



SENATE COMMITTEE ON CURRICULAR AFFAIRS
COURSE SUBMISSION AND CONSULTATION FORM

Principal Faculty Member(s) Proposing Course

Name	User ID	College	Department
Elizabeth Mcgraw	eam7	Agricultural Sciences (AG)	Not Available
Keith Eric Machtinger	kem397	Education (ED)	Not Available

Academic Home: Agricultural Sciences (AG)

Type of Proposal: Add Change Drop

Message for Reviewers:

I have attached copies of emails of consultation with Biology, Biobehavioral Health, Political Sciences, VBS, Economics and Education (Keith Machtinger's home department)

Course Designation

(ENT 216N) Plagues Through the Ages

Course Information

Cross-Listed Courses:

Prerequisites:

Corequisites:

Concurrents:

Recommended Preparations:

Abbreviated Title: Plagues Through the Ages
Discipline: General Education
Course Listing: Inter-Domain

Special categories for Undergraduate (001-499) courses

Foundations

- Writing/Speaking (GWS)
- Quantification (GQ)

Knowledge Domains

- Health & Wellness (GHW)
- Natural Sciences (GN)
- Arts (GA)
- Humanities (GH)
- Social and Behavioral Sciences (GS)

Additional Designations

- Bachelor of Arts
- International Cultures (IL)
- United States Cultures (US)
- Honors Course
- Common course number - x94, x95, x96, x97, x99
- Writing Across the Curriculum

First-Year Engagement Program

First-Year Seminar

Miscellaneous

Common Course

GE Learning Objectives

GenEd Learning Objective: Effective Communication

GenEd Learning Objective: Creative Thinking

GenEd Learning Objective: Crit & Analytical Think

GenEd Learning Objective: Global Learning

GenEd Learning Objective: Integrative Thinking

GenEd Learning Objective: Key Literacies

GenEd Learning Objective: Soc Resp & Ethic Reason

Bulletin Listing

Minimum Credits: 3
Maximum Credits: 3
Repeatable: NO
Department with Curricular Responsibility: Entomology (UPAG_ENT)
Effective Semester: SP 2019
Travel Component: NO

Course Outline

A brief outline or overview of the course content:

This course examines the major plagues of human history from both a scientific and societal lens. Students will learn the basic biology of 14 human diseases as well as their particular impacts on human society (culture, economics and politics). This interdomain course will be co-taught by a biologist and a political scientist. No prior knowledge of either field is required.

A listing of the major topics to be covered with an approximate length of time allotted for their discussion:

During the semester students will study 14 diseases plus a focus on an emerging pathogen. The following diseases will be covered: bubonic plague, smallpox, Yellow Fever, Spanish Flu, potato famine, malaria, HIV, cholera, tuberculosis, Ebola, Dengue/Zika, measles and Lyme disease. The two uniting topics will be Vaccines and Emerging infections.

While the format of each week will repeat - the content will vary. The first lecture of the week will focus on the ecology and evolution of the disease/pathogen. For the second meeting in the week, students will discuss a particular impact of that disease on human economics, politics or culture after having read a selected popular press article. The students will be given guide questions to help them prepare for the discussion.

Course Description:

This interdomain, general education course examines the major plagues of human history from both a scientific and societal lens. The course will be co-taught by instructors with biology and political science backgrounds who will help the students to integrate across those disciplines. Each week during a single lecture, students will learn the etiology, mode of transmission and treatment/control measures of a different disease. In parallel, students will also read popular press articles on how these diseases had particular cultural, economic or political impacts. These readings, in conjunction with guide questions, will prepare students for a weekly discussion during the second lecture run by both instructors. During the course, students will develop their ability to think critically about diseases and society and demonstrate this skill by designing a novel response to an emerging pathogen in a particular cultural context. This course will develop student communication skills, both oral and written.

The name(s) of the faculty member(s) responsible for the development of the course:

| Name: Elizabeth McGraw (eam7)

Title:

Phone:

Address:

Campus: UP

City:

Fax:

| Name: Keith Eric Machtinger (kem397)

Title:

Phone:

Address:

Campus: UP

City:

Fax:

Course Justification

Instructional, Educational, and Course Objectives:

This section should define what the student is expected to learn and what skills the student will develop.

