PLANETARY HEALTH ESSENTIALS

Fall 2026

Instructor- Vivek K Gaurav

Semester: Fall 2026
Credit Hours: 60 Hours (4 credit)
Prerequisites: None

Duration: 1 Semester (15 Weeks)
Lecture Hall: T4-M91E
Meetings: TBD

Instructor Information
Instructor: Vivek K Gaurav
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**This Course Manual serves as a general guide for students. References and readings may be updated at the instructor's discretion to support effective achievement of the course objectives.*

1. **COURSE DESCRIPTION**

Planetary Health is among the most pressing and intellectually demanding fields of the twenty-first century. This course brings together ecology, medicine, public health, social science, technology studies, political economy, and the humanities to examine how the health of human civilizations is fundamentally inseparable from the health of Earth's living systems.

Designed for a global cohort spanning university students to practicing professionals, the course moves from foundations to advance level, integrating empirical evidence with critical theory, local realities with global systems, and crisis analysis with transformative possibility. Students and professionals from disciplinary backgrounds like medicine, environmental science, public health, law, economics, social science, and the arts will all find entry points relevant to their disciplines and professional contexts.

2. COURSE RATIONALE

The convergence of climate change, biodiversity loss, pollution, emerging technologies, and deepening social inequalities demands a new kind of health thinking, one that moves beyond the clinic, beyond national borders, and beyond disciplinary silos. This course responds to that demand by offering a rigorous, inclusive, and globally relevant curriculum rooted in the principles of planetary health.

The course is designed to serve students from the Global South and Global North alike, recognizing that planetary health challenges are experienced unequally and that solutions must be developed with - not merely- for affected communities.

The **Course Learning Outcomes (CLOs)** define what students are expected to know, understand, and demonstrate by the end of this course.

The **Program Learning Objectives (PLOs)** represent the broader intellectual and professional capacities the course cultivates over time. The table below maps each CLO to its corresponding PLO, illustrating how weekly learning translates into enduring graduate attributes aligned with global planetary health practice.

Course Learning Outcomes (CLOs)	Program Learning Objectives (PLOs)
• Explain the interdependence of human health and Earth's ecological systems using planetary health frameworks and systems thinking. • Analyze the health consequences of environmental degradation, climate change, biodiversity loss, and emerging pollutants across diverse global contexts. • Apply a health equity and social justice lens to planetary health challenges, with attention to gender, migration, indigeneity, and structural inequity. • Critically evaluate the role of technology, AI, governance, and finance in shaping planetary health outcomes. • Design a context-sensitive, evidence-based planetary health intervention responsive to a real-world local or national challenge. • Communicate planetary health evidence effectively to diverse audiences including policymakers, communities, and professional peers.	• Develop transdisciplinary literacy, the ability to integrate knowledge from ecology, medicine, social science, law, and technology in addressing planetary health problems. • Cultivate a decolonial and equity-centered worldview that centers Global South perspectives, indigenous knowledge, and community agency in global health practice. • Build analytical and strategic competence to translate planetary health evidence into policy, advocacy, and programmatic action. • Advance professional identity as a planetary health practitioner committed to ecological sustainability, human rights, and intergenerational justice.

3. PROGRAM COMPETENCY GOALS (PCGs)

Mapped to CUGH Global Health Education Competencies Toolkit, 3rd Edition (2024)

PCG	Competency Statement	CUGH Domain
PCG 1	Describe global patterns of disease burden attributable to environmental and ecological change	Domain 1 - Global Burden of Disease
PCG 2	Analyze social, environmental, and structural determinants shaping health across populations	Domain 3 -Social & Environmental Determinants
PCG 3	Apply health equity and human rights frameworks to planetary health challenges	Domain 8- Health Equity & Social Justice
PCG 4	Demonstrate ethical reasoning in contexts of ecological harm, technological risk, and environmental injustice	Domain 6 - Ethics
PCG 5	Communicate and collaborate effectively across disciplines, sectors, and cultural contexts	Domain 5 - Collaboration, Partnering & Communication
PCG 6	Integrate planetary health principles within professional practice and institutional settings	Domains 7 & 12 - Professional Practice; Institutionalization & Sustainable Development
PCG 7	Apply systems thinking and strategic analysis to design and evaluate planetary health interventions	Domain 11 - Strategic Analysis
PCG 8	Demonstrate sociocultural and political awareness in navigating planetary health governance	Domain 10 - Sociocultural & Political Awareness
PCG 9	Engage critically with the science, ethics, and equity dimensions of planetary health	Domain 13 - Planetary Health
PCG 10	Apply decolonizing principles to global health research, knowledge production, and practice	Domain 14 - Decolonizing Global Health

