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# Planetary Health Report Card:

## *University of Arizona College of Medicine - Phoenix*

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2021-2022 Contributing Team:

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## Summary of Findings

<b>Overall</b>	<b>C</b>
<u><b>Curriculum</b></u>	<b>D</b>
<ul style="list-style-type: none"> <li>• University of Arizona College of Medicine - Phoenix (UACOM-P) does include planetary health in the curriculum, but it lacks integration longitudinally. In the first and second year, various aspects of planetary health are discussed in lectures. There is also some discussion of planetary health in the first year public health elective.</li> <li>• <b>Recommendations:</b> Develop a plan to incorporate planetary health topics longitudinally into the curriculum rather than in isolated lectures. Include additional topics and consider incorporating the climate change and public health lecture information from the first year public health lecture into the core curriculum.</li> </ul>	
<u><b>Interdisciplinary Research</b></u>	<b>C</b>
<ul style="list-style-type: none"> <li>• UACOM-P lacks resources for planetary health research, but has extensive opportunities for collaboration with the University of Arizona Tucson campus mainly through the Mel and Enid Zuckerman College of Public Health.</li> <li>• <b>Recommendations:</b> Forge connections with the Mel and Enid College of Public Health or similar UA-Tucson departments with the goal of providing more opportunity for faculty and student research engagement in planetary health focused areas on the Phoenix campus.</li> </ul>	
<u><b>Community Outreach and Advocacy</b></u>	<b>C</b>
<ul style="list-style-type: none"> <li>• UACOM-P has some community outreach presence in the form of the Connect2STEM program and various student interest group events focused around culinary medicine and public health interdisciplinary events.</li> <li>• <b>Recommendations:</b> Continue to foster student programs aimed at planetary health engagement, and assist local healthcare partners with public health information and messaging regarding planetary health.</li> </ul>	
<u><b>Support for Student-Led Initiatives</b></u>	<b>C</b>
<ul style="list-style-type: none"> <li>• UACOM-P provides extensive support for student-led initiatives as a whole through scholarly project/research support, certificate of distinction projects, and student interest group support, but provides very little direction specifically aimed at sustainability focused projects.</li> <li>• <b>Recommendations:</b> Establish specific funding opportunities for student sustainability projects. Establish a student representative position within administration to support sustainability interests. Set up a publicly available web page promoting ease of access for student involvement in/education on planetary health projects.</li> </ul>	
<u><b>Campus Sustainability</b></u>	<b>B -</b>
<ul style="list-style-type: none"> <li>• UACOM-P has made many positive efforts towards campus sustainability in the form of LEED energy utilization building standards, a commitment to future carbon neutrality, recycling and composting programs, public transportation options/bicycle infrastructure, and “green supply procurement”.</li> <li>• <b>Recommendations:</b> Improvements could be made by advocating for institutional divestment from fossil fuels, utilizing a higher percentage of renewable energy sources on campus, allocation of staff/faculty to specifically support Phoenix campus sustainability efforts, and establishing guidelines for sustainability at medical school hosted events.</li> </ul>	

# Statement of Purpose

*Planetary health is human health.*

The Planetary Health Alliance describes planetary health as “a solutions-oriented, transdisciplinary field and social movement focused on analyzing and addressing the impacts of human disruptions to Earth’s natural systems on human health and all life on Earth.” This definition is intentionally broad, intended to encompass the multitude of ways that the environment can affect health, including water scarcity, changing food systems, urbanization, biodiversity shifts, natural disasters, climate change, changing land use and land cover, global pollution, and changing biogeochemical flows. The health of humanity is dependent on our environment and our environment is changing rapidly and in disastrous ways. Although the World Health Organization has called climate change “the greatest threat to global health in the 21st century,” many medical school’s institutional priorities do not reflect the urgency of this danger to human health.

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

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

Added to our resources this year, 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.

