



Course PH-C- 006 – Environmental Health

Programme – Spring 2026

Course Instructor: Professor Dr. Sneha Krishnan

This course manual is prepared by the course instructor and contains basic information relevant to the execution of the course. It is the official record for all intents and purposes as far as the core course **Environmental Health** is concerned.

This course manual can be used as a general guide to the subject. However, the instructor can modify, extend or supplement the course (without tampering its basic framework and objectives) for the effective and efficient delivery of the course. The instructor will provide the students with reasons for such changes.

Course Information

Course Duration: One Semester (15 Weeks)

Credit Hours: 60

Meetings:

Location:

Prerequisites: None

Equivalent Courses: NA

Exclusive Courses: No

Instructor Information

Instructor: Sneha Krishnan

Email: skrishnan@jgu.edu.in

Office Hours: By appointment

Part 1.

1. Course Description

As we inhabit an increasingly warming planet, we are faced with multiple crises such as climate change, biodiversity loss, disasters and environmental pollution. All this have an impact on public health as well as health of other living beings on the planet. We will explore the health impacts felt in the Anthropocene, including food and nutrition, infectious disease, non-communicable disease, displacement and conflict, and anti-microbial resistance.

In this course, we will explore various concepts such as environmental health, planetary health and one health approaches to understand how health of the planet is intrinsically tied to the health of its human and non-human entities on earth. We will explore strategies, approaches and frameworks to integrate environmental issues and health consequences.

2. Course Aims (Intended Learning Objectives)

By the conclusion of this course, it is intended that students who have successfully completed all the course requirements will be able to:

1. Understand basic concepts and frameworks in establishing links between environment, economy and health.
2. Critically analyse complex issues related to pollution - plastics, air, water, soil and biomedical waste
3. Understand how anti-microbial resistance is an environmental health concern
4. Develop an anti-colonial, feminist understandings of environmental issues, causes and their implications for human health outcomes– food, agriculture, nutrition, diseases burden;
5. Evaluate how environmental factors are included in public health frameworks such as social, commercial and political determinants of health.

Keyword: environmental health, anti-colonial, public health, pollution, anti-microbial resistance

3. Teaching Methodology

The goal of this course is to foster active and collective learning. There will be weekly seminars, which are text-driven and discussion based, both warranting active participation of all students. Students are required to keep up with the text-heavy course for maximum gain, and aid peer-to-peer learning. In this course, we will engage with audio-visual materials to supplement the texts assigned for each topic. Substantive learning and discussions will be facilitated through creative explorations with the assignments.

Part 2: Assessment System and Grading

To successfully complete the course, students must get a passing grade of 40% on each of the three components.

Components	Percent of the Grade
Attendance	10% (10 Marks)

Class Participation	10% (10 Marks)
Take home assignment*	30% (30 Marks)
Viva/Presentation*	20% (10 Marks)
Examination	30% (30 marks)

*Details on each of these components will be shared with students.

Letter Grade	Percentage of Marks	Grade Points	Interpretation
O	80 and above	8	Outstanding: Exceptional knowledge of the subject matter, thorough understanding of issues; ability to synthesize ideas, rules and principles and extraordinary critical and analytical ability
A+	75-79	7.5	Excellent: Sound knowledge of the subject matter, thorough understanding of issues; ability to synthesize ideas, rules and principles and critical and analytical ability.
A	70-74	7	Very Good: Sound knowledge of the subject matter, excellent organizational capacity, ability to synthesize ideas, rules and principles, critically analyze existing material and originality in thinking and presentation.
A-	65-69	6	Good: Good understanding of the subject matter, ability to identify issues and provide balanced solutions to problems and good critical and analytical skills
B+	60-64	5	Fair: Average understanding of the subject matter, limited ability to identify issues and provide solutions to problems and reasonable critical and analytical skills.
B	55-59	4	Acceptable: Adequate knowledge of the subject matter to go to the next level of the study and reasonable critical and analytical skills.
B-	50-54	3	Marginal: Limited knowledge of the subject matter and irrelevant use of materials, and poor critical and analytical skills.
P1	45-49	2	Pass 1: Pass with basic understanding of the subject matter
P2	40-44	1	Pass 2 : Pass with rudimentary understanding of the subject matter

