

PHC 6446 Systems Thinking in One Health (3 credit hours)

Spring: 2020

Delivery Format: On-Campus or Online
Course Website or E-Learning *if applicable*

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Preferred Course Communications (e.g. email, office phone): email

Prerequisites

Bachelor's or equivalent degree in any field. Other degrees will be considered under instructor's discretion.

Purpose and Outcome

Course Overview

The course is designed for students with a diverse background who intend to expand their knowledge on the multiple dimensions of the One Health vision. Students will be exposed to a variety of lectures, which will be delivered by experts on specific topics as they relate to health. Each lecture will be complemented with a One Health convergence dialogue.

Relation to Program Outcomes

Through this course, students will be able to:

1. Acquire transversal tools to identify novel pathways for managing real-life complex health problems within and beyond the human health - animal health- environmental health triad.
2. Develop a common language and strengthen the dialogue between different disciplines around One Health.
3. Create professional and research networks in One Health.
4. Identify and expand areas at the interface between health and different disciplines.
5. Increase competitiveness in the working environment through a systems thinking approach.

Course Objectives and/or Goals

Upon completion of this course, students will be able to:

1. Describe and apply the One Health philosophy to real-world public health problems.
2. Analyze and apply One Health tools derived from different disciplines.

3. Evaluate and analyze complex/contradictory health problems and propose One Health research approaches.
4. Recognize and select communication and leadership tools to be applied in a One Health setting.
5. Adapt traditional problem-solving approaches, by engaging other disciplines and designing multi and transdisciplinary approaches, and, interdisciplinary teams.

Instructional Methods

1. Lectures: External and internal University of Florida speakers will deliver theoretical recorded and/or live lectures complemented with a description of real-life examples which will enable students to integrate the knowledge they acquire into a systems-thinking approach. Students are responsible for reading the assigned readings before the lecture. This will be the main source of content for this course.
2. Online discussions: Students are expected to prepare for active discussion by reading the assigned papers.
3. Readings and Resources. Readings and resources will be posted in the course through Canvas. The reading list may be supplemented during the course.
4. Assessments: The primary assessments will be two written assignments and one presentation.

Description of Course Content

The course will be composed of five modules:

Module 1: Introduction to One Health. This module will introduce students to the concept of One Health and systems thinking, and how these lenses can be applied to reframe current views, problems, and solutions. Modules 2, 3, and 4 will present three examples of complex systems.

Module 2: Understanding health as a concept and overview of healthcare systems. This module will explore human health and human health systems through the lens of philosophy, ethics and health economics.

Module 3: One Health: evolving infectious diseases and ecology. This module will introduce students to environmental health and to the interface between human health and agriculture

Module 4: One Health and food, regulations and trade. This module will address production, animal health and its sustainability, including political, economic, social, and cultural factors that regulate food production.

Module 5: One Health communication and stewardship. This module will expose students to core competencies for working in a collaborative and interdisciplinary environment and to communication skills.

Topical Outline/Course Schedule

Module	Week	Date	Topic	Readings
1	1	01/07	Introduction to the course and syllabus	Capua and Cattoli, 2018; Evans and Leighton, 2014; Selected chapters from "Systems Thinking Made Simple: New Hope for Solving Wicked Problems"
	1	01/09	Change the World Model (United Nations)	
	1	01/09	One Health connectors	
	2	01/14	From No data to big data the One Health r(Evolution)	
	2	01/16	Systems thinking	