# Planetary Health Curriculum

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

## Curriculum: General

1. Did your medical school offer elective courses (student selected modules) to engage students in Education for Sustainable Healthcare or Planetary Health in the last year?	
3	Yes, the medical school has offered more than one elective whose primary focus is ESH/planetary health in the past year.
2	Yes, the medical school has offered one elective whose primary focus is ESH/planetary health in the past year.
1	<b>The medical school does not have any electives whose primary focus is ESH/planetary health, but there are one or more electives that include a lecture on planetary health.</b>
0	No, the medical school has not offered any electives on planetary health or electives that include ESH/planetary health topics in the past year.
<p><i>Score explanation:</i> The elective “Issues and Trends in Public Health” offered to first year students at UACOM-P included lectures titled “Environmental Health” and “Climate Change and Public Health”.</p>	

## Curriculum: Health Effects of Climate Change

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

*Score explanation:* The elective course “Issues and Trends in Public Health” offered to first year students at UACOM-P included a lecture titled “Climate Change and Public Health” presented by Dr. Bell that included a detailed description of extreme heat health risks in the context of climate change.

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

3	This topic was explored in depth by the core curriculum.
<b>2</b>	<b>This topic was briefly covered in the core curriculum.</b>
1	This topic was covered in elective coursework.
0	This topic was not covered.

*Score explanation:* The lecture titled “Environmental Nutrition” presented by Dr. Dev to UACOM-P MS2 students included information on how extreme weather events can lead to outbreaks of foodborne illness and prevent access to food.

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

3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
<b>1</b>	<b>This topic was covered in elective coursework.</b>
0	This topic was not covered.

*Score explanation:* The elective course “Issues and Trends in Public Health” offered to first year students at UACOM-P included a lecture titled “Climate Change and Public Health” presented by Dr. Bell that included information on the increased incidence and geographical spread of Dengue Fever due to altered climate conditions allowing for mosquito reproduction.

**5. Does your medical school curriculum address the respiratory health effects of climate change and air pollution?**

3	This topic was explored in depth by the core curriculum.
<b>2</b>	<b>This topic was briefly covered in the core curriculum.</b>
1	This topic was covered in elective coursework.

0	This topic was not covered.
<i>Score explanation:</i> The lecture titled “Environmental Nutrition” presented by Dr. Dev to UACOM-P MS2 students included information on the environmental consequences of air pollution due to conventional agriculture and the respiratory health consequences people can suffer from these pollutants.	

<b>6. Does your medical school curriculum address the cardiovascular health effects of climate change, including increased heat?</b>	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
<b>0</b>	<b>This topic was not covered.</b>
<i>Score explanation:</i> This topic was not covered.	

<b>7. Does your medical school curriculum address the mental health and neuropsychological effects of environmental degradation and climate change?</b>	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
<b>0</b>	<b>This topic was not covered.</b>
<i>Score explanation:</i> This topic was not covered.	

<b>8. Does your medical school curriculum address the relationships between health, individual patient food and water security, ecosystem health, and climate change?</b>	
3	This topic was explored in depth by the core curriculum.
<b>2</b>	<b>This topic was briefly covered in the core curriculum.</b>
1	This topic was covered in elective coursework.
0	This topic was not covered.

*Score explanation:* The lecture titled “Environmental Nutrition” presented by Dr. Dev to UACOM-P MS2 students included information on the interconnected relationships between food production/insecurity, ecosystem health, climate change, and health outcomes because of these factors.

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

3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
<b>1</b>	<b>This topic was covered in elective coursework.</b>
0	This topic was not covered.

*Score explanation:* The elective course “Issues and Trends in Public Health” offered to first year students at UACOM-P included a lecture titled “Climate Change and Public Health” presented by Dr. Bell that included information on the disproportionate effects of climate change on marginalized communities including health compromised vulnerable populations, low SES populations, and developing countries.

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

3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
<b>1</b>	<b>This topic was covered in elective coursework.</b>
0	This topic was not covered.

*Score explanation:* The elective course “Issues and Trends in Public Health” offered to first year students at UACOM-P included a lecture titled “Climate Change and Public Health” presented by Dr. Bell that included information on the disproportionate effects of climate change on developing countries specifically with regard to extreme weather effects, heat related illness, and infectious disease transmission.

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

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

<b>3</b>	<b>This topic was explored in depth by the core curriculum.</b>
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2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.
<i>Score explanation:</i> The lecture titled “Environmental Teratogens” presented to 2nd year students by Dr. Flood extensively covers the reproductive effects of various environmental exposures. An associated learning objective was included; “Describe the recognized teratogens in the environment and occupational settings”.	

<b>12. Does your medical school curriculum address important human-caused environmental threats that are relevant to the university’s surrounding community?</b>	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
<b>0</b>	<b>This topic was not covered.</b>
<i>Score explanation:</i> This topic was not covered.	

