PRE-COLLEGE COURSE FOR SUMMER 2025

Title:
Healthy Planet, Healthy Lives: Uncovering the Connection between Environment and Health

Course description:
Explore the dynamic relationship between our environment and health in this engaging one-week workshop. From the basics of epidemiology and toxicology to pressing issues like water quality, air pollution, and climate change, we'll delve into the critical factors shaping our well-being. Through lectures, interactive discussions, and hands-on activities, you'll gain insights into how these elements intertwine, and develop innovative approaches to safeguarding our planet and ourselves. Join us on this transformative journey towards a healthier, more sustainable future!

Course Duration:
- One week (half days)

Course Objectives:
- Introduce basic principles of epidemiology and toxicology.
- Explore topics of water quality, air pollution, climate change, and One Health.
- Foster interactive learning through didactic approaches, breakout groups, and discussions.
- Encourage critical thinking and problem-solving related to environmental and health issues.

Day 1: Introduction to Epidemiology and Toxicology
- Welcome and course overview
- Lecture: Introduction to Epidemiology and its role in public health.
- Interactive Discussion: Case studies on disease outbreaks and tracing their origins.
- Lecture: Fundamentals of Toxicology and its impact on human health.
- Group Activity: Analyzing common toxins and their sources.

Day 2: Water Quality and Public Health
- Lecture: Waterborne diseases and their epidemiology.
- Hands-on Activity: Water quality testing and interpretation.
- Guest Speaker (if possible): Environmental scientist or water quality expert.
- Group Discussion: Strategies for ensuring safe and clean drinking water.
- Consider Field Trip: Visit to a Local Water Treatment Facility

Day 3: Air Pollution and Respiratory Health
- Lecture: Understanding air pollution sources and its effects on respiratory health.
- Field Trip: Visit EHSC Inhalation Facilities.
- Group Activity: Reviewing NYS Air Quality Data. Brainstorming solutions to reduce air pollution in urban areas.

Day 4: Climate Change and Health
- Lecture: Climate change, its drivers, and health consequences.
- Breakout Groups: Analyzing climate-related health risks in different regions.
- Group Activity: Sharing findings and proposed adaptation strategies.
- Group Activity: Create an awareness campaign or educational material on climate change and its health impacts.

Day 5: One Health Approach

- Lecture: Introduction to One Health and its significance in environmental and public health. Guest Speaker (if possible): Expert in One Health
- Case Studies: Examining examples of zoonotic diseases and their interconnectedness.
- Group Discussion: How can we promote the health of people, animals, and our shared environment?

Assignments:

- Daily Reflection Journals: Encourage students to reflect on what they learned each day and how it relates to their lives.
- Group Projects: Assign topics related to the course for students to research and present to the class.

Assessment:

- Participation and Engagement: Assess student involvement in discussions, activities, and group work.
- Group Project Presentation: Evaluate content, presentation skills, and understanding of the chosen topic.