

SS 3315 – Population, Health and Environment Syllabus Summer 2022

Instructor Information

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Course Identification

Course Number: SS 3315
Course Name: Population and Environment
Course Location: Monteverde Institute
Class Times: Monday-Thursday 1:00-3:00pm

Course Description/Overview

The course investigates how human populations grow and change and the inter-relationships between global and local populations, health, development and the natural environment. It provides an overview of basic demographic data and social science theory of how and why populations change and applies these foundations to understand how population, health and environment impact one another at multiple scales from local to global, often using Costa Rica as a case study. In particular, we will investigate how conservation and protected areas work in relation to population pressure and human development globally, and especially in Costa Rica. We'll address questions such as: Does population growth pose an environmental crisis? How do natural disasters and climate change affect human health and migration patterns? How do population processes (fertility, mortality, migration) and public health vary across space and how do these impact local and global environments and protected areas? What are policy impacts and implications? How are environmental goods and bads distributed among different groups of people (environmental justice)? The course is interdisciplinary and will bring together elements from ecology, economics, environmental science, geography, history, natural resource management, public health, sociology, and urban/regional planning.

Learning Objectives

This course meets Michigan Tech University Learning Goal 3 for Global Literacy. A globally literate student will demonstrate the ability to understand and analyze issues on multiple scales and from diverse perspectives, acknowledging interconnectivity and complexity. As globally literate, students should 1) become informed and open-minded people who are attentive to diversity across the spectrum of differences, 2) seek to understand how human actions impact the human and natural world on multiple scales, and 3) address the most

pressing and enduring global challenges while considering context, complexity, and interconnectivity. See <http://www.mtu.edu/learning-goals>.

More specifically, at the completion of this course students will be able to...

1. Explain how populations are structured, how they are measured, and how they change over time at various spatial scales.
2. Critique arguments about the degree to which population (in comparison to other social and economic factors) is driving environmental problems.
3. Evaluate connections between population, health and various environmental issues around the globe.
4. Consider how policies mediate relationships between population, health and environment.

Course Resources

Course Website(s)

- On Canvas

Required Course Texts

- Course reading packet posted on Canvas

Assignments and Grading

Assignments include the following for the associated percent of final grade:

Problem Sets (n=3)	15%
Debate/Position Paper	15%
Individual Contribution to Group Project on Protected Areas	25%
Group Project on Costa Rica Protected Areas	25%
Discussion	20%

Problem Sets: Students will be asked to find population and health data and calculate several basic demographic measures using basic math skills to understand population change in a place of their choice. Each problem set will include about one page of questions for which students will need to find data and calculate basic demographic and health measures and/or create tables or charts following procedures covered in class. These problem sets can also then inform the group project on Costa Rica protected areas.

Debate/Position Paper: Working in teams of ~3 students write a statement (~1,000 words) associated with an assigned “side” in the debate about the role of population growth in environmental destruction. Students then participate as a team in class to argue their “side” in a debate. Finally, students write an individual reflection paper (1,000 words) about what they learned from this activity, presenting and justifying their opinion (after the debate) about the role of population and development in environmental destruction.

Provide a clear argument and support your answer with evidence, data, and citations. Choose one specific example case to illustrate your points (such as population growth and deforestation in Costa Rica). Demonstrate that you understand the complexity of relationships between population, environment, and development.

Individual & Group Project on Costa Rica's Protected Areas: This is a team project, but each student will be assigned a particular protected area within Costa Rica to study. The group will then integrate and present the findings in a public presentation to the community on June 20. Students will analyze population change, health and development in and around Costa Rica's protected areas. Students will be taught basic GIS skills in class and provided with data from Costa Rican censuses, environmental data on forest cover change, and health data from public health departments. Students will map these layers and analyze relationships between population-health-environment in each protected area. Students write a report on their assigned area. Then, the team will write a final research report to be shared in the Monteverde Institute.

Discussion: The class will include a good deal of discussion, and it is imperative that students complete the assigned readings and come to class prepared to engage in critical discussions. There are multiple ways that students can participate, including: responding to questions posed in class, asking questions in class, and commenting and raising questions on readings (and peer comments) during class discussion. All students begin the semester with 15/30 discussion points. Points will be added for regular, thoughtful contributions to class discussion. See Critical Thinking rubric below for how oral participation will be evaluated. Points will be deducted for lack of preparation, lack of attendance, and/or lack of regular participation in discussion. This is a place where extra effort can be rewarded or lack of effort/engagement can detract.

University Policies

Academic regulations and procedures are governed by University policy. Academic dishonesty cases will be handled in accordance the University's policies.

If you have a disability that could affect your performance in this class or that requires an accommodation under the Americans with Disabilities Act, please see me as soon as possible so that we can make appropriate arrangements. The Affirmative Action Office has asked that you be made aware of the following:

Michigan Technological University complies with all federal and state laws and regulations regarding discrimination, including the Americans with Disabilities Act of 1990. If you have a disability and need a reasonable accommodation for equal access to education or services at Michigan Tech, please call the Dean of Students Office at 487-2212. For other concerns about discrimination, you may contact your advisor, Chair/Dean of your academic unit, or the Affirmative Programs Office at 487-3310.