<b>13. To what extent does your medical school emphasize the importance of Indigenous knowledge and value systems as essential components of planetary health solutions?</b>	
3	Indigenous knowledge and value systems are integrated throughout the medical school’s planetary health education
2	Indigenous knowledge and value systems as essential components of planetary health solutions are included briefly in the core curriculum.
1	Indigenous knowledge and value systems as essential components of planetary health solutions are included in elective coursework.
<b>0</b>	<b>This topic was not covered.</b>
<i>Score explanation:</i> This topic was not covered.	

<b>14. Does your medical school 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?</b>	
3	This topic was explored in depth by the core curriculum.



2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
<b>0</b>	<b>This topic was not covered.</b>
<i>Score explanation:</i> This topic was not covered.	

***Curriculum: Sustainability***

<b>15. Does your medical school curriculum address the environmental and health co-benefits of a plant-based diet?</b>	
<b>3</b>	<b>This topic was explored in depth by the core curriculum.</b>
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.
<i>Score explanation:</i> In lectures titled “Environmental Nutrition”, “Food as Medicine”, and “Fundamentals of Food Science” presented to 2nd year students by Dr. Dev, Dr. Mavasti, and Dr. Barney, respectively, the benefits of plant-based diets for people and the environment are extensively covered with associated learning objectives.	

<b>16. Does your medical school curriculum address the carbon footprint of healthcare systems?</b>	
3	This topic was explored in depth by the core curriculum
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
<b>0</b>	<b>This topic was not covered.</b>
<i>Score explanation:</i> This topic was not covered.	

<b>17. Does your medical school curriculum cover these components of sustainable clinical practice in the <u>core</u> curriculum? (1 point each)</b>	
1	Waste production within the healthcare system and strategies for reducing waste in clinical activities, such as in the operating room

1	The impact of inhalers on the healthcare carbon footprint and the environmental benefit of dry powdered inhalers over metered dose inhalers.
1	The impact of anaesthetic gases on the healthcare carbon footprint and ways to reduce anaesthesia environmental impacts, such as total intravenous anaesthesia or choosing less environmentally anaesthetic gas options with reduced greenhouse gas emissions
1	The environmental impact of pharmaceuticals and over-prescribing as a cause of climate health harm. Alternatively teaching on deprescribing where possible and its environmental and health co-benefits would fulfill this metric.
1	The health and environmental co-benefits of non-pharmaceutical management of conditions where appropriate such as exercise or yoga classes for type 2 diabetes; social group activities such as gardening for mental health conditions; active transport such as bicycle schemes for obesity. This is commonly known as social prescribing in the UK.
1	The health and environmental co-benefits of avoiding over-medicalisation, over-investigation and/or over-treatment
<i>Score explanation:</i> These topics were not covered.	

*Curriculum: Clinical Applications*

<b>18. In training for patient encounters, does your medical school’s curriculum introduce strategies to have conversations with patients about the health effects of climate change?</b>	
2	Yes, there are strategies introduced for having conversations with patients about climate change in the core curriculum.
1	Yes, there are strategies introduced for having conversations with patients about climate change in elective coursework.
<b>0</b>	<b>No, there are not strategies introduced for having conversations with patients about climate change</b>
<i>Score explanation:</i> These topics were not covered.	

<b>19. In training for patient encounters, does your medical school’s curriculum introduce strategies for taking an environmental history or exposure history?</b>	
<b>2</b>	<b>Yes, the core curriculum includes strategies for taking an environmental history.</b>
1	Only elective coursework includes strategies for taking an environmental history.

0	No, the curriculum does not include strategies for taking an environmental history.
<i>Score explanation:</i> In the course “Doctoring” completed by 1st and 2nd year students, students are taught to take a thorough exposure history including occupational, environmental, and travel exposures. These skills are then additionally practiced in a simulated patient encounter environment with one on one feedback from a physician faculty.	

***Curriculum: Administrative Support for Planetary Health***

<b>20. Is your medical school currently in the process of implementing or improving Education for Sustainable Healthcare (ESH)/planetary health education?</b>	
4	Yes, the medical school is currently in the process of making major improvements to ESH/planetary health education.
2	Yes, the medical school is currently in the process of making minor improvements to ESH/planetary health education.
<b>0</b>	<b>No, there are no improvements to planetary health education in progress.</b>
<i>Score explanation:</i> There are no current initiatives for ESH or planetary health underway.	

