

**Alliance of Nurses for Healthy Environments
Strategies for Incorporating Climate Change into Nursing Curricula**

Specific Classes/General Content Areas in Nursing Curricula	Appropriate Climate related Content	Teaching Strategies, Resources, and Competencies (ex. readings, questions, assessments, case studies, research articles, PowerPoints, webinars, videos,etc.)	Nursing Concepts Related to Climate Related Climate Related Competencies (ANA & ICN)
<p>Fundamentals in Nursing (Introductory course)</p>	<p>Environment in Nursing Introduce a social determinants of health approach to nursing assessment and practice</p>	<p>Nurse as a role model: What is the student's carbon footprint? Does the facility they are working in have a green team? Does the facility consider climate change/sustainability as part of its mission? Does the clinical agency examine its carbon footprint? Lifecycle of supplies: Where do supplies come from and where to they end up?</p> <p>Incorporate safety issues related to disaster preparedness into practice.</p> <p>National Climate Change Assessment: http://www.globalchange.gov/climate-change</p> <p>Carbon Footprint Calculator: http://www.nature.org/greenliving/carboncalculator/index.htm</p>	<p>Assesses the environment to identify risk factors. Promotes a safe and healthy workplace and professional practice environment.</p> <p>Participates in strategies to promote healthy communities and practice environments.</p>

<p>Health Assessment</p>	<p>Identify vulnerable populations for climate change health risks.</p> <p>Focus assessment related to the climate: Dehydration Excessive heat and heat adaptation Respiratory status Age Nutritional assessment Mental health</p>	<p>Consider the patient's living environment as well as the outside environment to determine what the patient believes promotes health and poses threats to health.* Risk heat related illness, flooding, drought, food insecurity, air quality</p> <p>U.S. Climate Toolkit: https://toolkit.climate.gov/topics/human-health</p> <p>See list of vulnerable groups listed in the USGCRP assessment.</p>	<p>Assesses the environment to identify risk factors.</p> <p>Participates in strategies to promote healthy communities and practice environments.</p>
<p>Nutrition</p>	<p>Content specific to food and water insecurity, sustainability, and and contamination.</p>	<p>Include concepts of: Food sustainability Nutrient deficits CDC (climate and foodborne illnesses)</p> <p>Food miles: How far your food travels has serious consequences for your health and the climate (NRDC, 2007) available from: https://food-hub.org/files/resources/Food%20Miles.pdf</p> <p>Calculate how far your food traveled from farm to table: http://www.foodmiles.com/</p>	

<p>Introduction to Professional Nursing/ Leadership/ Trends</p>	<p>ANA Standards of practice--Standard #17 ANA Climate & Energy resolutions NLN Scope of Practice (2010) Climate Change Policy: local, state, national, international</p>	<p>ANHE: http://envirn.org/climate-change-health-and-nursing/ Especially page 27- includes nurses' climate stories.</p> <p>Health Care Sector Climate Resilience: https://toolkit.climate.gov/topics/human-health/building-climate-resilience-health-sector</p> <p>Carbon Footprint Calculator: http://www.carbonfootprint.com/calculator.aspx</p>	<p>ANA Standards of practice-- Standard #17</p> <p>Promotes a safe and healthy workplace and professional practice environment.</p>
<p>Pathophysiology</p>	<p>Include the relationship of air quality to CVD, HTN, Respiratory illness, allergies, cognitive deficits.</p> <p>Include co-benefits of living in a "climate conscious" world.</p>	<p>Lancet Commission Report (2015) https://climatehealthcommission.files.wordpress.com/2015/04/global-health-community-lancet-commission1.pdf</p> <p>Impacts of Climate Change in the United States: A Scientific Assessment www.health2016.globalchange.gov Website contains downloadable powerpoint presentations.</p> <p>How Climate Change Effects Your Health (APAP infographics) https://www.apha.org/news-and-media/multimedia/infographics/how-climate-change-affects-your-health</p>	

