



---

# Planetary Health Report Card (Nursing):

*Trinity Western University*

---



**TRINITY WESTERN  
UNIVERSITY**

2023-2024 Contributing Team:

- Students: Una Chang, Charity Wong, Malaya Brandsma, Kiel Mayich, Nolan Lagrisola, John Chang, Amberly Adema, Christine Ryoo
- Faculty Mentors: Dr. Barbara Astle, PhD, RN, FCAN, FAAN
- \*Primary Contact: Una Chang, [una.chang@mytwu.ca](mailto:una.chang@mytwu.ca)

## Summary of Findings

<b>Overall</b>	<b>A-</b>
<b><u>Curriculum</u></b>	<b>A</b>
<ul style="list-style-type: none"> <li>Trinity Western University School of Nursing (TWU SoN) has undergraduate and graduate courses of Planetary and Global Health that is thoroughly within the curriculum. The curriculum does not fully address the contribution of pharmaceuticals to environmental degradation.</li> <li><b>Recommendations:</b> To enhance comprehensive integration, we recommend presenting the findings of the PHRC to TWU SoN faculty to advocate for the integration of the missing metrics.</li> </ul>	
<b><u>Interdisciplinary Research</u></b>	<b>A</b>
<ul style="list-style-type: none"> <li>The faculty and students at TWU SoN are extensively involved in planetary health research and scholarship, including knowledge translation and dissemination.</li> <li><b>Recommendations:</b> We recommend that faculty and students at TWU SoN sustain their efforts in ongoing research and knowledge dissemination on planetary health.</li> </ul>	
<b><u>Community Outreach and Advocacy</u></b>	<b>A-</b>
<ul style="list-style-type: none"> <li>Current community outreach and advocacy with regards to planetary health and sustainability initiatives has improved since the 2022-23 PHRC. Community-based initiatives are plentiful within a variety of institutional departments, which are increasingly being accessed by undergraduate nursing students. Nevertheless, there is room for enhancing the engagement of students in the SoN.</li> <li><b>Recommendations:</b> We recommend that the PHRC Contributing Team share regular updates to undergraduate students in the SoN to increase visibility on planetary health and sustainable initiatives occurring throughout the institution.</li> </ul>	
<b><u>Support for Student-Led Initiatives</u></b>	<b>A</b>
<ul style="list-style-type: none"> <li>There is sufficient support within the SoN for student-led initiatives but still lack practical opportunities for specific student-led planetary health initiatives. Nonetheless, opportunities for undergraduate research exist through the TWU Undergraduate Student Research Awards, which a number of nursing students access each year.</li> <li><b>Recommendations:</b> We recommend that the PHRC Contributing Team participate in creating planetary health student initiatives such as disseminating the results of the PHRC, research publications, and greening the nursing laboratories.</li> </ul>	
<b><u>Campus Sustainability</u></b>	<b>C</b>
<ul style="list-style-type: none"> <li>Institution-wide initiatives for sustainability are improving at TWU via the “Sustainability Initiative.” While efforts are made within the SoN and the institution to pursue sustainability, specific areas of carbon neutrality, utilization of renewable energy, and sustainability guidelines present opportunities for further improvement.</li> <li><b>Recommendations:</b> We recommend that the findings of this report card be formally presented at an executive level to address opportunities for growth in sustainability at TWU.</li> </ul>	

# Statement of Purpose

*Planetary health is human health.*

As they prepare to enter the largest workforce in healthcare and public health, nursing students are uniquely positioned to confront the challenges of climate change, pollution, and biodiversity loss in human health. While the format and curriculum in nursing may vary between programs, degrees, and nationalities, the core tenets of planetary health can and must be integrated throughout nursing education. The role of the nurse is one of the most unique and multi-faceted; from practice to research, nurses have the ability to enact real change at many levels. With these potential impacts in mind, the ramifications of pollution, extreme weather, vector-borne diseases, unsustainable agriculture, and rising sea levels must be addressed in the nursing curriculum. Equally important, communities overburdened by these manifestations must also be included in nursing education.

## Goals:

- Operate as a gap analysis for nursing programs to identify planetary health strengths and opportunities for growth.
- Assemble synthesized, program-specific information on planetary health resources useful for faculty, staff, and students.
- Facilitate sharing of planetary health resources across programs.
- Track progress in implementing and optimizing planetary health curriculum and resources.
- Advance the global planetary health movement in pursuit of a healthier and more equitable world.
- Utilize as a long-term metric that accounts for improvements and opportunities for growth continuously each year.
- Highlight successes and collaborations regarding planetary health in institutions through thorough evaluation of metrics.

# Definitions & Other Considerations

## Definitions:

- **Planetary Health:** is described by the Planetary Health Alliance as “Planetary Health is 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.” 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 disruptions of natural systems. Therefore, the human health focus of planetary health makes the field well-adapted for the context of nursing 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.
- **Sustainability:** the principle of creating and maintaining conditions under which humans and nature can exist in productive harmony to support present and future generations (Environmental Protection Agency, 2021).
- **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.
- **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).

- **Nursing program:** any pre-licensure and graduate nursing programs responsible for the training of professional nurses

**Other considerations:**

- If there are more than one program at your nursing school with two different curricula (e.g., entry-level nursing, Masters of Science in Nursing, Doctor of Nursing Practice, and Ph.D.) 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).

# Planetary Health Curriculum

**Section Overview:** *This section evaluates the integration of relevant planetary health topics into the nursing school curriculum. The curriculum for nursing programs around the world shares many core topics regarding health and the health system. In order to create a truly holistic education that includes the implications of our planet’s health, the subject must be integrated into the nursing curriculum. As future frontline workers, nurses will experience the dire consequences of planetary crises firsthand and must be equipped to not only care for afflicted patients and communities but to encourage preventative change. We already see the impacts on human health that planetary crises can bring, and the nursing curriculum must reflect these realities.*

*Questions with a “\*” next to them signify questions that are unique to the Nursing Planetary Health Report Card.*

<b>1. Does your nursing school offer courses regarding the relationships between extreme weather events, health effects, and climate change?</b>	
3	This topic was explored <b>in depth (2 or more courses)</b> by the core curriculum.
2	This topic was <b>briefly (1 course or lecture)</b> covered in the core curriculum.
1	This topic was offered in <b>elective</b> coursework
0	This topic was not covered.
<p><i>Score explanation:</i>                      The course <b>NURS 227</b> Planetary and Global Health is integrated into the undergraduate core curriculum and is mandatory for all students to take in their second year. The course explores, in particular, “past and current global health topics such as the global burden of disease, health systems strengthening, public and health policy, human rights, Indigenous health, infectious diseases and global disasters” (Astle &amp; Brandsma, 2024, p.1).</p> <p><b>NURS 227:</b> Planetary and Global Health - Week 2 - The relationship between climate change and extreme weather events is thoroughly and explicitly addressed throughout the entirety of the lecture.  <b>NURS 127:</b> Health Promotion and Primary Care - Seminar 9 - Mandatory assigned readings on Sustainable Development Goals, Canadian Nurses Association position statements, and <a href="#">Marmot et al (2008)</a> discuss the relationships between extreme weather events, health effects, and climate change.</p>	

<b>2. Does your nursing program provide education regarding the impacts of extreme weather events (e.g. storm, flooding, heat, drought, air pollution) on individual health?</b>	
3	This topic was explored <b>in depth (2 or more courses)</b> by the core curriculum.
2	This topic was <b>briefly (1 course or lecture)</b> covered in the core curriculum.