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	3	01/21	One Health: Challenging and Promoting Ethics in Research	Antoine-Moussiaux et al., 2019 ; Johnson et al., 2019; DuBois et al, 2018
2	3	01/23	Introduction to Digital Epidemiology	TBD
	4	01/28	Definition of Health and Disease	Selected chapters from: "Writings on Medicine"
	5	01/30	Key characteristics of health and healthcare (1 part)	TBD
	5	01/30	Key characteristics of health and healthcare (2 part)	
	5	02/04	Healthcare systems around the world: an overview (part 1)	
	5	02/06	Healthcare systems around the world: an overview (part 2)	
3	6	02/11	Environmental health and drivers of change	TBD
	6	02/13	Vector borne diseases	TBD
	7	02/18	Responding to Zika, Ebola, Pandemic Influenza, and Other Infectious Disease Threats	TBD
	7	02/20	Biodiversity and the tree of life	
	8	02/25	Climate Change and Crops	TBD
	8	02/27	Invasive species	
4	9	03/10	OIE, FAO and the intersection with WHO and WTO	Selected chapters from: "Integrated approaches to health. A handbook for the evaluation of One Health"
	9	03/12	Political Economy of the Food System	
	10	03/17	Value Chain Perspectives: An insight into livestock systems and gender roles	
	10	03/19	Innovation in food systems	
	11	03/24	Blockchain: transparency and accountability	
	11	03/26	Social and Corporate responsibility	
5	12	03/31	From Integrative Medicine to Integrative Environmental Law	TBD
	12	04/02	Mixed methods research	TBD
	13	04/07	Introduction to Communication	TBD
	13	04/09	The Message: Communicating Competently	TBD
	14	04/14	Community network integration	TBD
	14	04/16	Public Interest Communication	TBD
	15	04/21	Presentations	

	16	04/28-30	Presentations	
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Course Materials and Technology

The students will need access to a computer, as Canvas, the learning management system supported by the University, will be used as a platform. Log in at <https://lss.at.ufl.edu/> and go to course site for PHC6446- Systems Thinking in One Health. Canvas can also be used for communication between the students and course instructors.

Further reading materials will be recommended by the speakers on a lecture basis and will be posted on Canvas.

No other type of technology will be needed.

For technical support for this class, please contact the UF Help Desk at:

- Learning-support@ufl.edu
- (352) 392-HELP - select option 2
- <https://lss.at.ufl.edu/help.shtml>

Academic Requirements and Grading

Assignments

The students will be assessed through one group presentation, one essay pertaining to this presentation, 10 written and graphical assignments, one essay pertaining to these written assignments, and 14 online discussions.

Group Presentations (250 points)

Students will be assigned to groups of 3 to 5 people maximum with an attempt to create multidisciplinary teams. Each group will be assigned a newspaper/magazine or a scientific journal article. Each article will pertain to a different area of health and/or discipline that intersects health and present a wicked problem. The group will present via a recorded, zoom, or live presentation, by the end of the semester. The presentation will include a summary of the article and answers to assigned questions. All the groups will have access to all the articles.

Group members are expected to:

1. Actively participate in the topic formulation by contributing well-researched answers, including data, links to relevant web sites, or attached copies of articles, presentations, etc. as needed.
2. Present the contents of the article in an appropriate manner, by applying leadership and communication tools related to a One Health setting.
3. Lead the discussion and respond to other members of the class, by applying leadership and communication tools related to a One Health setting.
4. Critically appraise, evaluate and analyze the contents of the article through a One Health philosophy.
5. Clearly show how the One Health tools they have learned could apply to solving/researching the problem/solution/intervention stated in the paper.
6. Propose potential solutions/interventions and/or research of the issues addressed in the article, by applying multi/trans and interdisciplinary approaches.

Rubric:

	Points
Clear summary of the information and statement of the problem presented.	15
Appropriate (quality, capacity to convey the message, and applying communication tools learned through the course) visual/audio/etc. tools for presenting.	70
Appropriate leadership of discussion.	60
Critically appraise, evaluate and analyze the contents of the article through a One Health philosophy (what have the authors missed and what have they included).	35
Clear description of how One Health and the tools learned throughout the course can be applied to solve/approach/research the problem through proposing a study/intervention.	35
Propose potential solutions/interventions and/or research of the issues addressed in the article, by applying multi/trans and interdisciplinary approaches.	30
Proper citation of relevant sources (following the American Medical Association citation style).	5

Essay based on group presentation (Essay 1-250 points)

This assignment will follow the group discussion and will be based on the same articles. The aim of this assignment is to allow students to be able to express their point of view in a more focused manner. Each student will have to present his/her perspective on the article in an essay format. Each student is responsible for his/her own essay. This assignment will be due on the first Monday after the presentation. The essay will be minimum 1000 words and a maximum of 1500 words, 11-point font. The essay should contain:

1. Clear summary of the information and statement of the problem presented.
2. Critically appraise, evaluate and analyze the contents of the article through a One Health philosophy.
3. Clear description of how One Health and the tools learned throughout the course can be applied to solve/approach/research the problem through proposing a study/intervention.
4. Propose potential solutions/interventions and/or research of the issues addressed in the article, by applying multi/trans and interdisciplinary approaches.
5. Demonstration of how your area of expertise can be applied to solve/approach/research the problem.
6. Proper citation of relevant sources.