Demonstrate mastery of the ecology and evolution of ~14 major infectious diseases that have shaped human history.

Understand unique effects of each major disease on human society to include aspects of culture, politics and economics.

Demonstrate ability to think critically and design appropriate responses to emerging pathogens. In two writing pieces each student will design a plan of action and provide support evidence for his/her choices. Each week the last 20 minutes of lecture will include a discussion of parallel concepts to help the students prepare for these assignments.

Demonstrate ability to communicate effectively in writing. Each of the written pieces will include a first and second draft. Feedback from the instructor and TAs on the first draft will improve student performance on the revision.

Evaluation Methods:

Include a statement that explains how the achievement of the educational objective identified above will be assessed.

The procedures for determining students' grades should be specifically identified.

Quizzes - 4% each x 14 (2 can be dropped) = 48%

Weekly participation mark for discussion sessions 1.5% per session x 14 sessions = 21%

Written assignment, first draft - 12%

Written assignment, second draft - 19%

Relationship/Linkage of Course to Other Courses:

This statement should relate the course to existing or proposed new courses. It should provide a rationale for the level of instruction, for any prerequisites that may be specified, or for the course's role as a prerequisite for other courses.

None.

We would like this course to be open to students across a range of backgrounds and with little experience in biology or politics.

Relationship of Course to Major, Option, Minor, or General Education:

This statement should explain how the course will contribute to the major, option, or minor and indicate how it may function as a service course for other departments.

General education - GN and GH

This is an interdomain course serving to introduce students to the biology of infectious diseases and their impact on human culture.

A description of any special facilities:

None

Frequency of Offering and Enrollment:

Annually in Spring semester. No cap on enrolment.

Alignment with General Education Objectives

EFFECTIVE COMMUNICATION – the ability to exchange information and ideas in oral, written, and visual form in ways that allow for informed and persuasive discourse that builds trust and respect among those engaged in that exchange, and helps create environments where creative ideas and problem-solving flourish.

KEY LITERACIES – the ability to identify, interpret, create, communicate and compute using materials in a variety of media and contexts. Literacy acquired in multiple areas, such as textual, quantitative, information/technology, health, intercultural, historical, aesthetic, linguistic (world languages), and scientific, enables individuals to achieve their goals, to develop their knowledge and potential, to lead healthy and productive lives, and to participate fully in their community and wider society.

CRITICAL AND ANALYTICAL THINKING – the habit of mind characterized by comprehensive exploration of issues, ideas, artifacts, and events before accepting or formulating a conclusion. It is the intellectually disciplined process of conceptualizing, applying, analyzing, synthesizing, and/or evaluating information gathered from, or generated by, observation, experience, reflection, reasoning, or communication, as a guide to belief and action.

INTEGRATIVE THINKING – the ability to synthesize knowledge across multiple domains, modes of inquiry, historical periods, and perspectives, as well as the ability to identify linkages between existing knowledge and new information. Individuals who engage in integrative thinking are able to transfer knowledge within and beyond their current contexts.

CREATIVE THINKING – the capacity to synthesize existing ideas, images, or expertise in original ways and the experience of performing, making, thinking, or acting in an imaginative way that may be characterized by innovation, divergent thinking, and intellectual risk taking.

GLOBAL LEARNING – the intellectually disciplined abilities to analyze similarities and differences among cultures; evaluate natural, physical, social, cultural, historical, and economic legacies and hierarchies; and engage as community members and leaders who will continue to deal with the intricacies of an ever-changing world. Individuals

should acquire the ability to analyze power; identify and critique interdependent global, regional, and local cultures and systems; and evaluate the implications for people's lives.

SOCIAL RESPONSIBILITY AND ETHICAL REASONING – the ability to assess one's own values within the social context of problems, recognize ethical issues in a variety of settings, describe how different perspectives might be applied to ethical dilemmas, and consider the ramifications of alternative actions. Individuals should acquire the self-knowledge and leadership skills needed to play a role in creating and maintaining healthy, civil, safe, and thriving communities.