4. SESSION PLAN

Session	Theme/Module	Asynchronous Lecture Title
Session 1-3	**Exploration of Planetary Health** **Description** Step into the world of Planetary Health, where environment, society, and human well-being are deeply connected. This module introduces big ideas like systems thinking, planetary boundaries, ecological change, and environmental storytelling in an engaging, interdisciplinary way. Perfect for curious minds from any background, it helps students see how their interests fit into the larger picture of a healthy planet and healthy future. **Reading List** 1. Haines A, Frumkin H. In: *Planetary Health: Safeguarding Human Health and the Environment in the Anthropocene*. Cambridge University Press; 2021:v-v. 2. Lancet Commission on Planetary Health report (2015) 3. The Ecocriticism Reader: Landmarks in Literary Ecology by Cheryll Glotfelty & Harold Fromm (eds.) 4. Pedelty, Mark. (2015). Environmental communication and the public sphere. 10.1080/17524032.2014.1003440.	• What is Planetary Health? • Human Ecology and the Anthropocene • Planetary Boundaries & Systems Thinking in Health • Ecocriticism and Environmental Thought • Environmental Communication
Session 4-5	**Climate Change and Human Health** **Description** Through these sessions, students explore climate change as a major public health challenge, examining how rising temperatures, extreme weather events, and environmental disruptions affect physical, mental, and community health. The module also	• Climate Change as a Health Emergency • Sudden Climatic Catastrophes and Human Challenges • Climate Anxiety and Mental Health

	introduces climate attribution science and the health co-benefits of climate action, encouraging both critical and solution-oriented thinking. **Reading List** 1.	• Vulnerable Populations and Climate Justice • Climate Attribution Science • Health Co-Benefits of Climate Action
Session 6-7	**Environment, Gender, and Reproductive Health** **Description** This session engagement centers the bodies and experiences of women, girls, and gender-diverse people within planetary health discourse, examining how environmental exposures and ecological change fall differently and more severely on those who have had the least power to shape them. Students engage with ecofeminist theory, clinical evidence on reproductive health outcomes, and gender-transformative approaches to planetary health intervention. **Readings:**	• Environment, Women, Gender, and Reproductive Health • Ecofeminism and Environmental Justice • Climate Change and Maternal Health • Gender, Disasters, and Recovery • LGBTQIA+ Community and Environmental Health • Gender-Transformative Approaches in Planetary Health
Session 8-9	**Climate Change, Migration, and Statelessness** **Description** Through these sessions, students examine how climate change and environmental degradation are reshaping migration, displacement, and human security. The module explores climate refugees, vulnerable communities, and the health, legal, and social challenges faced by displaced populations, while introducing rights-based and peacebuilding approaches to environmental justice. **Reading List**	• Climate Migration: Patterns and Projections • Climate Change, Migration, and Statelessness • Health of Displaced Populations • Environmental Peacebuilding • Climate Justice and Human Rights • Host Communities and Social Cohesion