1	This topic was offered in <b>elective</b> coursework
0	This topic was not covered.
<p><i>Score explanation:</i>  <b>NURS 127:</b> Health Promotion and Primary Care - Week 5 - Slide 6 &amp; 11 identifies influences on health. Mandatory <a href="#">readings</a> also highlight extreme weather events' influence on health.</p> <ul style="list-style-type: none"> <li>Week 8 - Slide 24 discusses extreme weather events as one component of individual, family, and community assessments.</li> </ul> <p><b>NURS 227:</b> Planetary and Global Health - Week 2 - The lecture reveals the physiological impacts of extreme weather events; specifically, the topic of air pollution and its relationship with respiratory conditions was thoroughly discussed throughout the lecture.</p> <p><b>NURS 317:</b> Community Health - Seminar 2 - Slide 28 identifies climate/environment as a risk factor for poor health.</p>	

<b>3. Does your nursing curriculum address the impacts of climate change on the changing patterns of infectious diseases?</b>	
3	This topic was explored <b>in depth (2 or more courses)</b> by the core curriculum.
2	This topic was <b>briefly (1 course or lecture)</b> covered in the core curriculum.
1	This topic was offered in <b>elective</b> coursework
0	This topic was not covered.
<p><i>Score explanation:</i>  <b>NURS 227:</b> Planetary and Global Health - Week 9 &amp; 10 - Lecture focuses on key challenges that affect patterns of communicable and infectious diseases and future prevention methods. The class emphasizes the nurses' role in responding to changing patterns of infectious diseases.</p> <p><b>NURS 317:</b> Community Health - Seminar 6 - Highlights the historical ways in which globalization has altered infectious disease transmission.</p>	

<b>4. Does your nursing curriculum address pathophysiological health effects resulting from environmental degradation and climate change, including effects such as air, soil and water pollution, extreme heat, human-animal interactions, and emerging pathogens?</b>	
3	This topic was explored <b>in depth (2 or more courses)</b> by the core curriculum.
2	This topic was <b>briefly (1 course or lecture)</b> covered in the core curriculum.
1	This topic was offered in <b>elective</b> coursework
0	This topic was not covered.
<p><i>Score explanation:</i></p>	

See evidence for metric 1.2 for content in **NURS 227: Planetary and Global Health.**

**NURS 317: Community Health - Seminar 5 -** Draws connections between the environment (highways, industrial degradation of land, tailpipe exhaust) and increased incidence of lead poisoning in Grand Rapids, Michigan.

- Seminar 6 - Approached the issue of shifting from a reactionary response to prevention as it relates to millions each year dying of communicable diseases. It was highlighted that those suffering most are primarily in ‘resource-poor’ countries and are disproportionately affected, as in line with the values of Planetary Health.
- Seminar 6 - Highlighted the interconnectedness of humans and animals as it pertains to the spreading of zoonotic and vector-borne infections. Specifically highlighted the fact that diseases such as malaria increase in environments that have standing water.

**5. Does your nursing curriculum address mental health issues and well-being effects resulting from environmental degradation and climate change?**

3	This topic was explored <b>in depth (2 or more courses)</b> by the core curriculum.
2	This topic was <b>briefly (1 course or lecture)</b> covered in the core curriculum.
1	This topic was offered in <b>elective</b> coursework
0	This topic was not covered.

*Score explanation:*

**NURS 227: Planetary and Global Health - Week 2 -** Lecture provided in-depth content regarding climate anxiety and eco-anxiety.

- Week 8 - Lecture explored why mental health disorders are a global health priority, which is further exacerbated by climate change.

**NURS 317: Community Health - Seminar 7 -** Explored youth mental health and research related to climate anxiety.

**6. Does your nursing curriculum address relationships between climate change, food and water security, and the impact on health?**

3	This topic was explored <b>in depth (2 or more courses)</b> by the core curriculum.
2	This topic was <b>briefly (1 course or lecture)</b> covered in the core curriculum.
1	This topic was offered in <b>elective</b> coursework
0	This topic was not covered.

*Score explanation:*

**NURS 227: Planetary and Global Health - Week 2 & 3 -** The relationship between access to and quality of water, sanitation, food and air on the individual and population health was thoroughly explored within the lecture. As well, many students within this course choose this topic for class assignments,



which are presented to their peers and professors.

**7. Does your nursing program address the environmental and health co-benefits of a plant-based diet?**

3	This topic was explored <b>in depth (2 or more courses)</b> by the core curriculum.
2	This topic was <b>briefly (1 course or lecture)</b> covered in the core curriculum.
1	This topic was offered in <b>elective</b> coursework
0	This topic was not covered.

*Score explanation:*

**NURS 227:** Planetary and Global Health - Week 3 - Module C-1 discusses the co-benefits of plant-based diets on environmental and individual health.

**NURS 300:** Nursing Therapeutics II - Students explore benefits of different vegan and vegetarian diets within a mandatory presentation assignment titled “Student Diet Presentations.”

**8. Does your nursing school curriculum address relationships between ecosystem health, human health, and climate change?**

3	This topic was explored <b>in depth (2 or more courses)</b> by the core curriculum.
2	This topic was <b>briefly (1 course or lecture)</b> covered in the core curriculum.
1	This topic was offered in <b>elective</b> coursework
0	This topic was not covered.

*Score explanation:*

**NURS 127:** Health Promotion and Primary Care - Week 9 - See metric 1.1 for evidence.

**NURS 227:** Planetary and Global Health - Week 2 - Module B-2 explores the effect that climate change has on biodiversity and human health.

**NURS 317:** Community Health - Seminar 3 - Indigenous scholar discussed Indigenous interconnectedness with the land and land stewardship.

- All seminars - Professor begins class with land acknowledgment. This highlights the sacredness of land and its importance to the health, identity, and flourishing of people.
- Seminar 6 - Highlights the need to alter the environment to mitigate the effects of communicable diseases on human health.

**9. Does your nursing curriculum address the reproductive health effects of industry-related environmental toxins (e.g. air pollution, pesticides)?**

3	This topic was explored <b>in depth (2 or more courses)</b> by the core curriculum.
2	This topic was <b>briefly (1 course or lecture)</b> covered in the core curriculum.
1	This topic was offered in <b>elective</b> coursework
0	This topic was not covered.

*Score explanation:*

**NURS 227:** Planetary and Global Health - Week 6 - Critical challenges in improving women's health are discussed thoroughly within this lecture. See metric 1.2 to assess content related to the negative effects of air pollution.

**NURS 322:** Care of the Childbearing Family - Seminar 6 - Lecture notes that exposure to toxins in the environment during the prenatal period can have teratogenic effects on the fetus alongside individual adverse effects for the mother.

**10. Does your nursing program emphasize the importance of Indigenous and Traditional Knowledge Systems as essential components of planetary health solutions?**

3	This topic was explored <b>in depth (2 or more courses)</b> by the core curriculum.
2	This topic was <b>briefly (1 course or lecture)</b> covered in the core curriculum.
1	This topic was offered in <b>elective</b> coursework
0	This topic was not covered.