What component(s) of the course will help students achieve the General Education Learning Objectives covered in the course? Provide evidence that students in the course have adequate opportunities to achieve the identified learning objectives.

EFFECTIVE COMMUNICATION

Students will be required to draft a written piece - detailing action plans in response to emerging pathogens. Students will be given the opportunity to draft an initial version and then will be provided feedback in person on the piece before resubmitting a revision for a second grade. This approach, not commonly used in courses taught in the sciences, mimics how we actually learn to write.

CRITICAL AND ANALYTICAL THINKING

Students will read and critically discuss articles on the how the disease and our response to it affected society. Students will be asked to develop their own action plans in response to an emerging infections given their understanding of the ecology and evolution of the particular pathogen and our current cultural context.

INTEGRATIVE THINKING

Students will be asked to integrate their understanding of not just the biology of a particular disease but the impacts of the pathogen on society and the historical context when examining present and past responses to emerging diseases.

How will students be assessed to determine their attainment of the Learning Objective(s) of General Education covered in this course? This assessment must be included as a portion of the student's overall performance in this course.

EFFECTIVE COMMUNICATION

Students will be given guidance on what constitutes good writing (structure, content, grammar/punctuation, etc). Students will also be given an example of 'poor student writing' and the instructor will point out the most common mistakes. Each student will then have the opportunity to sit down with the instructor and have the comments/corrections on their initial drafts explained to them. Students receive independent grades for the first and second draft of the written piece. Therefore student performance that improves during the process of writing and redrafting will be rewarded.

CRITICAL AND ANALYTICAL THINKING

The content of the written piece will be evaluated with respect to the quality of the student's proposed action plan in response to emerging pathogens. Given the ecology and evolution of the disease - different approaches for controlling or limiting the disease will be more or less valid. Students will need to build upon what they have learned about past diseases and the consequences of disease control to critically design a novel response.

INTEGRATIVE THINKING

For the written pieces, students will also need to evaluate how the relevant cultural context may affect the design of an effective action plan against an emerging pathogen. Students will have to learn from past examples and extrapolate given what they know about the specific environment where the new pathogen is emerging.

General Education Domain Criteria

General Education Designation: Inter-Domain

GH Criteria

Explain the methods of inquiry in humanities fields and describe how the contributions of these fields complement inquiry in other areas

Demonstrate competence in critical thinking about topics and texts in the humanities through clear and well-reasoned responses

Critically evaluate texts in the humanities— whether verbal, visual, or digital— and identify and explain moral or ethical dimensions within the disciplines of the humanities

Demonstrate knowledge of major cultural currents, issues, and developments through time, including evidence of exposure to unfamiliar material that challenges their curiosity and stretches their intellectual range

Become familiar with groups, individuals, ideas, or events that have influenced the experiences and values of different communities

What components of the course will help students achieve the domain criteria selected above?

Through the selected readings and subsequent classroom discussions, students will need to think critically about political, economic, and social outcomes and implications that each disease presents to the affected community. Through discussions on each disease, students will need to synthesize information about the epidemiology of each disease with its cultural implications and outcomes. By looking at a variety of diseases placed in different time periods and cultural contexts, students will then be forced to address longer term trends and issues that can limit or direct responses to these diseases. Because the social context each disease varies, students must look deeply into the specific cultural constraints of the community and understand how their values affect the possible effective responses to disease outbreaks.

GN Criteria

Explain the methods of inquiry in the natural science fields and describe how the contributions of these fields complement inquiry in other areas

Construct evidence-based explanations of natural phenomena

- Demonstrate informed understandings of scientific claims and their applications
- Evaluate the quality of the data, methods, and inferences used to generate scientific knowledge
- Identify societal or philosophical implications of discoveries in the natural sciences, as well as their potential to address contemporary problems

What components of the course will help students achieve the domain criteria selected above?

