Sustainability Literacy and Cultural Assessment - 2022

Start of Block: Welcome to the 2022 UMass Lowell Sustainability Assessment

You are invited to participate in a voluntary survey about sustainability at UMass Lowell. The purpose of this research is to understand more about what the UMass Lowell community knows about sustainability and climate change. This research is being conducted by the Sustainability Assessment Team, a collaboration between the Office of Sustainability and the Center for Program Evaluation at UMass Lowell. Survey results will be summarized to protect participants' identities. The survey will take approximately 10-12 minutes to complete. You are free to skip any questions you do not want to answer and you can withdraw your participation at any time. There is little to no risk to you from participating, and there is no benefit to your participation. If, however, you would like to be entered in for a chance to win an iPad (approximate value - $300) you will be asked to do so at the end of the survey. If you have any questions or would like further information on this research, please contact: Jill\_Lohmeier@uml.edu. Thank you for your participation!

My participation in the survey indicates that I have read and understand the consent agreement and agree to participate.

* Yes, I agree to participate in this survey.
* No, I do not agree to participate in this survey.

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Sustainability Culture at UMass Lowell

The first section of this survey is an assessment of campus sustainability culture. The cultural assessment focuses on sustainability values, behaviors, and beliefs, and may also address awareness of campus sustainability initiatives.

1. How often do you use the following modes of transportation for getting **between** UMass Lowell's campuses (South, North and East)?

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Never | Once or Twice a Semester | Once or Twice a Month | Once or Twice a Week | Daily |
| a. Driving alone  |  |  |  |  |  |
| b. Carpool  |  |  |  |  |  |
| c. Walking  |  |  |  |  |  |
| d. Bicycling  |  |  |  |  |  |
| e. Lowell's Public Transportation  |  |  |  |  |  |
| f. UMass Lowell Shuttle(s)  |  |  |  |  |  |
| g. Uber/Lyft  |  |  |  |  |  |
| h. Other (Please Specify):  |  |  |  |  |  |

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2. To what extent do you use the following modes of transportation for getting to and from UMass Lowell?

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Never | Once or Twice a Semester | Once or Twice a Month | Once or Twice a Week | Daily |
| a. Driving alone  |  |  |  |  |  |
| b. Carpool  |  |  |  |  |  |
| c. Walking  |  |  |  |  |  |
| d. Bicycling  |  |  |  |  |  |
| e. Lowell's Public Transportation  |  |  |  |  |  |
| f. UMass Lowell Shuttle(s)  |  |  |  |  |  |
| g. Uber/Lyft  |  |  |  |  |  |
| h. MBTA Commuter Rail  |  |  |  |  |  |
| h. Other (Please Specify):  |  |  |  |  |  |

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3. How much do you agree or disagree with the following statements?

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Strongly Disagree | Disagree | Neither Disagree Nor Agree | Agree | Strongly Agree |
| a. UMass Lowell is committed to using sustainable practices.  |  |  |  |  |  |
| b. I feel safe ***biking*** between campuses.  |  |  |  |  |  |
| c. I feel safe ***walking*** between campuses.  |  |  |  |  |  |
| d. I know how to borrow a bike on campus.  |  |  |  |  |  |

4. How much do you agree or disagree with the following statements?

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Strongly Disagree | Disagree | Neither Disagree Nor Agree | Agree | Strongly Agree |
| a. UMass Lowell has a wide variety of tree species on campus.  |  |  |  |  |  |
| b. Waterpower was integral to Lowell's early success.  |  |  |  |  |  |
| c. UMass Lowell should provide opportunities on campus to engage in sustainability efforts.  |  |  |  |  |  |

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5. How much do you agree or disagree with the following statements?

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Strongly Disagree | Disagree | Neither Disagree Nor Agree | Agree | Strongly Agree |
| a. I am interested in learning more about climate change.  |  |  |  |  |  |
| b. I am interested in learning about sustainability on UMass Lowell's campus.  |  |  |  |  |  |
| c. I am interested in learning more about sustainability in general.  |  |  |  |  |  |
| d. I am interested in participating in sustainable practices.  |  |  |  |  |  |

6. How much do you agree or disagree with the following statements?

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Strongly Disagree | Disagree | Neither Disagree Nor Agree | Agree | Strongly Agree |
| a. Climate change will impact my local community.  |  |  |  |  |  |
| b. Individuals can help mitigate climate change.  |  |  |  |  |  |
| c. UMass Lowell can help mitigate climate change.  |  |  |  |  |  |
| d. Society can help mitigate climate change.  |  |  |  |  |  |
| e. Humans can adapt to climate change.  |  |  |  |  |  |

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7. Which of the following do you think UMass Lowell has? (CHECK ALL THAT APPLY)