Session 10-11	**Biodiversity, Food Systems, and Nutrition** **Description** Through these sessions, students explore the deep connections between biodiversity, food systems, and human health. The module examines how ecological loss, industrial agriculture, and resource depletion shape food insecurity and nutritional health, while also introducing sustainable alternatives such as agroecology, indigenous food systems, and food sovereignty movements. **Reading List** 1. *The Sixth Extinction: An Unnatural History* by Elizabeth Kolbert. 2. *Half-Earth: Our Planet's Fight for Life* by E.O. Wilson.	• Biodiversity Loss and the Sixth Extinction • Biodiversity Loss and Malnutrition • Environmental Degradation and Food Security • Agroecology and Food Sovereignty. • Microbiome, Biodiversity, and Immunity • Food Systems Justice
Session 12-13	**Emerging Pollutants and Environmental Health** **Description** Through these sessions, students explore the hidden chemical dimensions of planetary health, examining pollutants such as microplastics, PFAS, and air contaminants and their impacts on ecosystems and human health. The module also introduces environmental justice and global chemical governance, highlighting how toxic exposure and environmental risks are unevenly distributed across communities. **Readings** 1. *Emerging Contaminants and One Health Approach* (2026, CRC Press). 2. *Silent Snow: The Slow Poisoning of the Arctic* by Marla Cone.	• Emerging Pollutants and Human Health • Emerging Pollutants and Ecosystem Health • Air Pollution and the Global Burden of Disease • Planetary Antibiotic Resistance • Environmental Justice and Toxic Geographies • Regulatory Science and Chemical Policy?
Session 14-15	**Wildlife, Ecosystems, and Emerging Infections** **Description** This module applies the One Health framework to	

	the rising risk of zoonotic spillover and pandemic emergence driven by ecological disruption. Students examine how habitat destruction, wildlife trade, agricultural intensification, and climate-driven range shifts are bringing humans and animals into dangerous new proximity, creating conditions for the emergence of novel pathogens, and explore governance responses at local, national, and international levels. **Reading List**	• Climate Change and Human-Wildlife Conflict • One Health: Humans, Animals, and Ecosystems • Zoonotic Spillover and Pandemic Risk • Bushmeat, Livelihoods, and Health • Rewilding and Ecosystem Restoration • Wildlife Trade and Global Health Security Someone asks, “Am I dark
Session 16-17	**Urban Environments and Planetary Health** **Description** This module examines the city as both a crucible of planetary health risk and a laboratory for its solutions. Students analyze the health consequences of urban heat islands, air pollution, food deserts, and informal settlement living, while also examining the evidence for urban nature as a health resource. The politics of urban planning and how leading cities are developing innovative climate and health responses are critically explored. **Reading List**	• Urban Heat Islands and Health • Urban Biodiversity and Mental Health • Informal Settlements and Environmental Health • Food Deserts and Urban Food Systems • Mobility, Transport, and Health • Cities as Climate Laboratories
Session 18-19	**Technology, Artificial Intelligence, and Planetary Health** **Description**	• Health Impacts of AI and Digital Technologies • AI Data Centers and Carbon Footprint

	This module invites students to think critically about the digital world as a physical and ecological system with real planetary health consequences. It opens by examining the health impacts of AI - from algorithmic bias in clinical decision-making to the psychological effects of platform economies on wellbeing - before turning to the often-invisible environmental footprint of digital infrastructure. Students learn that AI data centres consume vast quantities of energy and water, that rare earth mining for electronic devices has severe local environmental health consequences, and that e-waste is a growing and largely unregulated global health hazard. The module balances this critical lens with an examination of AI's genuine potential in planetary health monitoring, disease surveillance, and early warning systems, asking students to think carefully about governance, equity, and who bears the costs and receives the benefits of digital transformation. **Reading** 1. **Technical Report:** IEA World Energy Outlook 2025/2026	• AI for Planetary Health Monitoring • Digital Colonialism and Data Sovereignty • Smart Cities and Environmental Health • Technology Governance and Ethics
Session 20-21	**Pro-Environmental Behaviour and Planetary Health** **Description** This module turns the lens inward, asking why people so often fail to act in ways consistent with their environmental values and what health professionals and communicators can do about it. Students engage with the behavioural science of pro-environmental action, climate psychology, denial and disengagement mechanisms, and evidence-based frameworks for behaviour change at individual, community, and institutional levels. **Reading List**	• Pro-Environmental Behaviour and Planetary Health • Behaviour Change Frameworks • Climate Psychology and Denial • Health Professionals as Climate Advocates Community-Based Social Marketing