The essay will be published on the One Health Canvas.

Rubric:

	Points
Clear summary of the information and statement of the problem presented.	15
Critically appraise, evaluate and analyze the contents of the article through a One Health	30

philosophy (what have the authors missed and what have they included).	
Clear description of how One Health and the tools learned throughout the course can be applied to solve/approach/research the problem through proposing a study/intervention (expand on one proposal).	75
Propose potential solutions/interventions and/or research of the issues addressed in the article, by applying multi/trans and interdisciplinary approaches (expand on one proposal).	75
A demonstration of how the student's area of expertise and/or cultural perspective can be applied to solve/approach/research the problem.	50
Proper citation of relevant sources (following the American Medical Association citation style).	5

Assignments 1 through 10 (30 points each- 300 points)

Each student will be assigned an agricultural, environmental, public health, and/or ethical crisis and throughout the course, the student will study its past (origins and context), present, and propose future solutions. Each assignment will be presented in a graphical/visual format (in the shape of pictures, diagrams, infographics, etc.), accompanied by a maximum 500-word explanation and/or essay format with maximum of 1000 words.

Rubric:

	Points
Identification and justification for selecting the factor.	10
Description of the factor (how and why is it related to the crisis).	15
Proper citation of relevant sources (following the American Medical Association citation style).	5

Essay based on written assignments (Essay 2- 300 points)

This essay will present the summary of the crisis accompanied by a critical analysis of its past, present, and future. The essay will be minimum 1000 words and a maximum of 1500 words, 11-point font. The essay should contain the following:

1. A critical appraisal, evaluation and analysis of the topic through a One Health philosophy.
2. Clear identifications of what the student regards as the main variables/factors driving the crisis (at least 3), using a One Health and systems thinking perspective.
3. A demonstration of how the student's area of expertise and/or cultural perspective can be applied to solve/approach/research the problem.
4. A proposal of at least 2 manners for improving the crisis.
5. Proper citation of relevant sources.

Rubric:

	Points
A critical appraisal, evaluation and analysis of the topic through a One Health philosophy.	70

Clear identifications of what the student regards as the main variables/factors driving the crisis (at least 3), using a One Health and systems thinking perspective.	70
A Demonstration of how the student's area of expertise and/or cultural perspective can be applied to solve/approach/research the problem.	70
A proposal of at least 2 manners for improving the crisis.	70
Proper citation of relevant sources (following the American Medical Association citation style).	20

Online discussions (10 points each-140 points)

At the end of every week, a controversial issue pertaining to that week's lectures will be posted. Each student will have to make an original contribution and at least one reply to the discussion.

Rubric:

	Points
Original comment.	5
Reply to another comment.	5

Grading

Requirement	Due date	Points
Assignment 1, Summarized description of the crisis.		30
Assignment 2, Identification and description of one factor that contributed to the origins of the crisis.		30
Assignment 3, Identification and description of a second factor, stemming from a different field, that contributed to the origins of the crisis.		30
Assignment 4, , Identification and description of a third factor, stemming from a different field, that contributed to the origins of the crisis.		30
Assignment 5, Identification and description of one factor that contributes to the maintenance/status quo of the crisis.		30
Assignment 6, Identification and description of a second factor, stemming from a different field, that contributes to the maintenance/status quo of the crisis.		30
Assignment 7, Identification and description of a third factor, stemming from a different field, that contributes to the maintenance/status quo of the crisis.		30

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Assignment 8, Identification and description of a potential solution and/or area of research.		30
Assignment 9, Identification and description of a second potential solution and/or area of research.		30
Assignment 10, Identification and description of a third potential solution and/or area of research.		30
Online discussion 1		10
Online discussion 2		10
Online discussion 3		10
Online discussion 4		10
Online discussion 5		10
Online discussion 6		10
Online discussion 7		10
Online discussion 8		10
Online discussion 9		10
Online discussion 10		10
Online discussion 11		10
Online discussion 12		10
Online discussion 13		10
Online discussion 14		10
Presentation		250
Essay 1		250
Essay 2		300
TOTAL		1240

Point system used (i.e., how do course points translate into letter grades).