* Biomass heating
* B.S. in Environmental Science
* Charging stations for electric vehicles
* Climate Change Initiative
* Climate Change Teach-In
* Composting
* Community garden
* Electricity-generating solar arrays
* Free Access to Lowell Regional Transportation Authority (LRTA)
* Freewheelers
* Geothermal heating/cooling
* Hydropower
* LEED Buildings
* School of Sustainability Studies
* Sustainability Tracking, Assessment Rating System (STARS)
* Sustainability Engagement and Enrichment Development (SEED) Fund
* Tree Campus USA recognition
* ZipCar Car Sharing Program

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8. Which of the following university activities, if any, have active programs to reduce UMass Lowell’s total emissions? (CHECK ALL THAT APPLY)

* Athletics
* Conference and Event Services
* Dining Services
* Information Technology Services
* Facilities Maintenance Services
* Residential Services
* Transportation Services
* None of the above
* I don't know

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9. Approximately how far do you think McGauvran Student Union on South Campus is from Fox Hall on East Campus?

* 0.5 mile
* 1 mile
* 1.5 miles
* 2 miles
* 2.5 miles
* 3 or more miles

10. How often do you do each of the following?

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Never | Less than once a month | A few times a month | Weekly | A few times a week | Daily |
| a. Read about science topics  |  |  |  |  |  |  |
| b. Hear the term "climate change"  |  |  |  |  |  |  |
| c. Discuss climate change  |  |  |  |  |  |  |
| d. Discuss sustainability  |  |  |  |  |  |  |

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11. How motivated are you to adopt sustainable practices?

* It's my passion
* I will go out of my way
* I will do it if it is convenient
* I do not think about it
* I do not want to be sustainable

12. To what extent do you agree or disagree with the following statements:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Strongly Disagree | Disagree | Neither Disagree Nor Agree | Agree | Strongly Agree |
| a. I am interested in sustainability.  |  |  |  |  |  |
| b. My lifestyle has become more sustainable since I joined UMass Lowell.  |  |  |  |  |  |
| c. I feel empowered to contribute to sustainability at UMass Lowell.  |  |  |  |  |  |
| d. I considered sustainability when I chose to work at or attend UMass Lowell.  |  |  |  |  |  |

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13. Please drag and drop the following list of policies for addressing climate change in rank order from #1-#9 based on what you think UMass Lowell should prioritize. With #1 being the ***most effective***, and #9 being the ***least effective***.

\_\_\_\_\_\_ Carbon capture technology

\_\_\_\_\_\_ Cut emissions of methane and other non-CO2 gases

\_\_\_\_\_\_ Electrify transportation

\_\_\_\_\_\_ Improve energy efficiency of buildings

\_\_\_\_\_\_ Improve energy efficiency of transportation

\_\_\_\_\_\_ Plant trees

\_\_\_\_\_\_ Put a price on carbon

\_\_\_\_\_\_ R&D for a new zero-carbon energy supply

\_\_\_\_\_\_ Sequester carbon in soils

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**Sustainability Literacy**

The second section of this survey is an assessment of your sustainability literacy. The sustainability literacy component focuses on your knowledge of sustainability topics and challenges.

14. Which of these statements is most accurate?

* a. Climate change is caused mostly by natural changes in the environment outside of human control.
* b. Climate change is caused equally by human activities and natural changes in the environment.
* c. Climate change is caused mostly by human activities.
* d. Climate change is not happening at all.

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15. According to UMass Lowell’s Climate Change Initiative (CCI) and other leading researchers across the globe, the effects of climate change include:

* Increased drought
* Loss of biodiversity
* Rising sea levels
* All of the above

16. How much of the Earth's available water is fit for human consumption?

* 60%
* 40%
* 10%
* 1%

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17. Sustainability is often defined as responsible action in which of the following sectors:

* Economic
* Environmental
* Social
* All of the above

18. Which of the following is an example of environmental justice?

* The government dams a river that floods Native American tribal lands to create hydropower for large neighboring cities.
* Indigenous communities are involved in setting a quota for wood taken from protected forests next to their village.
* Corporations build factories in developing countries where environmental laws are less strict.
* Urban citizens winning a bill to have toxic wastes taken to rural communities.
* I do not know.

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19. The current, increasing use of fossil fuels by humans results in an annual \_\_\_\_\_\_\_\_ of greenhouse gas emissions.

* Net increase
* Net decrease
* Equalization
* I don't know

20. Which of the following are considered to be renewable energy resources? (CHECK ALL THAT APPLY)

* Biomass
* Coal
* Natural Gas
* Oil
* Petroleum
* Water
* Wood

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21. Which of the concepts listed below is described by the following scenario?

Warmer temperatures on Earth reduce the surface area of the Earth covered by snow. Newly exposed darker lands and water areas absorb more heat which, in turn, further increase temperatures and melts more snow and ice.

* Negative, or Balancing, Feedback Loop
* Positive, or Reinforcing, Feedback Loop
* Net Feedback Loop
* I don't know

22. The concentration of atmospheric carbon dioxide (CO2) is measured in parts per million (ppm). As January 2022, atmospheric CO2 was measured above what level?