		• Measuring and Evaluating Behaviour Change
Session 22-25	**Democratizing Sustainability and Planetary Health** **Module Description** This module asks who decides what sustainability means, who bears its costs, and who shapes the agenda. Students engage with movements to democratize environmental governance, post-growth economic frameworks, indigenous land rights, and youth climate activism, closing with an examination of how global finance is beginning to be reshaped by planetary health imperatives. **Reading List**	• Democratizing Sustainability and Planetary Health • Degrowth, Wellbeing Economies, and Health • Indigenous Knowledge and Biocultural Health • Youth Activism and Planetary Health Movements • Corporate Accountability and Planetary Health • Finance, Investment, and Planetary Health
Session 26-28	**Futures, Solutions, and Planetary Health Leadership** The final module synthesizes the course and turns decisively toward action. Students engage with futures thinking, scenario planning, and the competencies of planetary health leadership. The module examines how planetary health can be embedded across education, research, and professional practice, closing with student capstone presentations in which learning is brought to bear on a real planetary health challenge from each student's own community or professional context. **Reading List**	• • Futures Thinking and Scenario Planning • Planetary Health Education and Curriculum • Transformative Research Methodologies • Policy Translation and Health in All Policies • Planetary Health Leadership • Capstone: Student Planetary Health Pledge

The Wrap Up sessions- Reflect, Refresh & Reconnect! A focused pre-exam session for revision, reading, and doubt clearance. Students revisit key concepts, strengthen connections across modules, and prepare confidently for the final assessment.
FINAL EXAM (To be scheduled)

4. EVALUATION STRUCTURE

Component	Marks	Weightage
INTERNAL EVALUATION	**70 MARKS**	**70%**
Class Participation	10	10%
Group Presentation / MCQ / Viva	30	30%
Critical Engagement Activities*	30	30%
EXTERNAL EVALUATION	**30 MARKS**	**30%**
Written Examination	30	30%
Total	**100 Marks**	**100%**

***Critical Engagement Activities include class activities, reflections, individual project presentations, and field visit reports.*

5. GRADE LEGEND

Grade	Marks	GP	Descriptor
O	80 and above	8	Exceptional knowledge; extraordinary critical & analytical ability; ability to synthesize ideas & principles.
A+	75–79	7.5	Sound knowledge; thorough understanding; ability to synthesize and critically analyze.
A	70–74	7	Sound knowledge; excellent organization; originality in thinking and presentation.

A–	65–69	6	Good understanding; ability to identify issues and provide balanced solutions.
B+	60–64	5	Average understanding; limited ability to identify issues; reasonable critical skills.
B	55–59	4	Adequate knowledge to progress; reasonable critical and analytical skills.
B–	50–54	3	Limited knowledge; irrelevant use of materials; poor critical and analytical skills.
P1	45–49	2	Pass with a basic understanding of the subject matter.
P2	40–44	1	Pass with a rudimentary understanding of the subject matter.
F	Below 40	0	Poor comprehension; poor critical skills; marginal use of relevant materials. Course repeat is required.
I	Incomplete		A temporary grade assigned when a student cannot complete coursework or exams due to extenuating circumstances, or at the Assessment Panel's discretion.

6. 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 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 20% of the final grade. Participation in class should be viewed not only as a responsibility, but 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 permission 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 phones and laptops in class can be a source of distraction for students. We encourage students to use technology creatively and for the purposes of learning only. The use of phones or laptops 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 at 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 will extend all necessary support to students while maintaining confidentiality in the matter.

Respect is a core value in any collaborative learning process and is central to our engagement in this course. 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.

Safe Space Pledge

In this class, we will engage with a number of sensitive topics related to gender and social realities and raise contentious social debates as part of learning. The objective is to see various sides of an issue and reach a collective consensus (or not). However, inadvertently a classroom dialogue may lead to distress for a student, or a topic may provoke a strong emotional response. Hence, it is incumbent upon all students to pledge respect towards peers and to ensure that they do not

hurt the sentiment of one or more students during the classroom discourse. This means that while students do not feel restrained to offer their opinion, they also create a safe space where everyone can speak and learn without inhibitions and fear. Recording (audio/video) of any kind is not permitted without the consent of the person being recorded.

This course operates on the principle of open dialogue, feel free to reach out directly if any aspect of this course is causing you difficulty or concern.