

BIMS 110 One Health in Action
Course Syllabus
Spring Semester – 2020

COURSE COORDINATOR AND INSTRUCTOR:

Section 501-502

Dr. Colin Young, Course Coordinator

Department of Veterinary Integrative Biosciences

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979-458-1053

Office Hours by Appointment

Office Location: Veterinary & Biomedical Education Complex (VBEC), VIDI Rm 337

MEETING TIMES:

Section 501: Thursdays @ 1:30 - 2:20

Section 502: Thursdays @ 3:05 – 3:55

CLASS/LAB LOCATION: National Center for Therapeutic Manufacturing, Room 122

CREDIT HOURS: 1 Hour

COURSE DESCRIPTION: to explore the concept of One Health; the health of humans, animals, and ecosystems are interconnected and interdependent; the conceptual framework that encompasses human and veterinary medical sciences, agricultural sciences, food safety, public health and epidemiology, environmental health and toxicology, wildlife ecology and conservation, and many related fields of study or research.

PREREQUISITES:

Freshman or sophomore classification, or approval of instructor.

RECOMMENDED TEXTS AND MATERIALS:

All recommended texts and readings will be made available through eCampus.

COURSE GOALS:

1. To provide intellectual and social transition into Texas A&M University for students having a common interest in any aspect of One Health: animal health, human health, environmental health, and the linkages of the three.
2. To foster first year students' abilities to integrate learning across disciplines and gain an understanding of the value of a One Health framework for improving global health.
3. To provide students with contacts with faculty members as a resource for information on topics on One Health.

LEARNING OUTCOMES:

At the conclusion of the semester, students will:

1. diagram the conceptual framework of One Health and describe its significance towards the quality of their lives
2. explain the concepts of One Health to a lay audience

- illustrate how scientists, health care providers, and government regulatory agencies from different disciplines interact to produce science-driven positive changes in the health of both animals, humans, and the environment

COURSE POLICIES & INSTRUCTOR EXPECTATIONS:

- Students will be expected to attend all 14-class sessions.
- Multiple guests will be in attendance at sessions throughout the semester; students are expected to be on time! This is a courtesy to the speaker and a sign of professionalism on the part of students.
- Students are expected to avail themselves of the information and opportunities presented throughout the semester. This means ask questions if you don't understand, read or view assignments before class, and visit with the faculty if you would like further information on a topic.
- Students will be courteous and respectful of one another and our presenters. This means cell phones and mobile devices will not be used during class except as directed by the instructor or guest lecturer.
- Failure to attend a class without a university-approved excuse will result in a 5-point loss per absence.

EVALUATION/GRADING OF THE COURSE:

Grading will be based on the best scores on 10 out of 14 quizzes taken online through e-Campus and on class attendance according to a 500-point scale:

50 points per quiz – best of 10 = 500 points possible

450 - 500 points	= A
400 – 449.9 points	= B
350 – 399.9 points	= C
300 – 349.9	= D
< 300 points	= F

Quizzes will be taken online and will cover the material from the most recent class period. Students are expected to read their lecture notes as well as the provided online materials, and then take the posted quiz on eCampus. **The quiz must be completed by 11:59 pm of the following Wednesday**, and a re-take can be attempted up to **72 hours** following the deadline. The highest score of the two will be graded. Students with a University-approved excuse will be allowed to make-up the quizzes. Students with non-approved excuses will only be allowed to make-up the quizzes in exceptional circumstances.

ATTENDANCE & LATE WORK POLICY:

Late work (quizzes) is only accepted in the case of a University-approved excuse. See Student Rule 7 for a complete definition (<http://student-rules.tamu.edu/rule07>).

Attendance will be taken weekly. An unexcused absence in the course will reduce your grade by 5 points (out of a possible 500). In the case of a University-approved absence, please notify the instructor within 48 hours of the absence.

AMERICANS WITH DISABILITIES ACT (ADA) POLICY STATEMENT

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact Disability Services, currently located in

the Disability Services building at the Student Services at White Creek complex on west campus or call 979-845-1637. For additional information, visit <http://disability.tamu.edu>.

ACADEMIC INTEGRITY STATEMENT AND POLICY

“An Aggie does not lie, cheat or steal, or tolerate those who do.” For additional information, please visit: <http://aggiehonor.tamu.edu>.