*Score explanation:*

**NURS 227:** Planetary and Global Health - Week 3 - Module C-2 and C-3 explores how Indigenous knowledge and the Medicine Wheel relates to Planetary Health. An Indigenous guest speaker further emphasized this point by sharing circles within the lecture.

**NURS 317:** Community Health - Seminar 3 - See metric 1.8 for evidence.

**11. Does your nursing curriculum address important human-caused environmental threats that are relevant to the university or program's surrounding community?**

3	This topic was explored <b>in depth (2 or more courses)</b> by the core curriculum.
2	This topic was <b>briefly (1 course or lecture)</b> covered in the core curriculum.
1	This topic was offered in <b>elective</b> coursework
0	This topic was not covered.

*Score explanation:*

**NURS 127:** Health Promotion and Primary Care - Mandatory class assignments titled “Health Promotion and Community Assessment” and “Windshield Survey Assignment” explore this topic in depth.

**NURS 318:** Community Health Clinical - Module 1 - Students in clinical placements at the TWU Wellness Center explore this topic in depth.

**12. Does your nursing curriculum address socioeconomic/racial disparities in extreme weather and climate change exposure?**

3	This topic was explored <b>in depth (2 or more courses)</b> by the core curriculum.
2	This topic was <b>briefly (1 course or lecture)</b> covered in the core curriculum.
1	This topic was offered in <b>elective</b> coursework
0	This topic was not covered.

*Score explanation:*

**NURS 127:** Health Promotion and Primary Care - Seminar 9 - See metric 1.1 for evidence.

**NURS 227:** Planetary and Global Health - Week 2 & 4 - Module A-5 - These two lectures thoroughly address the impact of power and privilege on human health in the context of climate change exposure. The impact of climate change in producing inequities globally is also discussed. Module A-5 explored the concept of decolonization within the context of global health.

**13. Does your nursing curriculum address inequitable health impacts of climate change globally?**

3	This topic was explored <b>in depth (2 or more courses)</b> by the core curriculum.
2	This topic was <b>briefly (1 course or lecture)</b> covered in the core curriculum.
1	This topic was offered in <b>elective</b> coursework
0	This topic was not covered.

*Score explanation:*

**NURS 127:** Health Promotion and Primary Care - Seminar 9 - See metric 1.1 for evidence.

**NURS 227:** Planetary and Global Health - See metric 1.12 for evidence.

**NURS 317:** Community Health - Seminar 6 - Approached the issue of shifting from a reactionary response to prevention as it relates to millions each year dying of communicable diseases. It was highlighted that those suffering most are primarily in ‘resource-poor’ countries and are disproportionately affected, as in line with the values of Planetary Health.

**14. Does your nursing curriculum address climate and environmental health challenges that impact marginalized populations and communities?**

3	This topic was explored <b>in depth (2 or more courses)</b> by the core curriculum.
2	This topic was <b>briefly (1 course or a lecture)</b> covered in the core curriculum.
1	This topic was offered in <b>elective</b> coursework
0	This topic was not covered.

*Score explanation:*

**NURS 127:** Health Promotion and Primary Care - Seminar 9 - See metric 1.1 for evidence.

**NURS 227:** Planetary and Global Health - Week 3 - The impact of climate change on marginalized populations such as Indigenous Peoples and Persons with Albinisms is thoroughly discussed. See metric 1.12 for further evidence.

**NURS 317:** Community Health - Seminar 3 - Overfishing by the fishing industry creates a shortage of fish for Indigenous people. See metric 1.8 for further evidence.

**15. Does your nursing curriculum address the outsized impacts of anthropogenic environmental toxins on marginalized populations and communities?**

3	This topic was explored <b>in depth (2 or more courses)</b> by the core curriculum.
2	This topic was <b>briefly (1 course or a lecture)</b> covered in the core curriculum.
1	This topic was offered in <b>elective</b> coursework
0	This topic was not covered.

*Score explanation:*

See evidence for 1.12 and 1.14..

**NURS 227:** Planetary and Global Health - Week 3 - This lecture explores the effects that anthropogenic environmental toxins within water systems disproportionately effect Indigenous communities in Canada.

**NURS 317:** Community Health - Seminar 5 - Discussion about lead poisoning's effect on citizens with low socioeconomic status.

**16. Does your nursing curriculum address the impacts of extreme weather events on healthcare systems?**

3	This topic was explored <b>in depth (2 or more courses)</b> by the core curriculum.
2	This topic was <b>briefly (1 course or lecture)</b> covered in the core curriculum.
1	This topic was offered in <b>elective</b> coursework

0	This topic was not covered.
<p><i>Score explanation:</i>  <b>NURS 227:</b> Planetary and Global Health - Week 5 &amp; 11 - These lectures highlight the various disruptions caused to the Canadian healthcare system due to extreme weather events. The involvement of nurses and organizations in addressing complex humanitarian emergencies and natural disasters is also thoroughly explored.</p>	

17. Does your nursing program address the carbon footprint of healthcare systems?	
3	This topic was explored <b>in depth (2 or more courses)</b> by the core curriculum.
2	This topic was <b>briefly (1 course or lecture)</b> covered in the core curriculum.
1	This topic was offered in <b>elective</b> coursework
0	This topic was not covered.
<p><i>Score explanation:</i>  <b>NURS 227:</b> Planetary and Global Health - Week 3 - Module C-1 - Within this lecture, the healthcare system's carbon footprint in relation to waste produced was thoroughly discussed. Moreover, Module C-1 explores the production of plastic waste from healthcare systems.</p>	

18*. Does your nursing program curriculum or coursework highlight the waste generated by healthcare provision?	
3	This topic was explored <b>in depth (2 or more courses)</b> by the core curriculum.
2	This topic was <b>briefly (1 course or a lecture)</b> covered in the core curriculum.
1	This topic was offered in <b>elective</b> coursework
0	This topic was not covered.
<p><i>Score explanation:</i>  See metric 1.18 for evidence.</p>	

19*. Does your nursing program cover the contributions of pharmaceuticals to environmental degradation and climate change (e.g., anesthetic gases, inhalers, antibiotic resistance, etc.)?	
3	This topic was explored <b>in depth (2 or more courses)</b> by the core curriculum.
2	This topic was <b>briefly (1 course or a lecture)</b> covered in the core curriculum.

1	This topic was offered in <b>elective</b> coursework
0	This topic was not covered.
<p><i>Score explanation:</i>  <b>NURS 227:</b> Planetary and Global Health - Week 2 - This lecture discussed the topic of how antibiotics and inhalers contribute to environmental degradation and climate change.</p>	

<p><b>20. Does your nursing school’s curriculum introduce strategies for having conversations with patients, nursing home residents, visitors, and other health professionals about the health effects of climate change and other environmental disruptions?</b></p>	
2	Yes, the <b>core</b> curriculum includes strategies for conversing with patients and other health professionals regarding climate change and environmental disruptions.
1	There are <b>elective</b> courses that include strategies for conversing with patients and other health professionals regarding climate change and environmental disruptions.
0	This topic was not covered.
<p><i>Score explanation:</i>  <b>NURS 227:</b> Planetary and Global Health - Week 3 - Module C-1 - This mandatory module within the Planetary and Global Health core curricular course explores evidence-based strategies for having conversations with patients, family, and friends about climate change.</p>	