2. Construct evidence-based explanations of natural phenomena

Each week students will learn how the ecology and evolution of particular diseases was discovered. This will include the presentation of scientific evidence about the causality of diseases and also examples of non scientific understandings. Students will gain an appreciation for the criteria that must be met to determine a pathogen is responsible for a particular disease.

4. Evaluate methods

Each week students will learn about how human society responded to past disease outbreaks and discuss their quality/efficacy. These discussions will be based on lecture content and readings. In one written piece of assessment students will be asked to develop an informed action plan for an emerging pathogen based on their understanding of the disease, the relevant societal context and the past history of disease responses.

5. Identify societal implications

Each week students will discuss how the particular emergence of a disease was both shaped by society at the time and how society was shaped in response. Human behavior or cultural context can be used to explain why diseases spread and the nature of the human response. Students will also gain an appreciation of how emerging diseases have permanently affected human behavior.

Integrative Studies

Explain how the intellectual frameworks And methodologies of the two Knowledge Domains will be explicitly addressed in the course and practiced by the students.

Students will be asked to examine how biological phenomena (diseases) have affected human culture. Students must first understand the biology and transmission of the disease. Only then can they discuss the particular impact of the disease on topics like racism, international relationships, gay rights, rise of the anti-vax movement, immigration, the economies of the developing world, etc.

Demonstrate that each Of the two domains will receive approximately equal attention, providing evidence from course topics, assignments, or other course components, and that students will integrate material from both domains.

Each aspect of the course -the biological and the cultural will be given equal weight in terms of contact time and assessment. The first lecture of each week will introduce the ecology and evolution of the disease and the second lecture period will represent a discussion on cultural effects. Students will be expected to learn the basic biology, testable in a quiz format. Students will be given readings and guide questions to prepare for the discussion sessions. The written piece - designing a strategic response to an emerging pathogen - will require an understanding of the biology of the disease as well as the likely impact on culture.

Briefly explain the staffing plan. Given that each Inter-Domain course is approved for two Knowledge Domains, it will be taught by an instructor (or instructional team) with appropriate expertise in both domains.

The first lecture each week will be run by an expert in Infectious Diseases and will detail the ecology and evolution of the disease. The core knowledge in these sessions will be shared with the co-instructor, with expertise in political science. The weekly discussion session that follows will be led by the expert in political science with assistance from the disease expert. The co-instructors have mutually selected the set of diseases to be examined and corresponding popular press articles on cultural impacts for the students to read. Each of the instructors has also written a set of guide questions that relate to the cultural impacts from their perspective. Having both teachers actively involved in the discussion will provide the appropriate integration across domains.

Describe the assessments that will be used to determine students' ability to apply integrative thinking.

Students will be given quizzes to assess their mastery of the ecology and evolution of the infectious diseases being studied. Students will also be asked to develop a written piece detailing the recommended responses to an emerging pathogen and the likely cultural impacts that will need to be accounted for. Students will get an opportunity to redraft the first version following feedback to improve their writing.

Campuses That Have Offered () Over The Past 4 Years

semester	AB	AL	BK	BR	BW	CR	DS	ER	FE	GA	GV	HB	HN	HY	LV	MA	NK	PC	SH	SL	UP	WB	WC	WS	XC	XP	XS	YK
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Potential Impact

Pre-Requisites

is listed as a pre-requisite or concurrent course for the following courses:

Note: Not all courses may be listed here, due to lionpath requirement incompleion.

No pre-requisites or concurrent courses found

ENT297 Plagues Through the Ages

Spring semester 2019

Lectures Tuesday and Thursday 1:35-2:50

Instructors: Prof. Elizabeth McGraw (Entomology) and Keith Machtinger (Education)

W251 Millennium Sciences Complex

eam7@psu.edu

Please take the time to read this syllabus. It provides key information about assignment deadlines, assignment instructions, and expectations.