<b>21. How well are the aforementioned planetary health/Education for Sustainable Healthcare topics integrated longitudinally into the core curriculum?</b>	
6	Planetary health/ESH topics are well integrated into the core medical school curriculum.
4	Some planetary health/ESH topics are appropriately integrated into the core medical student curriculum.
<b>2</b>	<b>Planetary health/ESH is not integrated and is primarily addressed in (a) standalone lecture(s).</b>
0	There is minimal/no education for sustainable healthcare.
<i>Score explanation:</i> The majority of ESH content in the curriculum is found in a small handful of lectures, most of which are specifically dedicated to the topic. We believe there is significant opportunity to include the topics UACOM-P already incorporates along with others into a more longitudinal format incorporated with the traditional curriculum.	

<b>22. Does your medical school employ a member of faculty to specifically oversee and take responsibility for the incorporation of planetary health and sustainable healthcare as a theme throughout the course?</b>
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1	Yes, the medical school has a specific faculty/staff member responsible for overseeing curricular integration of planetary health and sustainable healthcare
0	<b>No, the medical school does not have a specific faculty/staff member responsible for overseeing curricular integration of planetary health and sustainable healthcare.</b>
<i>Score explanation:</i> There is no staff member assigned to curricular integration of planetary health and sustainable healthcare.	

<b>Section Total (22 out of 69)</b>	<b>D</b>
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## Interdisciplinary Research

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

<b>1. Are there researchers engaged in planetary health research and healthcare sustainability research at your medical school?</b>	
3	Yes, there are faculty members at the School of Medicine who have a primary research focus in planetary health <b>or</b> healthcare sustainability.
2	Yes, there are individual faculty members at the School of Medicine who are conducting research related to planetary health or healthcare sustainability, but it is not their primary research focus.
<b>1</b>	<b>There are planetary health and/or healthcare sustainability researchers at the institution, but none associated with the medical school.</b>
0	No, there are no planetary health and/or healthcare sustainability researchers at the institution or medical school at this time.
<p><i>Score explanation:</i>            The UA Mel and Enid Zuckerman College of Public Health houses the <a href="#">Department of Community, Environment &amp; Policy</a>. Several faculty and students in this Department are engaged in climate change-related research.</p>	

<b>2. Is there a dedicated department or institute for interdisciplinary planetary health research at your institution?</b>	
<b>3</b>	<b>There is at least one dedicated department or institute for interdisciplinary planetary health research.</b>
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.
<p><i>Score explanation:</i></p>	

Arizona Institutes for Resilience: Solutions for the Environment and Society ([AIR](#)) coordinates interdisciplinary groups of faculty, students and projects across the University of Arizona’s campus, from climate science to public policy, law, the arts, water resources and beyond. AIR includes many centers, institutes, and programs that work together to build a “Roadmap to Resilience,” drawing on the expertise of many colleges and departments to promote partnerships and interdisciplinary activities. AIR aims to help individuals, businesses and communities manage risk and find opportunities associated with solving the climate crisis.

The University of Arizona joined the University Climate Change Coalition (UC3) in 2018. The UC3 is a core program of Second Nature that connects 22 of the world’s leading research universities committed to accelerating climate action on campus, in communities, and at a global scale. Second Nature supports UC3 universities to collaborate effectively, share knowledge, foster cross-sector partnerships, and drive meaningful and scalable action on climate change.

**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 medical 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.
<b>0</b>	<b>There is no process, and no efforts to create such a process.</b>

*Score explanation:* There appears to be no such process available to community members at the UA COM-P. This author is unaware of any efforts to create such a process.

**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.
<b>2</b>	<b>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.</b>
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:* The UA’s Arizona Institutes for Resilience (AIR) website has a “[GreenFeed](#)” page highlighting recent relevant research. It is searchable by research theme/topic; however, searching by theme yields a maximum of only six most recent results. Further exploration requires cumbersome navigation, and the search becomes decentralized because each linked research center has its own webpage.

