Course Objectives

- Describe the role and benefits of a One Health approach in addressing high priority health issues.
- Develop the habit of evidence-based discourse whether an issue/idea is being supported or refuted.
- Identify 3-5 evidence-based responses to questions posed. Reference class discussion and readings in responses.
- Understand the context/background information presented for each question/issue.

Course Schedule

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<th>Date</th>
<th>Topic</th>
<th>Lead/Speaker(s)</th>
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<td>Introduction to One Health, Course, Assignments</td>
<td>Linder</td>
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<tr>
<td>2: 9/10/19</td>
<td>ID: Infectious and Zoonotic Disease Introduction</td>
<td>Castellot</td>
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<td>3: 9/17/19</td>
<td>ID: One Health and the Global Health Security Agenda</td>
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<td>Naturally Occurring Disease: Introduction and Shared Diseases</td>
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<td>5: 10/1/19</td>
<td>Naturally Occurring Diseases: Periodontitis</td>
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<td>6: 10/8/19</td>
<td>Applications of One Health in Pet Food</td>
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<td>7: 10/22/19</td>
<td>HAI: Human-Animal Interaction Introduction</td>
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<td>8: 10/29/19</td>
<td>HAI: Animal-Assisted Interventions Applied</td>
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<td>9: 11/5/19</td>
<td>ENV: One Health and Antibiotic Resistance</td>
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<td>10: 11/12/19</td>
<td>ENV: One Health and the Environment: Food Supply</td>
<td>Cash/Bezares</td>
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<td>11: 11/19/19</td>
<td>One Health, Public Policy and Communication</td>
<td>Linder/Gaultieri/Rutberg</td>
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<td>12: 11/26/19</td>
<td>Celebrating One Health – presentation of class projects</td>
<td>Linder/Students</td>
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<td>Thanksgiving Break</td>
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<td>13: 12/3/19</td>
<td>Celebrating One Health – presentation of class projects</td>
<td>Linder/Students</td>
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**Presentation Details**

**Week 1** **Introduction to One Health, Course, Assignments**

**Topic:** Introduction to One Health
Activities: Professional applications of One Health, group discussion, brainstorming for capstone presentation

Suggested Reading:
1. USAID One Health Workforce Overview (PDF will be provided to students)

Assignments: Group discussion, interactive brainstorming session with peer review

Week 2  ID: Infectious and Zoonotic Disease Introduction  Castellot

Topic: Introduction to Zoonotic Diseases, with case examples for discussion (e.g. SARS, Ebola, Zika)

Activities: Group Discussion


Required Reading:
2. Fisman et al. “The ‘One Health’ paradigm: Time for infectious diseases clinicians to take note?” https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2951799/ (Links to an external site.)

Assignments: Group discussion write up

Week 3  ID: One Health and the Global Health Security Agenda  Castellot

Topic: One Health and the Global Health Security Agenda: Antimicrobial resistance, Zoonotic disease, Workforce development

Activities: Introduction and discussion on the Global Health Security Agenda (GHSA)
1. Global Health Security Agenda: [https://www.ghsagenda.org/](https://www.ghsagenda.org/) (Links to an external site.)
   1. Explore the GHSA website to develop an overview of the GHSA

2. GHSA Action Packages:
   1. Prevent 1: Antimicrobial Resistance  
      [https://www.ghsagenda.org/packages/p1-antimicrobial-resistance](https://www.ghsagenda.org/packages/p1-antimicrobial-resistance) (Links to an external site.)
   2. Prevent 2: Zoonotic Disease  
      [https://www.ghsagenda.org/packages/p2-zoonotic-disease](https://www.ghsagenda.org/packages/p2-zoonotic-disease) (Links to an external site.)
   3. Detect 5: Workforce Development  
      [https://www.ghsagenda.org/packages/d5-workforce-development](https://www.ghsagenda.org/packages/d5-workforce-development) (Links to an external site.)

