a period of five years, with planning including input from students. As published in the June</p>	

[21 2023 Board of Governors meeting](#), the University of Guelph's assets managed under fossil free mandates is over 50%, and has implemented carbon intensity and ESG tracking of the investment portfolio. The University is committed to responsible investment, using the United Nations Principles of Responsible Investment as a framework.

Section Total (12 out of 32)

38%

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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 Ontario Veterinary College

The following table presents the individual section grades and overall institutional grade for the Ontario Veterinary College on this veterinary-school-specific Planetary Health Report Card.

Section	Raw Score %	Letter Grade
Planetary Health Curriculum (30%)	26.7%	D
Interdisciplinary Research (17.5%)	76.5%	B+
Community Outreach and Advocacy (17.5%)	50%	C
Support for Student-led Planetary Health Initiatives (17.5%)	86.7%	A
Campus Sustainability (17.5%)	37.50%	D+
Institutional Grade	51.9%	C