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Points Earned	Percentage Earned	Letter Grade
1154-1240	93-100	A
1116-1153	90-92	A-
1079-1115	87-89	B+
1029-1078	83-86	B
992-1028	80-82	B-
955-991	77-79	C+
905-954	73-76	C
868-904	70-72	C-
831-867	67-69	D+
781-830	63-66	D
744-780	60-62	D-
Below 744	Below 60	E

Please be aware that a C- is not an acceptable grade for graduate students. The GPA for graduate students must be 3.0 based on 5000 level courses and above to graduate. A grade of C counts toward a graduate degree only if based on credits in courses numbered 5000 or higher that have been earned with a B+ or higher. In addition, the Bachelor of Health Science and Bachelor of Public Health Programs do not use C- grades.

Letter Grade	Grade Points
A	4.0
A-	3.67
B+	3.33
B	3.0
B-	2.67
C+	2.33
C	2.0
C-	1.67
D+	1.33
D	1.0
D-	0.67
E	0.0
WF	0.0
I	0.0
NG	0.0
S-U	0.0

More information on UF grading policy may be found at:
<http://gradcatalog.ufl.edu/content.php?catoid=10&navoid=2020#grades>

Exam Policy

Policy Related to Make up Exams or Other Work

Late assignments

Written assignments turned in up to 24 hours late will be discounted **10%** of the grade that they would otherwise receive. Assignments turned in more than 24 hours late will **not** be graded and will contribute zero points toward your final grade, unless arrangements have been made in advance with the instructor. Missed assignments will contribute zero points toward your final grade.

You can miss group presentations only under special circumstances. An appropriate assignment to make up for the missed presentation will be discussed on an individual basis.

Special Circumstances. In the event of exceptional situations that may interfere with your ability to perform an assignment or meet a deadline, contact the instructor as soon in advance of the deadline as possible. Such special cases will be dealt on an individual basis, provided that you have sufficient documentation.

Please note: Any requests for make-ups due to technical issues **MUST** be accompanied by the UF Computing help desk (<http://helpdesk.ufl.edu/>) correspondence. You **MUST** e-mail me within 24 hours of the technical difficulty if you wish to request a make-up.

Policy Related to Required Class Attendance

An attendance sheet will be signed at the beginning of each session for the on-campus classes.

Please note all faculty are bound by the UF policy for excused absences.

Excused absences must be consistent with university policies in the Graduate Catalog (<http://gradcatalog.ufl.edu/content.php?catoid=10&navoid=2020#attendance>). Additional information can be found here: <https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>

Student Expectations, Roles, and Opportunities for Input

Expectations Regarding Course Behavior

You are expected to maintain a civil tone and respect the opinions of other posters. While commenting on others' posts is encouraged, aggressive or patronizing tone and language are unacceptable and may result in the loss of your posting and discussion privileges

Communication Guidelines

You are required to contact the professor by email using the "Inbox" in Canvas for clarification and assistance with the course material and the assignments, and for special issues that may arise. Weekday daytime (US Eastern Time) emails have the best chances of being answered quickly. Please only use the Canvas "Inbox" to communicate with the course instructor and/or TA. While the instructors and TAs will check their UFL email regularly, they will not be held responsible for email sent directly to their UFL addresses.

Academic Integrity

Students are expected to act in accordance with the University of Florida policy on academic integrity. As a student at the University of Florida, you have committed yourself to uphold the Honor Code, which includes the following pledge:

“We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity.”

You are expected to exhibit behavior consistent with this commitment to the UF academic community, and on all work submitted for credit at the University of Florida, the following pledge is either required or implied:

“On my honor, I have neither given nor received unauthorized aid in doing this assignment.”

It is your individual responsibility to know and comply with all university policies and procedures regarding academic integrity and the Student Honor Code. Violations of the Honor Code at the University of Florida will not be tolerated. Violations will be reported to the Dean of Students Office for consideration of disciplinary action. For additional information regarding Academic Integrity, please see Student Conduct and Honor Code or the Graduate Student Website for additional details:

<https://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/>

<http://gradschool.ufl.edu/students/introduction.html>

Please remember cheating, lying, misrepresentation, or plagiarism in any form is unacceptable and inexcusable behavior.