<p>Pharmacology</p>	<p>How can the pharmaceutical industry minimize carbon emissions? (20% of carbon emissions in UK r/t to pharma).</p> <p>Pharma's role in planning for hospitals and health centers respond to weather events.</p> <p>Pharma waste to mitigate contamination of water supplies Medication availability during disasters</p>	<p>Impact of heat, water access, & climate emergencies on medication access.</p> <p>Teach Proper disposal of unused medications: How to dispose of unused medicines</p> <p>United States Food and Drug Administration: https://www.fda.gov/ForConsumers/ConsumerUpdates/ucm101653.htm</p> <p>Health Care without Harm's European recommendations https://noharm-uscanada.org/sites/default/files/documents-files/4304/2016-09-27%20HCWH%20Europe%20Pharmaceuticals%20in%20the%20environment%20position%20paper.pdf</p>	<p>Participates in strategies to promote healthy communities and practice environments.</p> <p>Advocates for the safe, judicious and appropriate use and disposal of products in health care.</p>
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<p>Research/ EBP</p>	<p>The state of the science in climate change Citizen science (measuring air quality, sea level rise, water quality, food availability) Examine the data of local, state, & national weather extreme events with hospitalizations and/or mortality.</p>	<p>Use the evidence to make policy recommendations Develop climate health research questions.</p> <p>Nurse researchers in climate health/planet. See ANHE e-text: Unit IX beginning, on page 145 http://envirn.org/e-textbook/</p> <p>To examine the data -USGS: Disease Maps (vector borne) https://diseasemaps.usgs.gov/mapviewer/</p>	
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<p>Adult Health/ Medical- surgical Nursing</p>	<p>Include climate risk or worsening of disease state (CVD, MI, Pulmonary, Renal)</p> <p>Include other members of the health care team to address climate adaptation and resilience.</p> <p>Climate risks for persons with disabilities And adults living with chronic conditions</p> <p>At risk occupational groups</p>	<p>EPA Air Now (air quality report app) https://airnow.gov</p> <p>Emergency responses Case studies/Simulations (i.e. Heat Stroke)</p> <p>Students participate in weather-related emergency response drills.</p> <p>Advancing Clean Air, Climate and Health. ANHE education program. CUE's provided. Link to program: http://envirn.org/advancing-clean-air-climate-health-opportunities-for-nurses/</p> <p>Climate Change and Health Assessment (GlobalChange.gov, 2016) https://health2016.globalchange.gov/</p>	
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<p>Gerontologica I Nursing</p>	<p>Vulnerable population – Age impacts susceptibility to climate changes. (Excessive Heat events, hydration, mobility for extreme weather events, poor air quality, waterborne and vector borne disease, nutrition, dementia risks) Programs to promote adaptation and resilience strategies. Increased risks in urban settings and heat islands</p>	<p>Advancing Clean Air, Climate and Health. ANHE education program. CUE's provided. Link to program: http://envirn.org/advancing-clean-air-climate-health-opportunities-for-nurses/</p> <p>Environment and Health: Unit II: Harmful Environmental Exposures and Vulnerable Populations</p> <p>Climate Change and the Health of the Older Adult (EPA, 2016) https://www.epa.gov/sites/production/files/2016-06/documents/older-adults-health-climate-change.pdf</p> <p>Climate Change and Older Americans: State of the Science Gamble, J, Bradford, B.J., Hurley, P. & Schultz, W. (2013). <i>Environmental Health Perspectives</i>, 121(1). 15-22. Link to article: https://ehp.niehs.nih.gov/wp-content/uploads/121/1/ehp.1205223.pdf</p>	<p>Assesses the environment to identify risk factors.</p> <p>Participates in strategies to promote healthy communities and practice environments.</p>
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<p>Child and Family Nursing</p>	<p>Vulnerability of children to climate change impacts Home environments Climate disasters Play environments Healthy Homes Food and water exposures Excessive heat events Vector borne diseases Diarrheal diseases Malnutrition from lack of food sources Common EH health issues for children: Asthma triggers Heat exhaustion Sustainable living for families Anticipatory guidance to parents/guardians related to changing climate</p>	<p>NIH videos: Effect of Climate on Health of Children https://www.niehs.nih.gov/news/video/scivid/index.cfm#785822 EPA Pediatric Environmental Specialty Units (PESU) https://www.aap.org/en-us/advocacy-and-policy/aap-health-initiatives/Pages/Pediatric-Environmental-Health-Specialty-Units.aspx</p> <p>Environment and Health: Unit II: Harmful Environmental Exposures and Vulnerable Populations.</p> <p>Webinar: Congressional Briefing: on How EPA Rules Affect Children’s Health. Link: http://www.ustream.tv/channel/jLVYBVuKWcU</p> <p>Heat exposure information for student athletes http://www.azdhs.gov/preparedness/epidemiology-disease-control/extreme-weather/index.php#heat-schools</p>	<p>Participates in strategies to promote healthy communities and practice environments.</p>
