Tackling the societal challenges through a One Health approach

Expected number of incoming learners

15-20

BIP topic

One Health is a holistic approach that recognizes the interconnections between human, animal, and environmental health. It emphasizes the intricate relationships among these domains and the impact they have on overall well-being. This concept acknowledges that the health of humans, animals, and ecosystems are inherently interconnected, and therefore, addressing health challenges requires a collaborative and interdisciplinary effort.

The importance of One Health lies in its ability to address complex health issues comprehensively. By integrating knowledge and expertise from diverse fields such as public health, human and veterinary medicine, ecology, and environmental science, One Health approaches offer innovative solutions to global health challenges. Promoting awareness and understanding of One Health principles is crucial for fostering collaboration, advancing research, and ultimately safeguarding the health of populations, ecosystems, and the planet.

This course aims to provide participants with a comprehensive understanding of the One Health approach, covering topics such as the intersection of human-animal-environmental health, food safety and security, conservation biology, antimicrobial resistance, and vector borne zoonoses. Through a combination of lectures, case studies, and interactive discussions, participants will gain insights into the interconnected nature of health and develop strategies to address complex health issues using a One Health framework.

Teaching methods and expected learning outcomes

Teaching methods

Introductory Session (Virtual): Participants will engage in an online meeting featuring an ice-breaker activity to foster connections. Following this, fundamental concepts of One Health will be presented and discussed in small working groups within virtual parallel rooms.

Face-to-Face (In-Campus): Each day will consist of two parts. Part one will feature interactive lectures, analysing real-world case studies, and facilitating group discussions to deepen understanding of key concepts. Part two will involve hands-on activities, including field visits, offering practical application of One Health principles. Throughout the face-to-face week, participants will collaborate on a project focused on a specific One Health topic.

Follow-Up Session (Virtual): Participants will reconvene virtually to present and discuss the collaborative projects developed during the in-campus week. Final reflections and feedback will be provided to enhance learning outcomes and encourage continued engagement with One Health principles.

Expected learning outcomes

1. Analyse the interconnectedness of human, animal, and environmental health within the context of One Health, and demonstrate an understanding of how these interactions impact societal challenges.

2. Evaluate the implications of food safety and security, conservation biology, antimicrobial resistance, and vector borne zoonoses on public health and environmental sustainability, utilizing a One Health perspective.

3. Apply interdisciplinary approaches to address complex health issues, integrating knowledge from fields such as public health, veterinary medicine, ecology, and environmental science.

4. Design and implement strategies for collaborative problem-solving, demonstrating the ability to work effectively within multidisciplinary teams to tackle societal health challenges.

5. Communicate One Health principles and concepts effectively to diverse audiences and synthesize key concepts and case studies from the course to develop innovative solutions and recommendations for addressing specific One Health challenges encountered in real-world contexts.

Programme description

This BIP aims to provide participants with knowledge on societal challenges through a One Health approach.

The programme will be divided in three parts:

1. Introductory session (3 hours) | **2nd July 2024**

2. Face-to-face week (1 week), with strong focus on collaborative work | **8th to 12th July 2024**

Day 1: Intersection in human-animal-environmental health

09:00-10:30	Prof. Lisa Rosenbaum Nielsen	KU	Linking One Health to Planetary Health and Sustainability
10:30-11:00	COFFEE BREAK		
11:00-12:00	Prof. Alessandra De Cesare Prof. Alessandro Seguino	UNIBO	Global Challenges affecting the intersection in human, animal and environment health.
12:00-13:00	All Professors	KU/ UNIBO	Interactive discussions about the topics of the lecture

Day 2: Food safety and food security

14:00-15:30	Prof. Ricardo Assunção	EM	Food systems transition: why, how and how it relates with One Health? Tools for measuring the impact of foods, in the context of One Health
15:30-16:00	COFFEE BREAK		
16:00-17:00	Prof. Ricardo Assunção	EM	Case studies: working group
17:00-18:00	All Professors	EM/ UNIBO/ KU	Project: Milestone 1: Identification and description of the Challenge

Day 3: Conservation biology

09:00-10:30	Prof. Miguel Grilo Prof. Ursula Siebert	EM TiHo	Conservation Biology: Enhancing One Health through Multiple Applications Conservation Biology in Action: Lessons from German and Transboundary Initiatives
10:30-11:00	COFFEE BREAK		
11:00-12:00	Prof. Annalisa Zaccaroni	UNIBO	Ecotoxicology of marine mammals: sentinels for oceans and human health
12:00-13:00	All Professors	EM/ UNIBO/ KU	Project: Milestone 2: Planification of the Solution

Day 4: Antimicrobial resistance in the context of One Health

09:00-10:30	Prof. Arshnee Moodley	KU	Why is AMR a One Health challenge-contribution, interplay and impacts to the different sectors.
10:30-11:00	COFFEE BREAK		
11:00-13:00	Prof. Arshnee Moodley		Group session
12:00-13:00	All Professors	EM/ UNIBO/ KU	Project: Milestone 3: Solution(s)

Day 5: Vector borne zoonoses

09:00-10:30	Prof. Liliana Silva Prof. Carina Carvalho	EM	Introduction to Vector borne zoonoses – Vector biology and ecology Zoonotic pathogens and reservoir hosts
10:30-11:00	COFFEE BREAK		
11:00-12:00			Case studies - One Health approach to vector borne disease control
12:00-13:00	All Professors	EM/ UNIBO/ KU	Project: Milestone 4: Final reflexion

3. Follow-up session (3 hours) | **23rd July 2024**

The face-to-face week programme will be complemented with hands-on activities and social programme.

Support material (e.g. scientific articles, book chapters, illustration videos) will be provided to the participants.

Number of ECTS

3