F	Below 40	0	Fail: Poor comprehension of the subject matter; poor critical and analytical skills and marginal use of the relevant materials. Will require repeating the course.
P	Pass		'P' represents the option of choosing Pass grade over the CGPA grading system in the COVID-19 semesters. The option is provided when students attain a minimum of 40 percentage marks under the current grading structure in a given subject.
I	Incomplete		Extenuating circumstances preventing the student from completing coursework assessment, or taking the examination; or where the Assessment Panel at its discretion assigns this grade. If an "I" grade is assigned, the Assessment Panel will suggest a schedule for the re-exam.

Part 3. Academic Integrity and Student Expectations

Academic Integrity, Cheating and Plagiarism

The School expects students to maintain the highest standards of ethical behavior as they embark on this new journey of learning. This includes respect for teachers and students, that extends to respecting diverse ideas, theories and debates, and contributing respectfully to all discourse. Through this course, we expect students to adhere to these principles. Students must also acknowledge in scientific ways, the sources and processes that contribute to their learning and their authorship. Ideas that have been borrowed or have inspired must be duly credited. Formal and informal ways of crediting must also be utilized in writing or presentations to acknowledge the role of contributors. Cheating and plagiarism in any form are considered serious violations by the university and will be dealt with through sanctions.

Participation/Attendance Policy

Attendance to the course is mandatory, and participation counts for nearly 10% of the final grade. Participation in class should be viewed not only as a responsibility, but as a means to raise the classroom discourse and contribute to a meaningful understanding of issues in the field. Any student not able to attend class due to any genuine medical or other reasons must send in a prior note requesting permission to skip class or providing reasons if permission could not be sought in time. Not having the permissions to skip class will result in deductions in the final grade.

Use of Technology in Classrooms

While technology is an important aid for learning, the use of phone and laptop in class can be a source of distraction for students. We encourage students to use aids such as whiteboards and

flipcharts to ideate, in this course, we actively discourage students from the use of phone and laptop in class. If students feel this is absolutely necessary, limited use of this can be discussed in the first session. However, the use of phone or laptop for browsing social media or texting is heavily discouraged.

Disability Support and Sexual Harassment Requirements

JGU endeavors to make all its courses accessible to students. All students with any known disability needing academic accommodation are required to register with the Disability Support Committee dsc@jgu.edu.in. The Disability Support Committee maintains strict confidentiality on the matters under its purview. Students should preferably register with the Committee during the month of June/January as disability accommodation requires early planning. DSC will coordinate all disability related services such as appointment of academic mentors, arranging infrastructural facilities, and course related requirements such as special lectures, tutorials and examinations. Faculty members are also requested to be sensitive to the needs of such students and cooperate with the Disability Support Committee and the School, extending students the necessary support by maintaining utmost confidentiality of the matter.

In accordance with the Student Handbook, students should not indulge in displaying pornographic materials, obscenity or in gambling, ragging or sexual harassment, nor practice discrimination based on race, religion, caste, and place of origin. In particular, foreign students must be shown due courtesy and treated in a dignified manner.

Safe Space Pledge

In this class, we will engage with a range of topics on gender and social inequalities, which will raise contentious debates and dialogues in class or outside. While these dialogues enable us to get to a better discourse, it may inadvertently result in distress for some students. Discussions in the course might also provoke strong emotional responses. To make sure that all students collectively benefit from the course, and do not feel disturbed due to either the content of the course or the conduct of the discussions it is therefore incumbent upon all within the classroom to pledge to maintain respect towards our peers. This does not mean that you need to feel restrained about what you feel and what you want to say. Conversely, this is about creating a safe space where everyone can speak and learn without inhibitions and fear. This responsibility lies not only with students, but also with the instructor.