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<p>OB/Women's health/ Neonatal Intensive Care Nursing</p>	<p>Fetal Development – climate related effects Pregnancy & climate: excessive heat events, inhalation of particulate matter and adverse health outcomes Breastfeeding (Need to know specific concern related to CC here?) Risk for vector-borne diseases for pregnant women, fetus, and infants</p>	<p>Article: Climate change and the potential effects on maternal and pregnancy outcomes: an assessment of the most vulnerable--the mother, fetus, and newborn child.</p> <p><u>Rylander C, Odland JØ, & Sandanger TM. (2013). Climate change and the potential effects on maternal and pregnancy outcomes: and Assessment of the most vulnerable--the mother, fetus, and newborn child. <i>Global health action</i>, 6(1), 19538. Link to the article: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3595418/</u></p> <p>Climate Change and the Health of Pregnant Women (EPA, 2016) https://www.epa.gov/sites/production/files/2016-10/documents/pregnant-health-climate-change.pdf</p>	
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<p>Psychiatric/ Behavioral/ Mental Health Nursing</p>	<p>Climate risks discussed with each disease and how vulnerability is affected by age, culture, issues of addiction and homelessness - as well as hope and preparedness. PTSD related to: exposure to trauma and recognition of threats to continuity of care and disasters and environmental justice communities. Identify the effects of extreme heat on suicide and aggressive behavior. Learn emerging vocabulary regarding Climate Change and Mental Health.</p>	<p>PTSD and impact of disasters. Stress</p> <p>Mental Health and Stress Related Disorders: niehs.nih.gov/research/programs/geh/climatechange/health_impacts/mental_health/index.cfm</p> <p>Resource: Making the Connection: Climate Changes Mental Health. https://www.apha.org/~media/files/pdf/topics/climate/climate_changes_mental_health.ashx</p> <p>CDC Building Resilience Against Climate Effects (BRACE) https://www.cdc.gov/climateandhealth/BRACE.htm</p> <p>Article: Climate change and mental health: A causal pathways framework. Berry, H.L., Bowen, K. & Kjellstrom, T. (2010). Climate change and mental health: a causal pathways framework. <i>International Journal of Public Health</i>. 55 (2).123-132. doi:10.1007/s00038-009-0112-0</p> <p>Article: Climate Change and Mental Health. Trombley, J., Chalupka,S., & Anderko, L. (2017) Climate change and mental health. <i>American Journal of Nursing</i>, 117 (4), 44-52.</p> <p>Resource: Mental Health and Our Changing Climate. Clayton, S., Manning, C. M., Krygsman, K., & Speiser, M. (2017). <i>Mental Health and Our Changing Climate: Impacts, Implications, and Guidance</i>. Washington, D.C.: American Psychological Association, and ecoAmerica.</p>	<p>Recognizes that the vulnerable are “the most vulnerable” in terms of climate change and mental health. Understands the need to build resilience in person, family, and community. Assesses the environment to identify risk factors and develops plan of care which uses self-efficacy to support resilience and posttraumatic growth. Participates in an interprofessional approach to ensure community day programs and group homes engage in preparedness planning through effective communication and the formation of strong community bonds.</p>
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<p>Community/ Public Health Nursing</p>	<p>Public health emergencies: Disaster preparedness-including interdisciplinary collaboration in responding to: floods, excess heat of cold events, access to food and water, environmental refugees and displaced persons Vector-borne diseases (covered in Communicable disease content) and change in location due to climate Air Quality of Oz & PM 2.5, 10 Relationship between Mitigation – primary prevention Adaptation – secondary prevention Resilience – tertiary prevention Each of these strategies can also be primary level too—need to be sure to address this Planetary health</p>	<p>NOAA U.S. Climate Resilience Toolkit (Health Section): https://toolkit.climate.gov/topics/human-health Community Climate Risk and Vulnerabilities Assessment tool https://toolkit.climate.gov/topics/human-health/building-health-care-sector-resilience/element-1-climate-risks-and-community Connect content about host environment and the impact of climate change upon vector distribution. <u>Public health nursing and climate change</u> https://noharm-uscanada.org/content/us-canada/nurses-climate-change-toolkit Use the Ecological Model for Planetary Health to identify global health effects of climate change, explain the strategies of mitigation, adaptation and resilience and how various population groups are impacted by climate change. Read http://www.thelancet.com/journals/lanplh/article/PIIS2542-5196(17)30083-9/fulltext</p>	<p>Assesses the environment to identify risk factors. Communicates information about environmental health risks and exposure reduction strategies. Participates in strategies to promote healthy communities and practice environments.</p>
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Leadership/ Trends/ Advocacy/ Policy	Climate advocacy Climate Change Policy: local, state, national, international Public health policy: Advocacy campaigns Govt. testimony Environmental refugees Planetary health	Nursing organizations' position on climate change: ICN, ANA, What are health systems' position on climate change and preparedness: JACHO What are global, federal, state & local policies Climate Change, Health & Nursing: A Call to Action (ANHE) http://envirn.org/climate-change-health-and-nursing/ US Climate & Health Alliance: Adovcacy tools: http://usclimateandhealthalliance.org/uscha-state-policy-initiative/advocacy-tools/ Creating a model for Climate Resilient City (nurse working across disiplines): https://toolkit.climate.gov/case-studies/creating-model-climate-resilient-city	Participates in strategies to promote healthy communities and practice environments.
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