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

4	Yes, the <b>medical school</b> has hosted at least one conference or symposium on topics related to planetary health in the past year.
<b>3</b>	<b>Yes, the institution has hosted at least one conference or symposium on topics related to planetary health in the past year.</b>
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:* The University of Arizona has hosted multiple conferences and symposiums related to planetary health in the last year, most recently the 2022 CAPLA Research Showcase and the Symposium on Resilience Research for Global Development Challenges. More information can be found at: <https://environment.arizona.edu/calendar>

**6. Is your medical school a member of a national or international planetary health or ESH organization?**

1	Yes, the medical school is a member of a national or international planetary health or ESH organization
<b>0</b>	<b>No, the medical school is not a member of such an organization</b>

*Score explanation:* UA COM-P is not currently a member of such an organization. However, the UA Mel and Enid Zuckerman College of Public Health is a member of the Planetary Health Alliance and the Global Consortium on Climate and Health Education.

<b>Section Total (9 out of 17)</b>	<b>C</b>
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# Community Outreach and Advocacy

***Section Overview:*** *This section evaluates medical school engagement in community outreach and advocacy efforts associated with planetary health. Researching and teaching planetary health is necessary but not sufficient. It is critical that institutions also directly engage with communities most affected by environmental health harms. Although climate change is a problem largely created by those with power and resources, its impacts fall disproportionately on under-resourced populations and communities of 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.*

<b>1. Does your medical school partner with community organizations to promote planetary and environmental health?</b>	
3	Yes, the medical school meaningfully partners with multiple community organizations to promote planetary and environmental health.
<b>2</b>	<b>Yes, the medical school meaningfully partners with one community organization to promote planetary and environmental health.</b>
1	The institution partners with community organizations, but the medical school is not part of that partnership.
0	No, there is no such meaningful community partnership.
<p><i>Score explanation:</i> The Culinary Medicine Interest Group has partnered with Phoenix Open Air Market to provide monthly free cooking demonstrations and teach the public about using locally sourced ingredients and how food can improve health.</p>	

<b>2. Does your medical school offer community-facing courses or events regarding planetary health?</b>	
<b>3</b>	<b>The medical school offers community-facing courses or events at least once every year.</b>
2	The medical school offers courses or events open to the community at least once per year, but they are not primarily created for a community audience.
1	The institution has offered community-facing courses or events, but the medical school was not involved in planning those courses or events.
0	The medical school has not offered such community-facing courses or events.
<p><i>Score explanation:</i> Connect2STEM is a series of family-friendly virtual experiences celebrating Science, Technology, Engineering, Math, and Medicine. The University of Arizona College of Medicine Phoenix along with partners, Cox Communications and the Arizona SciTech Institute, have</p>	



welcomed more than 42,000 attendees since 2014. The virtual experiences often present on planetary health topics and include exhibits put on by the organizations like the Maricopa Air Quality Department and Flood Control District Maricopa County. Episodes are available On-Demand on the UA-Phoenix website.

**3. Does your medical school have regular coverage of issues related to planetary health and/or sustainable healthcare 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.
<b>0</b>	<b>Students do not regularly receive communications about planetary health or sustainable healthcare.</b>

*Score explanation:* No regular coverage of issues related to planetary health and/or sustainable healthcare is created by UA-Phoenix.

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

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
<b>0</b>	<b>There are no such accessible courses for post-graduate providers</b>

*Score explanation:* There are no activities specifically targeted towards post-grad education and training although there have been events held for current students that welcome post-grad individuals if interested.

**5. Does your medical 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.
<b>1</b>	<b>Some affiliated hospitals have accessible educational materials for patients.</b>

0	No affiliated medical centers have accessible educational materials for patients.
<p><i>Score explanation:</i> Clinical partner, Abrazo Health Network, has educational pieces on links between specific exposures and cancer. These are easily accessible on their website. Clinical partner, Mayo Clinic, provides several articles on the effects of climate change on illness prevalence, dangerous exposures/chemicals, and sustainable healthcare.</p>	

<b>6. Does your medical school or its primary affiliated hospital have accessible educational materials for patients about climate change and health impacts?</b>	
2	Yes, all affiliated hospitals have accessible educational materials for patients.
<b>1</b>	<b>Some affiliated hospitals have accessible educational materials for patients.</b>
0	No affiliated hospitals have accessible educational materials for patients.
<p><i>Score explanation:</i> Yes, as mentioned before, several of UA-Phoenix’s clinical partners provide patient information regarding climate change, exposures, and health. Clinical partner, Honor Health, includes educational pieces on Arizona’s monsoon weather and its links to respiratory conditions.</p>	