Assignments:
1. Take a position: The GHSA strives to decrease the impact of zoonotic disease on global health. Is organization of this effort across multiple countries and partners a strength or a weakness? Or both?
2. Prepare a one-page set of recommendations for enhancing the structure of the GHSA. Reference specific GHSA packages in your responses.

Week 4

**Naturally Occurring Disease: Introduction and Shared Diseases**

**Linder**

**Topic:** Introduction to naturally occurring animal diseases that also occur in people

**Activities:** Introduction and interactive discussion

3. Of Mice, Dogs and Men: [Links to an external site.](https://www.ted.com/talks/dr_cheryl_london) Dr. Cheryl London - TEDxOhioStateUniversity 2015 (Links to an external site.)
Assignments:
1. In class debate on pros and cons of clinical trials in companion animals vs. traditional laboratory animal research.
2. Outline for capstone presentation (due before class that day, Dr. Linder to provide info)

Week 5  Naturally Occurring Diseases: Periodontitis  Dhadwal, Dragan, Rosenblad

Topic:  Periodontal disease and shared health

Dr. Rosenblad will speak on veterinary dentistry and Dr. Dragan will speak on dentistry in humans. Discussion will be focused on: Periodontal disease in humans and canines. Topics discussed will be: clinical signs, pathogenesis, link between periodontitis and different systemic diseases especially cardiovascular diseases and various prevention and treatment options. Various animal models for periodontal disease progression and their contribution in understanding the progression of the periodontal disease in humans.

Activities:
1. Batchelor, P. “Is periodontal disease a public health problem?” https://www.nature.com/articles/sj.bdj.2014.912 (Links to an external site.)
2. Williams, L. “One Health and Dentistry.” https://www.researchgate.net/publication/281483340_One_Health_and_dentistry (Links to an external site.)

Assignments:  Group discussion write up

Week 6  Applications of One Health in Pet Food  Linder, Cash

Topic:  This week will serve as an interactive session to explore how many aspects of One Health are needed to address pet food.

Activities:  Class discussion

Required Reading:
1. Heinze article: https://theconversation.com/a-big-pawprint-the-environmental-impact-of-pet-food-74004 (Links to an external site.)
2. (Links to an external site.) Cash, et al. article (on Canvas in “Readings” folder)

Assignments: Active participation in discussion will be only graded assignment.

Week 7  HAI: Human-Animal Interaction Introduction  Linder, Mueller

Topic: Introduction to HAI, definitions of assistance animals, discussion of how the media portrays HAI.

Activities: Group discussion and debate


Required Reading: 2. (Links to an external site.) McCune, et al, “Evolution of research into the mutual benefits of human–animal interaction”: shorturl.at/cgzO5 (Links to an external site.)

Assignments: Group write up and debate during class regarding pros and cons of emotional support animals.

Week 8  HAI: Animal-Assisted Interventions Applied  Linder, Gibbs

Topic: Animal-assisted interventions

Activities: Demonstration of therapy animal visitation, group discussion on therapy animals and the various interventions that exist.

Required Reading: 1. Linder et al, Amer J. Infect: http://www.ajicjournal.org/article/S0196-6553(17)30633-8/abstract (Links to an external site.)

2. (Links to an external site.) TIHAI Manual for Facilities: http://hai.tufts.edu/paws/download-the-manual/

Assignments: Persuasive commentary from a stakeholder position in each category: animal, handler, participant, facility
Week 9  One Health and Antibiotic Resistance    Nadimpalli


Discussion to include: introduction to antibiotic resistance and connections between humans, animals, and the environment; overview of antibiotic use in livestock production; drivers of changing food production systems; environmental impacts of large-scale animal farming; concepts of environmental justice

Activities:


Required Reading:


Assignments:

1. Prior to class, find any online news article or opinion piece that discusses animal production (chicken, pigs, cattle) in one of the following developing countries where antibiotic use in food animals is expected to be highest in the next 30 years: China, Brazil, Mexico, India.