Key textbooks

1. Myers and Frumklin (2020) Planetary Health: Protecting Nature to Protect Ourselves, eds Island Press, pp 536, ISBN 9781610919661

1. Lecture Schedule (Sessions Plan)

Session	Topic and Description	Reading Material
1	Environmental health: concepts and problems	Myers and Frumklin (2020) Planetary Health: Protecting Nature to Protect Ourselves, eds Island Press, pp 536, ISBN 9781610919661

		Whitmee S, Haines A, Beyrer C, et al. Safeguarding human health in the Anthropocene epoch: report of The Rockefeller Foundation–Lancet Commission on planetary health. Lancet 2015; 386: 1973–2028
2 & 3	History of Environment and Health	Paul Farmer’s work with Partners in Health
4	Sustainable Agri-Food Systems	<p>The Water and Food Nexus:Trends and development of the Research Landscape, Stockholm International Water Institute and Elsevier www.info.scival.com/waterfoodnexus</p> <p>Kadiyala S, Krishnan S, et al 2020 Effect of nutrition-sensitive agricultural interventions with participatory videos and women’s group meetings on maternal and child nutritional outcomes (UPAVAN trial): a four-arm cluster-randomized controlled trial in rural Odisha, India, LANCET Planetary Health</p>
5	Child Health and Nutrition	<p>Anderko et al (2020) Climate changes reproductive and children’s health: a review of risks, exposures, and impacts, Pediatric research</p> <p>Dimitrova et al (2020) Monsoon weather and early childhood health in India, PLoS ONE 15(4) :e0231479</p> <p>https://doi.org/10.1371/journal.pone.0231479</p>
6	Field trip	Visiting Kundli and health and wellness centres
7	Environmental Health risk assessments	<p>Buse et al (2018) Public health guide to field developments linking ecosystems, environments and health in the Anthropocene, Journal of Epidemiological and Community Health doi:10.1136/jech-2017-210082</p> <p>Joachim von Braun (2020) Climate Change Risks for Agriculture, Health, and Nutrition in Al-Delaimy et al. (2020) Health of People, Health of Planet and Our Responsibility: Climate Change, Air Pollution and Health, Springer Open Available on</p> <p>https://link.springer.com/content/pdf/10.1007%2F978-3-030-31125-4.pdf</p>
8	Water and Sanitation and Health	<p>Krishnan Sneha & Twigg John (2016) Menstrual hygiene: a ‘silent’ need during disaster recovery , Waterlines https://researchonline.lshtm.ac.uk/id/eprint/4575252/1/krishnan_twigg_waterlines.pdf</p>

		Barrington DJ, Sindall RC, Chinyama A, Morse T, Sule MN, Beale J, et al. The persistence of failure in water, sanitation and hygiene programming: a qualitative study. BMJ Global Health. 2025;10:e016354. https://doi.org/10.1136/bmjgh-2024-016354
9	Gender and Health in a changing planet	Gaard, G. (2015). Ecofeminism and climate change. Women's Studies International Forum, 49, 20–33. doi: 10.1016/j.wsif.2015.02.004 Ryder, S. S. (2017). A Bridge to Challenging Environmental Inequality: Intersectionality, Environmental Justice, and Disaster Vulnerability. Social Thought and Research. doi: 10.17161/1808.25571
10& 11	Global Environmental Change and Infectious and Non-communicable Diseases - 1 & 2	Frumkin and Haines (2020) Global Environmental Change and Noncommunicable Disease Risks in Myers and Frumklin (2020) Planetary Health: Protecting Nature to Protect Ourselves, eds Island Press, pp 536, ISBN 9781610919661 Ostfeld and Keesing (2020) Planetary Health and Infectious Disease in Myers and Frumklin (2020) Planetary Health: Protecting Nature to Protect Ourselves, eds Island Press, pp 536, ISBN 9781610919661
12	Plastics and waste	Max Liboiron (2021) Pollution is colonialism, Duke University Press
13	Antimicrobial Resistance	OECD (2023), Embracing a One Health Framework to Fight Antimicrobial Resistance, OECD Health Policy Studies, OECD Publishing, Paris, https://doi.org/10.1787/ce44c755-en . WHO 2025 Global antibiotic resistance surveillance report 2025 https://www.who.int/publications/i/item/9789240116337
14	Human mobility and health	Krishnan, S (2022) Adaptive capacities for women's mobility during displacement after floods and riverbank erosion in Assam, India Climate and Development Journal, ISSN: 1756-5529 https://doi.org/10.1080/17565529.2022.2092052
15 &16	Class seminars and viva	Group and individual submissions and feedback