Academic Integrity:

http://www.studentaffairs.mtu.edu/dean/judicial/policies/academic_integrity.html

Affirmative Action:

<http://www.admin.mtu.edu/aao/>

Disability Services:

<http://www.mtu.edu/dean/disability/services/>

Equal Opportunity Statement:

<http://www.admin.mtu.edu/admin/boc/policy/ch5>

COVID-19

All students are expected to comply with University and Monteverde Institute protocols in place to reduce the spread of COVID-19. All students are required to be vaccinated and will be asked to show proof (vaccination card). Other standard vaccinations are required by the Costa Rican government for foreigners entering the country. Students will also be expected to adhere to any Costa Rican government standards related to Covid-19.

Critical Thinking & Grading Rubric

You are expected to think, read, speak, and write in this class using critical thinking skills. But what exactly is critical thinking? And how will I determine if you're using it? Critical thinking means that you carefully consider ideas against evidence (from readings, class lectures, data, academic journal articles, government documents, other trusted sources). Critical thinkers justify their opinions and arguments. This means that they clearly explain how their opinions are shaped by evidence and agree or disagree with others by explaining why and, again, providing evidence to support their opinions. Essentially, you justify yourself by defending your thinking with examples and evidence. In order to really think critically, you should consider multiple different perspectives against evidence. In grading your assignments, I'll generally follow this broad rubric.

Best (A)	<ul style="list-style-type: none"> • Demonstrate deep understanding of theories, concepts, data, and issues presented in readings and class. • Justify opinions with evidence and highly appropriate examples from readings, class lectures/materials, other trusted (peer reviewed or government type) sources. Explain thinking followed by "because" and clear justification. • Agree and disagree with others and authors and tell why • Keep the conversation going by asking open-ended questions of others • Exhibit creativity and unique contributions, rather than simply repeating what others have stated • Use accurate grammar and clear writing/speaking style and organization
Good (B-ish)	<ul style="list-style-type: none"> • Demonstrate adequate understanding of theories, concepts, data and issues presented in readings and class. • Justify opinions with evidence and examples from readings, class lectures/materials, other trusted (peer reviewed or government type) sources, and/or life experiences. • Agree and disagree with others and authors and tell why • Make unique contributions, rather than simply repeating others • Use accurate grammar and clear writing/speaking style and organization
Fair (C-ish)	<ul style="list-style-type: none"> • May refer to theories, concepts, data and issues presented in readings and class, but without much meaning or understanding. • Answers questions or tells opinion, without justifying • Agree and disagree with others and authors, but cannot tell why • Makes little unique contribution • Uses some incorrect grammar and lacks clear writing/speaking style and organization
Poor (D/F)	<ul style="list-style-type: none"> • Incomplete • Does not integrate material from readings/class • Does not contribute to the conversation • Agree and disagree with others and authors, but cannot tell why • Makes no unique contribution • Uses poor grammar and lacks clear writing/speaking style and organization

Course Schedule (45 contact hours)

Week 1: Introductions and Overview- on Zoom remotely (2 contact hours)

T 5/10 Meet via Zoom, 11:30-1:30
Introductions and Overview; Planetary Boundaries & Protected Areas
Discuss Reading: Steffen et al., *Planetary Boundaries: Guiding Human Development on a Changing Planet* (Canvas)
Selected readings from The Green Republic

Week 2: Break

No Meetings—Travel and adjustment to Costa Rica. Focus on other courses.

Week 3: Demography, Demographic Transition, Development & Food (11 hrs)

T 5/24: Class, 1:00-3:00 Monteverde Institute
W 5/25: Class, 1:00-3:00 Monteverde Institute
R 5/26: Class, 1:00-3:00 Monteverde Institute
F 5/27: Field trip to local school and public health clinic, 9:00-12:00
Class, 1:00-3:00 Monteverde Institute

Week 4: Gender & Fertility, Maternal Health, Water & Pop-Env Debate (11 hrs)

M 5/30: Class, 1:00-3:00 Monteverde Institute
T 5/31: Class, 1:00-3:00 Monteverde Institute
W 6/1: Class, 1:00-3:00 Monteverde Institute
R 6/2: Class, 1:00-3:00 Monteverde Institute
F 6/3: Class, 1:00-4:00 Monteverde Institute

Week 5: Mortality, Inequality, & Climate Change (7 hrs)

M 6/6: Class, 1:00-3:00 Monteverde Institute
T 6/7: Class, 1:00-3:00 Monteverde Institute
F 5/27: Class, 1:00-4:00 Monteverde Institute

Week 6: Migration, Climate Change & Regenerative Solutions (8 hrs)

M 6/13: Class, 1:00-4:00 Monteverde Institute
T 6/14: Class, 1:00-4:00 Monteverde Institute
R 6/15: Class, 1:00-3:00 Monteverde Institute

Week 7: Presentations, Urbanization & Development (6 hrs)

M 6/20: Presentations, 1:00-4:00 Monteverde Institute
W 6/24: Water and mass tourism in Jaco, 10:00am-1:00pm