   Answer the following:

   o What is the main message?
   o What category of individuals (e.g. government ministers, economists, farmers, activists), reports (e.g. National Economic Forecast), or organizations (e.g. FAO, Ministry of Health) are quoted in the article?
   o Were any concerns raised about the human, animal, or environmental impacts of increased animal production

2. Persuasive commentary from a stakeholder position in each category: farmer, medical doctor, veterinarian (to do during class)

Week 10  ENV: One Health and the Environment: Food Supply    Cash/Bezares

Topic: World food supply and livestock production. Discussion to include: introduction to the global food system; general production trends and
associated trade patterns; the role of livestock in the world; livestock’s contribution to climate change; climate impacts on crop quality.

Activities: Group Discussion


Suggested Reading:


Assignments: 1-2-page reflection to be completed prior to class, responding to: should you change your diet based on the concerns introduced by the readings?

Week 11 One Health, Public Policy and Communication

Linder, Gualtieri, Rutberg

Topic: Communication and Public Policy of One Health concepts

Guest Speakers (Lisa Gualtieri; Public Health and Community Medicine),

Activities: Allen Rutberg (Center for Animals and Public Policy), time set aside for students to meet and discuss final preparations for presentations

2. (Links to an external site.) CDC What is Health Communications?; Available online: http://www.cdc.gov/healthcommunication/healthbasics/whatishc.html (Links to an external site.)


Assignments: Group discussion write up during class

Weeks 12-13 Celebrating One Health – presentation of class projects  Linder

No reading assignments, students will peer review one another's presentations.

Grading Criteria

The course format is designed to promote student preparation, interactive discussion and intellectual accountability for issues considered. Attendance is required. Students are expected to arrive to class on time and behave as if they were the speaker. Participation is required of all students in group assignments and class discussion. All viewpoints are welcomed and will be respected. Students should strive to develop communication habits that promote collegial discussion with their peers and others, independent of the content of the discussion.

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<th>Component</th>
<th>Percentage of Final Grade</th>
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Weekly in-class, group discussion write-ups 25%

Class attendance and individual preparation for and participation in class discussion 25%

Preliminary outline of presentation 15%

Capstone presentation 35%

Bibliography of Sources that Relate to the Course (Required Readings):

The amount of preparatory material for each class period is variable. Required readings for each class are intended to provide a context for the lecture or to supplement lecture content. Some material may be included in the readings that will not be specifically addressed in the lecture, although it may all be included in discussion. Students will get the most out of this course if readings are completed prior to the class for which they are assigned.

1. USAID One Health Workforce Overview (PDF will be provided to students)
3. Fisman et al. “The ‘One Health’ paradigm: Time for infectious diseases clinicians to take note?” [Link](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2951799/) (Links to an external site.)
4. Global Health Security Agenda: [Link](https://www.ghsagenda.org/packages) (Links to an external site.)
5. GHSA Action Package Prevent 2: Zoonotic Disease: [Link](https://www.ghsagenda.org/packages/p2-zoonotic-disease) (Links to an external site.)
6. GHSA Action Package Prevent 1: Antimicrobial Resistance [Link](https://www.ghsagenda.org/packages/p1-antimicrobial-resistance) (Links to an external site.)
7. GHSA Action Package Detect 5: Workforce Development [Link](https://www.ghsagenda.org/packages/d5-workforce-development) (Links to an external site.)
8. Genetics of Obesity in Dogs: [Link](https://www.nytimes.com/2017/05/16/magazine/the-genetics-of-pooched-out-pooches.html) (Links to an external site.)

10. Of Mice, Dogs and Men, Tedx OhioStateUniversity 2015: Dr. Cheryl London - TEDxOhioStateUniversity 2015 (Links to an external site.)


20. GAO 2010. Live Animal Imports: Agencies Need Better Collaboration to Reduce the Risk of Animal-Related Diseases, Report to the Committee on Homeland Security and Governmental Affairs, U.S. Senate. GAO 11-9. (PDF will be provided to students)


23. CDC What is Health Communications?; Available online: http://www.cdc.gov/healthcommunication/healthbasics/whatishc.html (Links to an external site.)

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