Online Faculty Course Evaluation Process

Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at <https://gatorevals.aa.ufl.edu/students/>. Students will be notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via <https://ufl.bluera.com/ufl/>. Summaries of course evaluation results are available to students at <https://gatorevals.aa.ufl.edu/public-results/>.

Policy Related to Guests Attending Class

Only registered students are permitted to attend class. However, we recognize that students who are caretakers may face occasional unexpected challenges creating attendance barriers. Therefore, by exception, a department chair or his or her designee (e.g., instructors) may grant a student permission to bring a guest(s) for a total of two class sessions per semester. This is two sessions total across all courses. No further extensions will be granted. Please note that guests are **not** permitted to attend either cadaver or wet labs. Students are responsible for course material regardless of attendance. For additional information, please review the Classroom Guests of Students policy in its entirety. Link to full policy:

<http://facstaff.phhp.ufl.edu/services/resourceguide/getstarted.htm>

SUPPORT SERVICES

Accommodations for Students with Disabilities

If you require classroom accommodation because of a disability, it is strongly recommended you register with the Dean of Students Office <http://www.dso.ufl.edu> within the first week of class or as soon as you believe you might be eligible for accommodations. The Dean of Students Office will provide documentation of accommodations to you, which you must then give to me as the instructor of the course to receive accommodations. Please do this as soon as possible after you receive the letter. Students with disabilities

should follow this procedure as early as possible in the semester. The College is committed to providing reasonable accommodations to assist students in their coursework.

Counseling and Student Health

Students sometimes experience stress from academic expectations and/or personal and interpersonal issues that may interfere with their academic performance. If you find yourself facing issues that have the potential to or are already negatively affecting your coursework, you are encouraged to talk with an instructor and/or seek help through University resources available to you.

- The Counseling and Wellness Center 352-392-1575 offers a variety of support services such as psychological assessment and intervention and assistance for math and test anxiety. Visit their web site for more information: <http://www.counseling.ufl.edu>. On line and in person assistance is available.
- You Matter We Care website: <http://www.umatter.ufl.edu/>. If you are feeling overwhelmed or stressed, you can reach out for help through the You Matter We Care website, which is staffed by Dean of Students and Counseling Center personnel.
- The Student Health Care Center at Shands is a satellite clinic of the main Student Health Care Center located on Fletcher Drive on campus. Student Health at Shands offers a variety of clinical services. The clinic is located on the second floor of the Dental Tower in the Health Science Center. For more information, contact the clinic at 392-0627 or check out the web site at: <https://shcc.ufl.edu/>
- Crisis intervention is always available 24/7 from:
Alachua County Crisis Center:
(352) 264-6789
<http://www.alachuacounty.us/DEPTS/CSS/CRISISCENTER/Pages/CrisisCenter.aspx>

Do not wait until you reach a crisis to come in and talk with us. We have helped many students through stressful situations impacting their academic performance. You are not alone so do not be afraid to ask for assistance.

Inclusive Learning Environment

Public health and health professions are based on the belief in human dignity and on respect for the individual. As we share our personal beliefs inside or outside of the classroom, it is always with the understanding that we value and respect diversity of background, experience, and opinion, where every individual feels valued. We believe in, and promote, openness and tolerance of differences in ethnicity and culture, and we respect differing personal, spiritual, religious and political values. We further believe that celebrating such diversity enriches the quality of the educational experiences we provide our students and enhances our own personal and professional relationships. We embrace The University of Florida's Non-Discrimination Policy, which reads, "The University shall actively promote equal opportunity policies and practices conforming to laws against discrimination. The University is committed to non-discrimination with respect to race, creed, color, religion, age, disability, sex, sexual orientation, gender identity and expression, marital status, national origin, political opinions or affiliations, genetic information and veteran status as protected under the Vietnam Era Veterans' Readjustment Assistance Act." If you have questions or concerns about your rights and responsibilities for inclusive learning environment, please see your instructor or refer to the Office of Multicultural & Diversity Affairs website: www.multicultural.ufl.edu