* 200 ppm
* 300 ppm
* 400 ppm
* 500 ppm
* 600 ppm
* 700 ppm
* I don't know

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23. Select the response below that best completes the following statement:
Leading scientists consider a global temperature change of 2˚C to be \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

* The maximum temperature rise possible, where the earth will not be able to warm further.
* A tipping point where the earth will begin to see its temperature lower back to normal.
* The minimum temperature drop possible, where the earth cannot get any cooler.
* A tipping point where the Earth will go through irreversible and catalytic changes.
* A minor temperature change with limited significance.
* I don't know

24. Which of the following are considered to be greenhouse gases?  (CHECK ALL THAT APPLY)

* Hydrochlorofluorocarbons (HCFCs)
* Carbon Dioxide (CO2)
* Methane (CH4)
* Oxygen (O2)
* Hydrofluorocarbons (HFCs)
* Nitrogen (N2)
* Nitrous Oxide (N2O)
* Chlorofluorocarbons (CFCs)
* None of the Above

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25. The United Nations has developed a broad set of goals which aim to ensure an equitable, just, and environmentally-friendly world. These goals are colloquially referred to as the 17 \_\_\_\_\_\_\_\_.

* Developing Sustainable Goals Globally (DSGs)
* Sustainable Development Goals (SDGs)
* Sustainable Aggregate Development Goals (SADGs)
* Greater Aggregate Sustainability Ideologies (GASIs)
* Greenhouse Gas Reduction Goals (GHGRGs)
* I don't know

26. In many modern, post-industrial cities like Lowell, numerous properties remain polluted by prior industrial activity. These properties are known as:

* Brownfields
* Commercial Wastelands
* Environmentally Sensitive
* Environmentally Significant
* Greenfields
* I don't know

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27. What is the most common cause of pollution of waterways (e.g., streams, rivers)?

* Dumping of garbage by cities
* Surface water running off yards, city streets, paved lots, and farm fields
* Litter near streams and rivers
* Waste dumped by factories
* I don't know

28. Ozone forms a protective layer in the earth's upper atmosphere. What does the ozone protect us from?

* Acid rain
* Climate change
* Solar UV radiation
* Sudden changes in temperature
* I don't know

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29. In the US, what do we currently do with the nuclear waste generated by nuclear power plants?

* Use it as a nuclear fuel
* Sell it to other countries
* Dump it in landfills
* Store and monitor the waste
* I don't know

30. Which of the following would be considered the most environmentally sustainable?

* Recycling all recyclable packaging
* Reducing consumption
* Buying products labeled "eco" or "green"
* Buying the newest products available
* I do not know

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 31. If you were to arrange the following list of activities from largest environmental impact to smallest, which sequence listed below best represents the order you would choose:

 A. Keeping a cell phone charger plugged into an electrical outlet for 12 hours
 B. Producing one McDonald's quarter-pound hamburger
 C. Producing one McDonald's chicken sandwich
 D. Flying in a commercial airplane from Washington, DC to China

* A, C, B, D
* D, A, B, C
* D, C, B, A
* D, B, C, A
* I do not know

32. Which of the following is a technique used to assess the environmental impacts associated with all of the stages of a product's life from inception to obsolescence?

* An annual review
* A life cycle assessment
* An energy audit
* A thermal system analysis
* I don't know

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33. What is meant by the term "carbon footprint"?

* It refers to the size of the carbon chain in a given quantity of gasoline.
* The carbon left on the ground each time you take a step.
* It refers to the greenhouse gases released by a given activity in terms of carbon dioxide equivalents.
* All of the above
* I do not know

34. How would you rate your level of concern about the environment?

* Not at all concerned
* Slightly concerned
* Moderately concerned
* Very concerned
* Extremely concerned

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Demographic Data

In this section, we will ask you some demographic questions.

35. What is your primary status at UMass Lowell?

* Staff
* Faculty
* Undergraduate Freshman
* Undergraduate Sophomore
* Undergraduate Junior
* Undergraduate Senior
* Master's Student
* Doctoral Student
* Other (Please Specify): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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36. How many years have you been at UMass Lowell?

* 0 - 2
* 3 - 4
* 5 - 6
* 7 - 8
* 9 - 10
* More than 10

37. What is your age range?

* 18 - 24
* 25 - 29
* 30 - 39
* 40 - 49
* 50 - 59
* 60+

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38. What is the highest level of education you have completed?

* Some high school
* High school diploma/GED
* Some college
* Associate's Degree
* Bachelor's Degree
* Master's Degree
* Doctorate

39. What is your gender?

* Male
* Female
* Transgender
* Non-binary
* I do not identify as any of the above.

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40. What is your race? (CHECK ALL THAT APPLY)

* Asian
* Black or African American
* Native American or Alaskan Native
* Native Hawaiian or Pacific Islander
* White
* Other (Please Specify): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

41. Are you Hispanic/Latino?

* Yes
* No

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If you are interested in being entered in for a chance to win an iPad (approximate $300 value), please provide your email address below.

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End of Block: Welcome to the 2022 UMass Lowell Sustainability Assessment