<b>Section Total (7 out of 14)</b>	<b>C</b>
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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 institution offer support for medical students interested in enacting a sustainability initiative/QI project?	
2	Yes, the 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	<b>The medical school 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.</b>
0	No, the institution does not offer opportunities or support for sustainability initiatives or QI projects.
<p><i>Score explanation:</i> Any and all QI projects are encouraged and supported to fulfill certificate of distinction requirements, however no emphasis or funding is allocated towards sustainability focused projects specifically and participation is not required.</p>	

2. Does your institution offer opportunities for medical students to do research related to planetary health and/or sustainable healthcare?	
2	The institution has a specific research program or fellowship for students interested in doing planetary health/sustainable healthcare research.
1	<b>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.</b>
0	There are no opportunities for students to engage in planetary health/sustainable healthcare research.
<p><i>Score explanation:</i> There are extensive opportunities for students to work with researchers in planetary health focused projects, however all of the opportunities are present at the University of Arizona campus in Tucson, posing challenges for students to work with some projects requiring presence in person, and also forcing students to seek out suitable connections on their own without direction from the UACOM-P medical school.</p>	

<b>3. Does the medical school have a webpage where medical students can find specific information related to planetary health and/or sustainable healthcare activities and mentors within the medical school? For example, projects achieved, current initiatives underway at the medical school and/or contact of information of potential mentors.</b>	
2	The medical school has a webpage with specific information related to planetary health or sustainable healthcare that includes up-to-date information on relevant initiatives and contact information of potential mentors.
1	There is a medical school webpage that features some information on projects and mentors within planetary health and sustainable healthcare within the medical school, but it lacks key information.
<b>0</b>	<b>There is no medical-school specific webpage for locating planetary health and/or sustainable healthcare projects or mentors.</b>
<i>Score explanation:</i> There is no such website.	

<b>4. Does your medical school have registered student groups dedicated towards fostering a culture of planetary health engagement, scholarship, and advocacy on campus, supported by faculty advisors?</b>	
<b>2</b>	<b>Yes, there is a student organization with faculty support at my medical school dedicated to planetary health or sustainability in healthcare.</b>
1	Yes, there is a student organization at my medical school dedicated to planetary health or sustainability in healthcare but it lacks faculty support.
0	No, there is not a student organization at my institution dedicated to planetary health or sustainability in healthcare.
<i>Score explanation:</i> The University of Arizona College of Medicine - Phoenix has a One Health student interest group. The mission of the One Health interest group is to promote awareness of the interconnection of human, animal, and environmental health and to enhance the academic curriculum of UACOM-Phoenix by informing students about the interdisciplinary work of various One Health professionals, such as environmental scientists, veterinarians, epidemiologists, physicians, and many more. The group is supported by a faculty mentor.	

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

*Score explanation:* There is currently no medical student representative specifically involved in sustainability practices or curriculum at the University of Arizona College of Medicine - Phoenix.

**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	<b>Projects where students are able to gain experience in organic agriculture and sustainable food systems, such as gardens, farms, community supported agriculture (CSA), fishery programs, or urban agriculture projects.</b>
1	<b>Panels, speaker series, or similar events related to planetary health that have students as an intended audience.</b>
1	<b>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.</b>
1	Cultural arts events, installations or performances related to planetary health that have students as an intended audience.
1	<b>Local volunteer opportunities related to building community resilience to anthropogenic environmental impacts.</b>
1	Wilderness or outdoors programs (e.g., that organize hiking, backpacking, kayaking, or other outings for students)

*Score explanation:* The Culinary Medicine student interest group at the University of Arizona College of Medicine - Phoenix is involved in community gardens and sustainable food practices. They provide volunteer opportunities to medical students at the TigerMountain Foundation community garden to grow and harvest produce locally. They also host the Farm Fresh Produce program through which students distribute fresh produce bags along with healthy recipe cards to patients at a local hospital in order to promote health and nutrition through sustainably sourced food. They also host educational programs about fresh sustainably-sourced produce and food choices at the Wesley Community Clinic, which serves uninsured and underinsured members of the community.

The UA-Phoenix held its first Annual Public Health, Human Medicine, and Veterinary Medicine interprofessional program this year open to current and graduated students. This event involved students working together across all three disciplines through a case that covered themes of healthcare sustainability and planetary health.