<p><b>21. Does your school have an appointed faculty or staff responsible for planetary health and environmental nursing?</b></p>	
1	Yes, the nursing program has <b>at least one</b> appointed faculty or staff responsible for planetary health and environmental nursing.
0	No, the nursing program <b>does not</b> have a specific faculty/staff member responsible for planetary health and environmental nursing.
<p><i>Score explanation:</i>  Dr. Barbara Astle, professor and Director of the MSN program at the SoN, is responsible for planetary health research and education at both undergraduate and graduate levels in the SoN. Tamarah Brandsma, sessional assistant professor of nursing, is also involved in planetary health education in the undergraduate curriculum. Dr. Astle and Professor Brandsma teach the course, “Planetary and Global Health,” a mandatory course for all second-year undergraduate nursing students.</p>	

<p><b>22*. Does your program offer Interdisciplinary Education (IPE) simulations or experiences regarding the health risks of climate change and other environmental disruptions?</b></p>	
---	--

2	Yes, the school of nursing has been involved with IPE simulations or experiences in the <b>past year.</b>
1	Yes, the school of nursing has been involved with IPE simulations or experiences in the <b>past three years.</b>
0	No, the school of nursing has not been involved with IPE simulations in the past three years.
<p><i>Score explanation:</i>  The Biology department collaborated with the Nursing department on January 25th, 2023, to work through case studies and real-world examples of the impacts of climate change on native and invasive species.</p>	

<b>Section Total (57 out of 62)</b>	<b>A</b>
-------------------------------------	----------

# Interdisciplinary Research

***Section Overview: 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 health sciences field. As institutions tasked with creating the next generations of nurses and advanced practitioners, nursing schools should fund and support research studying the health effects of planetary degradation. Furthermore, it is imperative for the health systems in which the nursing schools exist to encourage transdisciplinary work between nursing, medical, pharmacy, public health, and allied programs to further the efficacy of research and education.***

*Questions with a “\*” next to them signify questions that are unique to the Nursing Planetary Health Report Card.*

<b>1. Are there researchers or faculty engaged in planetary health research and/or healthcare sustainability research or scholarship at your nursing school?</b>	
3	Yes, there are faculty members at the school of nursing whose <b>primary research focus</b> is related to planetary health and/or healthcare sustainability research or scholarship.
2	Yes, there are faculty members at the school of nursing who are conducting research related to planetary health and/or healthcare sustainability research or scholarship, but it is <b>not their primary focus</b> .
1	There are planetary health and/or healthcare sustainability researchers at the institution, but <b>none are associated with the school of nursing</b> .
0	There are <b>no</b> planetary health and/or healthcare sustainability researchers at the <b>institution</b> at this time.
<p><i>Score explanation:</i></p> <p>Dr. Barbara Astle, Professor and Director of the MSN program at the SoN, is extensively engaged in planetary health research at national and international levels. In particular, her work has helped pioneer planetary health educational frameworks that have been implemented within the SoN. She has also brought attention to climate justice for Persons with Albinism (PWA), which is research she is conducting with an interdisciplinary group of scholars, advocates, CSOs, etc.</p> <p>Dr. Barbara Astle and co-investigators Laura Reifferscheid (PhD) and Lindsay Komar (RN, MSN) are working with the CASN Planetary Health Interest Group to disseminate a survey determining how planetary health is implemented in nursing education programs across Canada in March 2024.</p>	

<b>2. Is there a dedicated department, center, or institute for interdisciplinary planetary health research at your institution?</b>	
2	Yes, there is <b>at least one</b> dedicated department, center, or institute for interdisciplinary planetary



	health research.
1	There is not currently a department, center, or institute, but there are <b>plans</b> to open one in the <b>next 3 years</b> .
0	There is <b>no</b> dedicated department, center, or institute.
<p><i>Score explanation:</i>  <a href="#">The Center of Equity and Global Engagement</a> acts as the dedicated center for interdisciplinary planetary health research. Co-Directed by Dr. Barbara Astle, this Center acts as a central hub in which interdisciplinary planetary health research occurs.</p>	

<b>3*. Does your nursing program support scholarly dissemination on topics of planetary health (e.g., peer-reviewed publications, conference presentations, abstracts, etc.)?</b>	
3	Yes, faculty members and/or students at the school of nursing have been involved with scholarly dissemination on topics of planetary health within the <b>past year</b> .
2	Yes, faculty members and/or students at the school of nursing have been involved with scholarly dissemination on topics of planetary health within the <b>past 3 years</b> .
1	Faculty members and/or students have been involved with scholarly dissemination on topics of planetary health, but <b>none</b> are associated with the <b>school of nursing</b> .
0	No, faculty members and/or students have not been involved with scholarly dissemination on topics of planetary health.
<p><i>Score explanation:</i>  There is extensive scholarly dissemination on topics regarding planetary health by SoN faculty and students. Faculty from the SoN have written planetary health chapters within textbooks that are used nationally and internationally for the undergraduate nursing curriculum. Key work within the SoN has contributed to the inclusion of planetary health in the <a href="#">National Nursing Education Framework</a> in Canada. Multiple peer-reviewed publications, conference presentations, and abstracts have been authored by teaching faculty at the SoN. Dr. Astle worked with a group of Nursing Scholars to submit the first “Position Statement on Planetary Health” for the International Council of Nurses (ICN); and the Canadian Nurses Association (CNA).</p> <p>The contributing students of the 2022-23 TWU PHRC have disseminated their findings and experiences in a variety of scholarly conferences; namely, the <a href="#">2023 SHARE Conference</a>, <a href="#">2023 TWU CREATE Conference</a>, and the <a href="#">2024 CNSA National Conference</a>.</p> <p>In March 2024, the School of Nursing co-hosted a conference with the Faculty of Natural and Applied Sciences titled “<a href="#">Planetary Health: Protecting and Sustaining the Well-Being of Our Ecosystems.</a>”</p>	

**4. Is there a process by which communities or patients disproportionately impacted by climate change and environmental injustice can give input or make decisions about the research agenda at your nursing program’s institution?**

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

*Score explanation:*

In 2022, TWU environmental club (TWEC) initiated a [“Mayoral All Candidates Meeting”](#) on campus to have mayoral candidates of Langley discuss climate change with voters. This allowed community members disproportionately affected by climate change to voice their concerns and propose solutions. Although this does not directly inform the research agenda, this recurring initiative provides a voice to community members.

In 2023, TWEC hosted a [Faculty of Natural and Applied Sciences Symposium](#) where undergraduate students involved in research in pharmaceuticals, climate change, invasive species, and sustainability discussed their research topics. This event was open to the public and hosted a question-and-answer session in which community members were involved in discussions regarding undergraduate research agenda.

A [recent publication](#) by Dr. Barbara Astle was informed by persons with albinism who are disproportionately affected by climate change due to the lack of melanin in their skin. The paper explored the impacts this population faces due to climate change.

TWU is currently part of a Research Group with other Universities in British Columbia in putting together objectives for moving forward in creating processes in which community members can make decisions about research agenda titled: “BC Climate and Health Research Priorities.”

TWU SoN faculty are involved in a Indigenous Digital Health Ecosystem project, where Indigenous knowledge keepers are engaged in a learning alliance in research on how to integrate information about social determinants of health and quality of life in a digital health system for Indigenous communities.