COURSE TOPICS, INSTRUCTORS, CALENDAR OF ACTIVITIES, AND LEARNING OBJECTIVES:

Class Date	Topic	Presenter	Quiz Due Date
Introduction and Historical Perspectives			
Jan 16	One Health in Action: A Planet in Reaction	Dr. Rose	Jan 22 11:59pm
<p style="text-align: center;">Learning Objectives</p> <ul style="list-style-type: none"> Define the term One Health and explain the relevance to Biomedical Science. Discuss a case report and identify the aspects relevant to One Health. Identify two potential opportunities and two potential challenges to One Health today. 			
Jan 23	Ancient Infectious Diseases; where did they come from and when will they return?	Dr. M.T. Omran	Jan 29 11:59pm
<p style="text-align: center;">Learning Objectives</p> <ul style="list-style-type: none"> Discuss the major historical pandemics including the plague, smallpox, tuberculosis, yellow fever, influenza and HIV/AIDS. Describe the role of rodents in the Black Death, of cattle in tuberculosis, and of birds and swine in influenza. Describe how HIV/AIDS spread from certain chimpanzee populations to cause a global pandemic as a result of a series of human errors and omissions. Discuss the future potential of major disease outbreaks as humans interact even more closely with wild and domestic animals. 			
Jan 30	Comparative Medicine – The origins of One Health	Dr. T. Vemulapalli	Feb 5 11:59pm
<p style="text-align: center;">Learning Objectives</p> <ul style="list-style-type: none"> Discuss the role of comparative medicine in the context of One Health. Describe the role animal models have played in our understanding of disease. 			
Environment, Health and Global Security			
Feb 6	Climate Change & One Health	Dr. Johnson	Feb 12 11:59pm
<p style="text-align: center;">Learning Objectives</p> <ul style="list-style-type: none"> Define the term Climate Change and describe the relevance to the concept of One Health List examples of climate change having impacted animal and human health. Describe the basis of climate change and discuss confounding and contributing factors. 			
Feb 13	Global One Health and Aflatoxins	Dr. T. Phillips	Feb 19 11:59pm
Feb 20	Genomics and One Health	Dr. D. Threadgill	Feb 26 11:59pm

Feb 27	Bioterrorism & One Health	Dr. G. Adams	Mar 4 11:59pm
<p>Learning Objectives</p> <ul style="list-style-type: none"> • Discuss what constitutes biological & legal bioterrorism in the context of One Health. • Describe the technical components of implementing & delivering bioterrorism in the context of One Health. • List the individual, local, state, national & international consequences of bioterrorism in the context of One Health 			
Mar 5	Environmental Toxicology	Dr. Weihsueh	Mar 11 11:59pm
Mar 19	Cancer in Animals and Humans	Dr. W. Porter	Mar 25 11:59pm
<p>Learning Objectives</p> <ul style="list-style-type: none"> • Discuss the role of Environment in Cancer • Compare Animal and Human Models of Cancer Progression • Discuss the Utilization of Animal Models of Cancer Treatment 			
Mar 26	Antibiotic Resistance in Animals and Man	Dr. M. Scott	Apr 1 11:59pm
<p>Learning Objectives</p> <ul style="list-style-type: none"> • Discuss antibiotic resistance mechanisms among food-borne pathogens and their relation with the use of antibiotics in food animals. • Discuss the relevance to public health, animal well-being, and to healthy ecosystems. 			
Infectious Disease and Vaccines			
Apr 2	Zoonotic Diseases: A Shared Threat	Dr. C. Budke	Apr 8 11:59pm
<p>Learning Objectives</p> <ul style="list-style-type: none"> • Define the term “zoonotic” and describe the common means of zoonotic disease transmission. • List and briefly discuss several zoonotic diseases of local importance. • Illustrate how zoonotic diseases relate to the concept of One Health. • Apply concepts discussed in class to specific issues and case studies. 			
Apr 9	Zika Virus Epidemic and One Health	Dr. A. McGregor	Apr 15 11:59pm
<p>Learning Objectives</p> <ul style="list-style-type: none"> • Describe the epidemiologic features of major foodborne pathogens, including geographic distribution, reservoirs, prevalence, modes of transmission, and risk factors. • Characterize the burden of foodborne disease on public health • Identify the integral roles played by various collaborative disciplines in striving to improve food safety 			
April 16	Avian Influenza	Dr. S Reddy	Apr 22 11:59pm
<p>Learning Objectives</p> <ul style="list-style-type: none"> • Discuss the Evolution and Ecology of Avian Influenza. • Discuss the Zoonotic Potential of Avian Influenza. • List and Describe Pandemics of Avian Influenza. 			
Apr 23	Epidemiology, Public Health Impact of Foodborne Pathogens	Dr. Lawhon	April 29 11:59pm
<p>Learning Objectives</p> <ul style="list-style-type: none"> • Describe the Epidemiologic features of major foodborne pathogens, including geographic distribution, reservoirs, prevalence, modes of transmission, and risk factors. • Characterize the burden of foodborne diseases in public health. 			

Identify the integral roles played by various collaborative disciplines in striving to improve food safety.

Final Exam week