The UA-Phoenix Certificate of Distinction programs in Service and Community Health, Rural Health, Primary Care, and Global Health consistently host multiple speaker events monthly that cover a wide array of topics, including planetary health and its impact on human health. Most recently, we had an event titled “Gardens in the Desert: Sustainable Approaches to Healthful Food Availability on Navajo Nation,” which was presented by a local environmental advocate. This talk focused on environmental challenges faced by the Navajo community in Arizona, and how health professionals can help to address these exposures and impacts.

Section Total (8 out of 15)	C
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# Campus Sustainability

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

1. Does your medical school and/or institution have an Office of Sustainability?	
3	Yes, there is an Office of Sustainability with multiple full-time staff dedicated to campus sustainability. If the Office of Sustainability serves the entire campus, there is at least one designated staff member for sustainability at the hospital and/or medical school.
2	<b>There is an Office of Sustainability with one or more full-time staff dedicated to campus sustainability, but no specific staff member in charge of medical school and/or hospital sustainability.</b>
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:</i> The University of Arizona has an office of sustainability with 6 staff members. However, the College of Medicine-Phoenix does not have a designated staff member for sustainability.</p>	

2. How ambitious is your medical school/institution's plan to reduce its own carbon footprint?	
4	The institution has a stated goal of carbon neutrality by 2030 or earlier and the medical school / institution has a well-defined and adequate plan in place to achieve this goal.
3	<b>Yes, there is a stated carbon neutrality goal by at least 2040 and the medical school/institution has a well-defined and adequate plan in place to achieve this goal.</b>
2	Yes, there is a stated carbon neutrality goal by at least 2040, but the medical school/institution has not created a plan to reach that goal or the plan is inadequate.
1	There is a CO2 emission reduction goal, but it is not one of carbon neutrality.
0	There is no stated goal for reduction of CO2 emissions.
<p><i>Score explanation:</i> The University of Arizona is committed to achieving climate neutrality by 2040, and this encompasses the medical school in Phoenix. It has a University Strategic Plan for zero net anthropogenic greenhouse gas emissions (including emissions beyond just carbon dioxide), as well as</p>	

reducing greenhouse emissions that result from the purchase of grid-based utilities. The plan also aims to reduce energy and water use, develop values and requirements in sustainability that drive University investments and purchases, and foster sustainability as a shared institutional value. The University will also be expanding on this plan in its development of the Sustainability & Climate Action Plan which aligns with the United Nations' Sustainable Development Goals. More information on the University Strategic Plan and the Sustainability & Climate Action Plan can be found at the links below.

<https://sustainability.arizona.edu/projects/sustainability-climate-action-plan>  
<https://sustainability.arizona.edu/projects/university-arizona-strategic-plan>

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

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

*Score explanation:*

The University of Arizona College of Medicine-Phoenix sources all of their electrical power from the Arizona Public Service grid which currently utilizes 51% renewable sources. Estimates of gas power utilization were nonspecific, but considering the relative usage of gas and Phoenix's warm climate we estimate it is unlikely this drops total renewable sources below 20%.

**4. Are sustainable building practices utilized for new and old buildings on the medical 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?**

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



*Score explanation:* All of the new and old buildings on the University of Arizona College of Medicine-Phoenix campus are LEED Silver or Gold certified.

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

<b>2</b>	<b>Yes, the medical school has implemented strategies to encourage and provide environmentally-friendly transportation options such as safe active transport, public transport, or carpooling and these options are well-utilized by students. Alternatively, the campus location is not amenable to unsustainable forms of transportation by default.</b>
1	The medical school has implemented some strategies to provide environmentally-friendly transportation options, but the options are unsatisfactorily accessible or advertised.
0	The medical school has not implemented strategies to encourage and provide environmentally-friendly transportation options.

*Score explanation:* The University of Arizona College of Medicine-Phoenix offers subsidized public transit passes for students, excellent biking infrastructure with secure storage, a bike share program, and safe transport through campus security. These services are all readily accessible by students.

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

<b>2</b>	<b>Yes, the medical school has both compost and recycling programs accessible to students and faculty.</b>
1	The medical 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 medical school.

*Score explanation:* The University of Arizona College of Medicine-Phoenix currently utilizes conventional recycling across campus, and has one compost drop-off bin accessible to the public in the student lounge (it is unclear who is responsible for operation of this compost program but it is available).