**5. Does your nursing program’s institution have a planetary health website or a website centralizing various research and projects related to health and the environment?**

3	There is an <b>easy-to-use, adequately comprehensive</b> website that <b>centralizes</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.
2	There is a website that <b>attempts to centralize</b> 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 <b>Office of Sustainability website</b> that includes <b>some</b> resources related to health and the environment, but it is not updated or is not adequately comprehensive.
0	There is no website.
<p><i>Score explanation:</i>          There is a <a href="#">TWU Research</a> website that attempts to centralize various research and projects related to health and the environment. Yet, this website is not comprehensive as it does not contain current research topics.</p>	

<b>6. Has your nursing program recently hosted a conference or symposium on topics related to planetary health?</b>	
4	Yes, the <b>school of nursing</b> has hosted at least one conference or symposium on topics related to planetary health in the past year.
3	The <b>institution</b> has hosted at least one conference or symposium on topics related to planetary health in the past year.
2	Yes, the <b>school of nursing</b> has hosted at least one conference or symposium on topics related to planetary health in the past three years.
1	The <b>institution</b> has hosted at least one conference or symposium on topics related to planetary health in the past three years.
0	No, the school of nursing or institution has not hosted a conference on topics related to planetary health in the past three years.
<p><i>Score explanation:</i>          Trinity Western University hosted a “Sustainability Week” in 2023 that included various events and seminars related to Planetary Health, climate change, and sustainability. Dr. Barbara Astle, Shane Durbach, and Laura A. Onyango presented a lecture titled “<a href="#">Planetary Health: Impacts from Plastic Pollution and the Microbiome Menace</a>.” Students involved in planetary health activities shared their initiatives during this lecture.</p> <p>In March 2024, the School of Nursing co-hosted a conference with the Faculty of Natural and Applied Sciences titled “<a href="#">Planetary Health: Protecting and Sustaining the Well-Being of Our Ecosystems</a>.”</p>	

<b>7. Is your nursing program a member of a national or international planetary health or Environment, Safety, and Health (ESH) organization(e.g., the Alliance for Nurses for Healthy Environments, the Planetary Health Alliance, the Global Consortium on Climate and Health Education, or the Nursing Climate Challenge)?</b>	
2	Yes, the school of nursing has joined <b>more than one</b> of these groups.

1	Yes, the school of nursing has joined <b>one</b> of these groups.
0	No, the school of nursing has <b>not joined any</b> of these groups.

*Score explanation:*

Dr. Barbara Astle and other faculty members are individual members of the Alliance for Healthy Environments, Planetary Health Alliance, Global Consortium on Climate and Health Education, Canadian Association of Nurses for the Environment, and Nursing Climate Change. TWU is an institutional member of the [Canadian Association for Global Health](#).

TWU is a member of the Nursing Climate Challenge.

Students and faculty took the [Planetary Health Pledge](#) on World Health Day (April 7, 2022) as a profession-wide commitment to work for the improvement of the planet's health.

<b>Section Total (18 out of 20)</b>	<b>A</b>
-------------------------------------	----------

# Community Outreach and Advocacy

***Section Overview:*** *Researching and teaching planetary health is necessary but not sufficient. It is critical that institutions also directly engage with communities impacted by disruptions of the environment and Earth’s natural systems. For example, even though climate change is a problem largely created by those with power and resources, its impacts fall disproportionately on BIPOC populations and low-resourced communities. Institutions should partner with local communities affected by environmental degradation to share information about environmental health threats, advocate together for change, and provide students with opportunities to connect with the communities they serve.*

*Questions with a “\*” next to them signify questions that are unique to the Nursing Planetary Health Report Card.*

1. Does your nursing program partner with community organizations to promote planetary and environmental health?	
3	Yes, the school of nursing meaningfully partners with <b>multiple</b> community organizations to promote planetary and environmental health.
2	Yes, the school of nursing meaningfully partners with <b>one</b> community organization to promote planetary and environmental health.
1	The <b>institution</b> partners with community organizations, but the school of nursing is not part of that partnership.
0	No, there is <b>no</b> such meaningful community partnership.
<p><i>Score explanation:</i>            The TWU environmental club (TWEC) has established multiple partnerships with organizations to promote planetary and environmental health:</p> <p><a href="#">Salmon River Enhancement Society</a> - TWU partners with this organization to offer the <a href="#">Salmon in the Valley School Program</a>: a day-camp educating local children on conservation.</p> <p><a href="#">Langley Environmental Partners Society</a> - TWU partners directly with this non-governmental organization to initiate and carry out different environmental health initiatives in the community.</p> <p><a href="#">Climate Crisis Langley Actions Partners</a> (CCLAP) - Assisted TWEC with “Mayoral All Candidates Meeting” (see metric 2.4). CLAPP hosts monthly meetings addressing impacts faced by the community as a result of climate change. TWU students take part in these meetings and help with events.</p> <p><a href="#">A Rocha Canada</a> - This environmental conservation organization partners with TWU, providing volunteer opportunities and internships to students interested in conservation.</p> <p><a href="#">Brewhalla Beer and Music Festival</a> - TWEC partnered with this organization to count and sort recycling in Chilliwack, Cloverdale, and Fort Langley.</p>	

The School of Nursing is an active member of the [British Columbia Coalition Institute \(BCCI\)](#): An organization that promotes planetary health research on a local and global scale. Through this partnership, a community of practice (CoP) has been formed to enhance planetary health research and knowledge translation.

A member of the Planetary Health Report Card team [presented a previous PHRC at the 2024 National Conference](#) hosted by the Canadian Nursing Students Association (CNSA). The CNSA is a national organization that facilitates national dialogue among nursing students in which the promotion of planetary health was achieved.

The SoN partners with local Indigenous communities to provide education to first and third year undergraduate students regarding Planetary Health, specifically related to the importance of the communities' relationship with the land.

**2. Is your nursing program engaged in community-facing courses or events regarding planetary health?**

3	The <b>school of nursing</b> offers or supports community-facing courses or events at least once every year.
2	The <b>school of nursing</b> offers or supports courses or events open to the community at least once per year, but they are not primarily created for a community audience.
1	The <b>institution</b> has offered community-facing courses or events, but the school of nursing was not involved in planning those courses or events.
0	No, the school of nursing or institution has not offered such community-facing courses or events.

*Score explanation:*

See metric 2.6 for “Sustainability Week” which was open to community members.

In March 2024, the SoN co-hosted a Planetary Health Conference titled “[Planetary Health: Protecting and Sustaining the Well-being of our Ecosystems.](#)”

**3. Does your nursing program have regular coverage of issues related to planetary health and/or sustainable healthcare in program update communications?**

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

*Score explanation:*

The [School of Nursing Instagram](#) sometimes contains communication regarding planetary health. A recent student newsletter from the Canadian Nursing Students' Association National Conference highlighted planetary health.

**4. Does your nursing program offer continuing education courses or interprofessional experiences that address planetary health and/or sustainable health care?**

3	Yes, the nursing program offers <b>multiple</b> in-person or online continuing education courses or interprofessional experiences relating to planetary health and/or sustainable healthcare for post-graduate providers, including at least one with a primary focus of planetary health.
2	Yes, the nursing program offers <b>one</b> continuing education course or interprofessional experience relating to planetary health and/or sustainable healthcare for post-graduate providers
1	The <b>institution</b> offers continuing education courses or interprofessional experiences relating to planetary health and/or sustainable healthcare for post-graduate providers, but nursing is not involved in planning those courses or events.
0	There are no such accessible courses for post-graduate providers

*Score explanation:*

See metric 2.2 for evidence of the Planetary Health Conference, an interprofessional experience that addresses planetary health within healthcare. This event is open to all practicing professionals, students, and faculty. Although not offered within the grounds of TWU, faculty from the SoN have facilitated workshops in nearby institutions to discuss planetary health topics related to nursing. In April 2023, such interprofessional experience was held at Langara College to practicing professionals, students, and faculty.

**5\*. Does your nursing program participate in or encourage advocating for policies addressing planetary health issues?**

2	Yes, the <b>school of nursing</b> actively participates in the promotion of policies addressing planetary health issues.
1	The <b>institution</b> participates in the promotion of policies addressing planetary health issues, but the school of nursing is not involved with this.
0	No, there is no participation in the promotion of policies addressing planetary health issues.

*Score explanation:*

TWU faculty worked alongside the International Council of Nursing and other nursing scholars in the United States on a values and ethics document about "Nursing for Planetary Health" presented in July 2023 at the [ICN Congress in Montreal](#), Canada. This work is ongoing, and the members of this group meet bi-monthly.

**6\*. Has your nursing program partnered with local, regional, or national healthcare institutions/organizations to promote planetary health-related education for the public?**

3	Yes, the school of nursing has partnered with <b>multiple</b> healthcare organizations to promote <b>planetary health-related</b> education for the public.
2	Yes, the school of nursing has partnered with <b>multiple</b> healthcare organizations to promote <b>either climate or environmental health-related</b> education for the public.
1	The school of nursing has partnered with <b>one</b> healthcare organization to promote <b>at least one planetary health-related topic</b> of education for the public.
0	No, there is no partnership with healthcare organizations to promote planetary health-related education for the public.

*Score explanation:*

TWU faculty engaged with the professional nursing body (Nurses and Nurse Practitioners of British Columbia) to participate in a nurse-led policy table to share policy priorities. Faculty advocated for planetary health as one of the policy priorities for nursing.

**Section Total (13 out of 16)**

**B+**



# Support for Student-Led Planetary Health Initiatives

***Section Overview:*** *The future of planetary health belongs to the next generation of health workers, and students are often the first at an institution to address the crisis. Nursing programs should encourage student engagement in planetary health and/or sustainability initiatives by providing mentorship, facilitating opportunities for educational and immersion experiences, and securing funding for student-led research and quality improvement projects. These efforts encourage student activity and, at best, can work in cohesion with community projects.*

*Questions with a “\*” next to them signify questions that are unique to the Nursing Planetary Health Report Card.*

1. Is there a student representative serving on a nursing program or educational institution decision-making committee advocating for planetary health and/or sustainability best practices?	
1	Yes, there is a student representative who serves on a nursing program or institutional decision-making council/committee.
0	There is no such opportunity for student involvement.
<p><i>Score explanation:</i> The “Eco Stewardship Committee” is made up of two students outside of the school of nursing that meet with institution faculty to discuss sustainability initiatives. No nursing students are on this committee at this time but can seek out these initiatives if they so desire.</p>	

2. Does your nursing program or educational institution have registered student groups dedicated to fostering a culture of planetary health engagement, scholarship, and advocacy on campus, supported by faculty advisors?	
2	Yes, there is a student organization <b>with faculty support</b> at the school of nursing dedicated to planetary health or sustainability of healthcare.
1	Yes, there is a student organization at the school of nursing dedicated to planetary health or sustainability in healthcare, but it <b>lacks faculty support</b> .
0	There is no such opportunity for students.
<p><i>Score explanation:</i> The TWU Planetary Health Report Card Student Group comprises eight students with representation across all four years of the undergraduate nursing program. With support and leadership from Dr. Barbara Astle, this student group completes the PHRC and fosters a culture of planetary health engagement among their peers.</p>	

**3. Does your program or institution provide opportunities for nursing students to conduct research related to planetary health and/or sustainability in healthcare?**

2	There is a <b>specific</b> planetary health and/or sustainability in healthcare <b>research program</b> for students interested in conducting research on this topic.
1	There are opportunities for students to perform research, but these <b>require student initiative</b> to select planetary health and/or sustainability in healthcare as a topic.
0	There is no such opportunity for students.

*Score explanation:*

Drs. Barbara Astle and Sheryl Reimer-Kirkham have hired undergraduate student interns to assist them with analyzing some of their albinism research which has aspects of planetary health. While no explicit module or program exists for conducting planetary health research opportunities do exist within the SoN of nursing to conduct planetary health related research.

Moreover, students may apply to the [Undergraduate Student Research Awards](#) to receive funding to conduct undergraduate research on a topic of interest under the supervision of faculty.

**4. Does your nursing program or educational institution support nursing students interested in enacting planetary health and/or sustainability initiatives or quality improvement projects?**

2	Yes, students have been <b>supported to enact</b> planetary health and/or sustainability initiatives or quality improvement projects in the <b>past year</b> .
1	Yes, students have been <b>supported to enact</b> planetary health and/or sustainability initiatives or quality improvement projects in the <b>past 3 years</b> .
0	There is no such opportunity for students in the <b>past 3 years</b> .

*Score explanation:*

Nursing students are supported in enacting planetary health and/or sustainability initiatives for quality improvement projects. With the support and guidance of Dr. Barbara Astle, the TWU PHRC Student Group was formed in 2022-23 to complete the 2023 PHRC. This initiative is continuing for 2023-24. Moreover, the School of Nursing is collaborating with the Department of Natural and Applied Sciences to co-host a [Planetary Health and Sustainability Conference](#) in March 2024, in which nursing students are involved in planning. The School of Nursing is preparing to launch the "TWU Planetary Health Club"; a club envisioned to be a center for student-led planetary health initiatives, research, and information dissemination. This club is championed by SoN Faculty and will receive ongoing faculty support as this club unfolds.

**5\*. Does your nursing program or educational institution offer opportunities for nursing students to teach or present about planetary health and/or sustainability in a healthcare-related topic?**

2	Yes, students have been involved in teaching or delivering presentations about planetary health
---	---

	and/or sustainability in healthcare during the <b>past year</b> .
1	Yes, students have been involved in teaching or delivering presentations about planetary health and/or sustainability in healthcare during the <b>past 3 years</b> .
0	There is no such opportunity for students in the <b>past 3 years</b> .
<p><i>Score explanation:</i>          Within the N227: Planetary and Global Health course, each student is required to create and deliver a presentation regarding a planetary health topic as part of the course's core requirements. With N227 being a course required by all undergraduate nursing students, each student will make at least one presentation related to planetary health during their undergraduate education. Additionally, students of the 2022-23 PHRC initiative presented in NURS 227 classes on their work on the PHRC.</p>	

<b>6. Does your nursing program or educational institution provide one or more annual co-curricular planetary health and/or sustainability program initiatives in the following categories? (1 point each)</b>	
1	Projects where students can gain experience in organic agriculture and sustainable food systems. For example, gardens, farms, community-supported agriculture, fishery programs, or urban agriculture projects.
1	Events in which students learn directly from members of a local environmental justice community about the environmental challenges they face, and how health professionals can partner with their community to address these exposures and impacts.
1	Local volunteer opportunities related to building community resilience to anthropogenic environmental impacts.
1	Panels, speaker series, or similar events related to planetary health that have students as an intended audience.
1	Cultural arts events, installations, or performances related to planetary health that have students as the intended audience.
1	Wilderness or outdoor programs that follow “leave no trace” principles. For example: hiking, kayaking, or other outings for students.
<p><i>Score explanation:</i>          TWU had a community garden in the past in which students gained experience with sustainable food systems. Unfortunately, these gardens were shut down by the township in recent years. Initiatives are currently underway to re-establish these gardens in the near future.</p> <p>See metric 2.4 for community “Mayoral All Candidates Meeting” in which stakeholders would voice their concerns regarding environmental challenges.</p> <p>See metric 2.6 for “<a href="#">Sustainability Week</a>,” where the “<a href="#">Planetary Health: Impacts from Plastic Pollution</a>”</p>	

[and the Microbiome Menace](#)” lecture was attended by TWU students and community members. One event during “[Sustainability Week](#)” was the “[Fire From Heaven](#)” play, a performance highlighting faith, science, and planetary health.