**7. Does the medical 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 medical 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.
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<b>2</b>	<b>There are sustainability guidelines for food and beverages, but they are insufficient or optional. The medical school is engaged in efforts to increase food and beverage sustainability.</b>
1	There are sustainability guidelines for food and beverages, but they are insufficient or optional. The medical school is not engaged in efforts to increase food and beverage sustainability.
0	There are no sustainability guidelines for food and beverages.
<p><i>Score explanation:</i> The University of Arizona College of Medicine-Phoenix contracts Blue House Coffee Roasters to provide food and beverage service on campus. Blue House’s sustainability initiatives include utilization of biodegradable or recyclable packaging, net-zero carbon emissions utilizing off site solar power for production and electric vehicles for delivery along with donations to a tree planting initiative to offset the remaining emissions unaccounted for, off site composting during food production, and sourcing all fresh goods and produce from local farmer’s markets. Blue House is actively engaged in efforts to continue growth in all of the areas on the medical school’s behalf. Blue House does serve one red meat product on the menu.</p>	

<b>8. Does the medical school or associated institution apply sustainability criteria when making decisions about supply procurement?</b>	
<b>3</b>	<b>Yes, the medical school has adequate sustainability requirements for supply procurement and is engaged in efforts to increase sustainability of procurement.</b>
2	There are sustainability guidelines for supply procurement, but they are insufficient or optional. The medical school is engaged in efforts to increase sustainability of procurement.
1	There are sustainability guidelines for supply procurement, but they are insufficient or optional. The medical school is not engaged in efforts to increase sustainability of procurement.
0	There are no sustainability guidelines for supply procurement.
<p><i>Score explanation:</i> The University of Arizona College of Medicine-Phoenix utilizes the institution wide procurement policies and has extensive sustainability criteria for supply procurement. They can be found <a href="#">here</a>.</p>	

<b>9. Are there sustainability requirements or guidelines for events hosted at the medical school?</b>	
2	Every event hosted at the medical school must abide by sustainability criteria.
1	The medical school strongly recommends or incentivizes sustainability measures, but they are not required.
<b>0</b>	<b>There are no sustainability guidelines for medical school events.</b>
<p><i>Score explanation:</i> The University of Arizona College of Medicine-Phoenix does not have sustainability requirements or guidelines for events hosted at the school.</p>	

<b>10. Does your medical school have programs and initiatives to assist with making lab spaces more environmentally sustainable?</b>	
2	Yes, the medical 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.
<b>0</b>	<b>There are no efforts at the medical school to make lab spaces more sustainable.</b>
<i>Score explanation:</i> The University of Arizona College of Medicine-Phoenix does not have any specific initiatives aimed at making lab spaces more sustainable.	

<b>11. Does your institution’s endowment portfolio investments include fossil-fuel companies?</b>	
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	No, 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.
<b>1</b>	<b>The institution has not divested from fossil-fuel companies, but faculty and/or students are conducting organized advocacy for divestment.</b>
0	Yes, the institution has investments with fossil-fuel companies and there have been no efforts to change that.
<i>Score explanation:</i> The University of Arizona has announced no efforts to divest the approximately \$64 million they currently have invested in fossil fuels. There is a student-led initiative called UAZ Divest that is advocating for fossil fuel divestment, and the University of Arizona undergraduate student governing body, ASUA, has adopted a resolution based on UAZ Divest’s proposal for divestment.	

<b>Section Total (19 out of 31)</b>	<b>B-</b>
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# Grading

## Section Overview

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

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

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

## Planetary Health Grades for the University of Arizona College of Medicine - Phoenix

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

Section	Raw Score	Letter Grade
<b>Planetary Health Curriculum (30%)</b>	$(22 / 69) \times 100 = 32\%$	D
<b>Interdisciplinary Research (17.5%)</b>	$(9 / 17) \times 100 = 53\%$	C
<b>Community Outreach and Advocacy (17.5%)</b>	$(7 / 14) \times 100 = 50\%$	C
<b>Support for Student-led Planetary Health Initiatives (17.5%)</b>	$(8 / 15) \times 100 = 53\%$	C
<b>Campus Sustainability (17.5%)</b>	$(19 / 31) \times 100 = 61\%$	B-
<b>Institutional Grade</b>	$(32 \times 0.3 + 53 \times 0.175 + 50 \times 0.175 + 53 \times 0.175 + 61 \times 0.175) = 48\%$	C