See metric 3.1 for A Rocha Volunteer Opportunities in conservation.

[Derby Reach Brae Island Parks Association](#) provides volunteer opportunities for TWU students to get involved in environmental stewardship in the community such as the “Planting Native Vegetation in teh Parks” event.

The [Northern Spotted Owl Breeding Program](#) provides opportunities for TWU students to get involved in endangered species conservation.

TWU Environmental Club has hosted various events in which students are encouraged to volunteer. Examples include tree planting events at Blaauw ecological forest and the Reifel Bird Sanctuary Field Trip.

**Section Total (13 out of 15)**

**A**

# Campus Sustainability

***Section Overview:*** Often the most visible and accessible of the planetary health efforts, sustainability can take many forms. As future health workers, it is vital to identify and nurture a culture of sustainability and actionable items to work towards within our systems. The healthcare industry significantly contributes to greenhouse gas emissions and 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. Creating a more sustainable future of healthcare will require more intentional procurement, thorough recycling and waste management, and continuing education to foster a healthcare environment that works towards planetary health.

Questions with a “\*” next to them signify questions that are unique to the Nursing Planetary Health Report Card.

1*. Does your nursing program specifically have planetary health as part of its mission and/or values?	
2	Yes, planetary health is <b>specifically mentioned</b> as part of the school of nursing’s mission and/or values.
1	The effects of <b>climate</b> and/or the <b>environment</b> on health are mentioned, but planetary health is not specifically mentioned as part of the school of nursing’s mission and/or values.
0	No, planetary health is not specifically mentioned.
<p><i>Score explanation:</i>            In the <a href="#">TWU SON Vision, Mission &amp; Philosophy</a> document, planetary health is explicitly mentioned in discussing nurses’ role in advocating for environmental stewardship to sustain the health of humankind.</p>	

2. Does your nursing program and/or institution have an Office of Sustainability	
3	Yes, there is an Office of Sustainability with salaried 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 and/or school of nursing.)
2	There is an Office of Sustainability with salaried staff dedicated to campus sustainability, but <b>no specific staff member</b> in charge of the school of nursing and/or hospital sustainability.
1	There is a sustainability task force or committee, but <b>no salaried sustainability staff</b> .
0	There are <b>no</b> staff members or committee responsible for overseeing campus sustainability.
<p><i>Score explanation:</i>            TWU hires a ‘Grounds Manager’ who monitors ecological and pollution indicators throughout the</p>	

institution's property. There is no formal sustainability office. However, the Campus Facilities department salaries a "Sustainable Facility Professional," who leads various sustainability initiatives.

Moreover, as of November 2023, TWU has developed a "Sustainability Initiative." Every faculty Department was asked to respond to how they were integrating the Sustainable Development Goals into their sustainability with students and faculty.

**3. Does your nursing program or institution have a written and approved plan for carbon neutrality?**

3	Yes, there is a <b>well-defined written and approved plan</b> for carbon neutrality by <b>2030</b> .
2	Yes, there is a <b>well-defined written and approved plan</b> for carbon neutrality by <b>2040</b> .
1	There is a <b>stated goal</b> of carbon neutrality by <b>2040</b> , but <b>no plan</b> has been created, or the plan is <b>inadequate</b> .
0	The school of nursing/institution does <b>not</b> meet any of the requirements listed above.

*Score explanation:*

No evidence could be found of the institution's plans to reduce its carbon footprint.

**4. Do buildings or other infrastructure used by the nursing programs for teaching (not including hospitals) utilize renewable energy?**

3	Nursing school buildings are powered by <b>100%</b> renewable energy.
2	Nursing school buildings source <b>&gt;80%</b> of energy needs from off- or on-site renewable energy.
1	Nursing school buildings source <b>&gt;20%</b> of energy needs from off- or on-site renewable energy.
0	Nursing school buildings source <b>&lt;20%</b> of energy needs from off- or on-site renewable energy.

*Score explanation:*

The Robert G. Kuhn Building (RGK) architectural design uses daylight to create a thermal chimney to reduce energy usage. In the RGK building, classrooms and major spaces are served through a hybrid heat pump system. The Campus Facilities department is also currently exploring the addition of the first solar panel installation at TWU. The Facilities department is piloting battery-powered groundskeeping tools to replace the gas-powered ones, reducing greenhouse gas emissions and noise pollution.

**5. Has the nursing program implemented strategies to encourage and provide environmentally-friendly transportation options for students?**

2	Yes, strategies to encourage and provide <b>environmentally-friendly transportation options</b>
---	---

	have been implemented and are well publicized to students.
1	There are strategies to encourage and provide environmentally friendly transportation options, but these are <b>unsatisfactory</b> or <b>poorly publicized</b> to students.
0	<b>No strategies</b> have been implemented to encourage and provide environmentally friendly transportation options.
<p><i>Score explanation:</i>  The nursing program encourages students to carpool for clinical placements and attempts to group students who live in close proximity to each other to common clinical placements that are within reasonable distance of their residences. There are various statements in syllabi and in orientations for students to carpool to clinical placements.</p> <p>TWU has a bus stop on campus to make environmentally friendly transportation more accessible to students. Recently, seven electric car charging stations were built on TWU premises to promote electric car usage.</p>	

<b>6. Does your nursing program have an organics recycling program (compost) and a conventional recycling program (aluminum/paper/glass/plastic)?</b>	
2	Yes, the school of nursing has <b>both</b> compost <b>and</b> recycling programs accessible to students and faculty.
1	The school of nursing has <b>either</b> recycling <b>or</b> compost programs accessible to students and faculty, but not both.
0	There is no recycling program.
<p><i>Score explanation:</i>  There are a variety of recycling and compost bins that are located throughout campus buildings that are easily accessible to both students and faculty.</p>	

<b>6. Are there sustainability requirements or guidelines for events, simulations, or training hosted by the nursing program?</b>	
2	There are sustainability requirements that <b>must be adhered</b> to for every event hosted by the school of nursing.
1	There are sustainability guidelines that are <b>recommended but not required</b> .
0	There are no sustainability criteria or guidelines.
<p><i>Score explanation:</i>  No evidence of sustainability guidelines were found.</p>	

7. Has your institution pledged to become fossil-free and have a plan for divestment?	
4	The institution is <b>entirely divested</b> from fossil fuels <b>and</b> has made a <b>commitment to reinvest</b> divested funds into <b>renewable energy</b> companies or renewable energy <b>campus initiatives</b> .
3	The institution is <b>entirely divested</b> from fossil fuels.
2	The institution has <b>partially</b> divested from fossil fuel companies or has <b>made a commitment</b> to divest from fossil fuel investments., but <b>currently</b> has fossil fuel investment.
1	The institution has <b>not divested</b> from fossil-fuel companies, but faculty and/or students are <b>conducting organized advocacy</b> for divestment.
0	The institution has <b>not divested</b> from fossil fuel companies and there have been <b>no efforts</b> to change that.
<p><i>Score explanation:</i>            No evidence could be identified that TWU has pledged to become fossil-free. Additionally, no evidence of student-led organized advocacy was found for divestment.</p>	

8. Does your school promote sustainable practices during demonstration, practice, and assessment of clinical skills?	
2	Yes, the school of nursing has <b>implemented sustainability practices and initiatives</b> in clinical skills areas.
1	There are <b>plans to implement sustainable practices</b> in clinical skills areas, but these have not yet been implemented.
1	The school of nursing <b>strongly recommends or incentivizes</b> sustainability measures, but they are not required.
0	There are no efforts to make clinical skills areas more sustainable.
<p><i>Score explanation:</i>            The program holds to the practice of re-use of supplies as much as possible. There is an emphasis on reusing supplies during certain clinical practice demonstrations. Used supplies and stock are accessible in the main lab during open lab practicing times. New supplies are normally used during a new skill or during a clinical assessment. Additionally, all second year undergraduate students receive a set of commonly used supplies for each individual's independent practice; students are expected to bring their kits to the scheduled lab times.</p>	

9. Are sustainable building practices utilized for new and old buildings on the school of nursing campus, with design and construction of new buildings and remodeling of old buildings conforming to a published sustainability rating system or building code/guideline (e.g., LEED, BREEAM, etc.)?



3	Yes, sustainable building practices are utilized for new buildings on the school of nursing campus, and the <b>majority</b> of old buildings have been <b>retrofitted</b> to be more sustainable.
2	Sustainable building practices are utilized for new buildings on the school of nursing campus, but most old buildings have <b>not been retrofitted</b> .
1	Sustainable building practices are <b>inadequately or incompletely</b> implemented for new buildings.
0	Sustainability is <b>not considered</b> in the construction of new buildings.

*Score explanation:*

In the creation of the Robert G. Kuhn building on the School of Nursing campus, passive sustainability strategies such as daylighting, a highly efficient envelope, and a thermal chimney created by the atrium are all part of the design, while the use of locally-sourced timber reduces the project's carbon footprint. Active strategies include a mechanical system based on zoned roof-top units supported by heat pumps, and the heat recovery system offered by the interconnected atrium. Custom-designed solar shades are carefully placed to reduce both glare and heat gain. The building was designed to achieve 15.9% energy reduction as compared to ASHRAE 90.1-16. An advanced energy monitoring system separately monitors general load, mechanical load, and lighting load, identifying areas for improvement in building efficiency. Overall, mechanical and electrical systems were designed to code, with key decisions to exceed energy efficiency standards in some areas.

**10. Does your nursing program or institution apply sustainability criteria when making decisions about supply procurement?**

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

*Score explanation:*

There is an informal sustainable supply procurement process in the program. Recently, in an effort to reduce planetary waste, the SoN has switched to use biodegradable gloves in nursing labs. Nursing lab Coordinators have no budgetary guidelines to purchase from sustainable suppliers and a budget increase would be needed to incentivize further sustainable procurement.

**11. Does your nursing program 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 school of nursing has <b>adequate</b> sustainability requirements for food and beverages, including meat-free days or no red meat, and is <b>engaged</b> in efforts to increase food and beverage sustainability.
2	There are sustainability guidelines for food and beverages, but they are <b>insufficient or optional</b> . The school of nursing is <b>engaged</b> in efforts to increase food and beverage sustainability.
1	There are sustainability guidelines for food and beverages, but they are <b>insufficient or optional</b> . The school of nursing is <b>not engaged</b> in efforts to increase food and beverage sustainability.
0	There are <b>no</b> sustainability guidelines for food and beverages.

*Score explanation:*

Sodexo, TWU's food and beverage supplier, is committed to supporting sustainability through their [Better Tomorrow Plan](#). Included in this plan is the sourcing of food products from local suppliers such as Sun Rich, Evergreen Herbs, BC Local, Albion Fisheries, and Island Farms. Championing sustainable use of resources, fostering an environment of environmental responsibility, and reducing carbon emissions are also key insights in the [Better Tomorrow Plan](#). Other ways that Sodexo demonstrates sustainability is by reducing food waste. Through partnering with [Lean Path](#), Sodexo tracks food waste through the [WasteWatch](#) program. Sodexo educates consumers of food via infographics that display statistics of food waste, food sourcing, and carbon emissions. Finally, Sodexo encourages students to choose plant-based food options by having many vegetarian meal options.

**Section Total (16 out of 32)**

**C**

# 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 Trinity Western University

The following table presents the individual section grades and overall institutional grade for Trinity Western University on this nursing-school-specific Planetary Health Report Card.

Section	Raw Score %	Letter Grade
<b>Planetary Health Curriculum (30%)</b>	$(57/62) \times 100 = 92\%$	A
<b>Interdisciplinary Research (17.5%)</b>	$(18/20) \times 100 = 90\%$	A
<b>Community Outreach and Advocacy (17.5%)</b>	$(13/16) \times 100 = 81\%$	A-
<b>Support for Student-led Planetary Health Initiatives (17.5%)</b>	$(13/15) \times 100 = 87\%$	A
<b>Campus Sustainability (17.5%)</b>	$(16/32) \times 100 = 50\%$	C
<b>Institutional Grade</b>	$(92 \times 0.3 + 90 \times 0.175 + 81 \times 0.175 + 87 \times 0.175 + 50 \times 0.175) = 82\%$	A-

## Resources

Astle, B., & Brandsma, T. (2022). *NURS 227: Planetary and global health* [Syllabus]. School of Nursing, Trinity Western University.

Canadian Medical Association. (n.d.). *Health care in Canada: What makes us sick*.  
<https://www.cma.ca/health-care-canada-what-makes-us-sick>

Marmot, M., Friel, S., Bell, R., Houweling, T. A., & Taylor, S. (2008). Closing the gap in a generation: Health equity through action on the social determinants of health. *Lancet*, 372(9650), 1661–1669.  
[https://doi.org/10.1016/S0140-6736\(08\)61690-6](https://doi.org/10.1016/S0140-6736(08)61690-6)

Planetary Health Alliance. Retrieved February 26, 2022, from `  
<https://www.planetaryhealthalliance.org/planetary-health>

Sevelius, J. M., Gutierrez-Mock, L., Zamudio-Haas, S., McCree, B., Ngo, A., Jackson, A., Clynes, C., Venegas, L., Salinas, A., Herrera, C., Stein, E., Operario, D., & Gamarel, K. (2020). Research with Marginalized Communities: Challenges to Continuity During the COVID-19 Pandemic. *AIDS and behavior*, 24(7), 2009–2012. <https://doi.org/10.1007/s10461-020-02920-3>