This interdomain general education course examines the major plagues of human history from both a scientific and societal lens. The course will be co-taught by instructors with biology and political science backgrounds who will help the students to integrate across those disciplines. Each week during a single lecture, students will learn the etiology, mode of transmission and treatment/control measures of a different disease. In parallel, students will also read popular press articles on how these diseases had particular cultural, economic or political impacts. These readings, in conjunction with guide questions, will prepare students for a weekly discussion during the second lecture run by both instructors. During the course, students will develop their ability to think critically about diseases and society and demonstrate this skill by designing a novel response to an emerging pathogen in particular cultural context. This course will also develop student communication skills both oral and written.

Week	Dates	Disease	Assignments	Written piece
1	Jan 7	The nature of plagues/Bubonic plague	Readings/discussion/quiz	
2	Jan 14	Smallpox	Readings/discussion/quiz	
3	Jan 21	Yellow Fever	Readings/discussion/quiz	
4	Jan 28	Spanish flu	Readings/discussion/quiz	
5	Feb 4	Potato famine	Readings/discussion/quiz	
6	Feb 11	Syphilis	Readings/discussion/quiz	
7	Feb 18	Malaria	Readings/discussion/quiz	*First draft
8	Feb 25	HIV	Readings/discussion/quiz	
	March 4	-BREAK-		
9	March 11	Cholera	Readings/discussion/quiz	
10	March 18	Tuberculosis	Readings/discussion/quiz	
11	March 25	Ebola	Readings/discussion/quiz	
12	April 1	DENV/Zika	Readings/discussion/quiz	
13	April 8	Measles/Vaccines	Readings/discussion/quiz	Revision
14	April 15	Lyme/Vaccines	Readings/discussion/quiz	
15	April 22	Emerging pathogens Review session	Readings/discussion/quiz	

Fortnightly quiz

*For each writing piece you will need to meet with the instructor for 5-10 minutes to be given personal feedback.

Weekly quizzes – 4% each x 14 (2 can be dropped) = 48%
First draft written piece – 12%
Second draft of written piece – 19%
Attendance at discussion sessions – 1.5% x 14 weeks = 21%

Teaching Assistants

Name	Email
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We are available to meet with you at your convenience. *The best way to make an appointment is by email since we are away from our phones much of the time.*

Emailing Professor McGraw: I will endeavor to respond to every email within 24 hours. If you haven't received a response within 48 hours, please send a reminder.

Emailing you: I will occasionally email all members of the class. Please check your email at least twice a week, including the day before or the day of class. By default, I will use your psu email address.

Where and when to gather

The class meets in ____ on Tuesdays & Thursdays _____.

In addition the instructor will hold office hours with scheduled appointment times for students to receive feedback on their writing.

Course web sites

CANVAS: <http://canvas.psu.edu/>

Canvas will be used for, obtaining information on your assignments, posting your written assignments, downloading class notes, communicating with your instructors and classmates, and accessing your grades. Due dates for assignments and exams are listed on the calendar on CANVAS. This syllabus, instructions for written assignments, and the grading rubric for these assignments are posted here as well.

Course Goals:

First, we want you to understand the ecology and evolution of the major infectious diseases that have shaped human history. For each pathogen you will understand its transmission, disease progression in the body and the most effective treatment/prevention practices.

Second, you will learn how the particular ecology and evolution of each pathogen affected its emergence and trajectory through human populations. You will also understand how human society and the pathogen's place in time affected the nature of the human response.

Third, having integrated the goals above, we want you to be able to think critically and develop appropriate courses of action for putative newly emerging pathogens.

Course objectives

Demonstrate mastery of the ecology and evolution of ~13 different human pathogens. This will be assessed by fortnightly quizzes based on lecture material and readings.

Demonstrate your ability to think critically and design appropriate responses to emerging pathogens. In two writing pieces you will design a plan of action and support your choices with evidence. During each week we will spend the last 20 minutes discussing parallel concepts to help you prepare.

Demonstrate your ability to communicate effectively in writing. Each of the written pieces will include a first and second draft. Feedback from the instructor and TAs on the first draft will improve your performance on the revision.

Materials you will need for this class:

No textbook required for this course although you will be given weekly reading material. Everything else you need to know occurs in class, thus, attendance is critical.

Lecture Notes: Lectures handouts will be posted on CANVAS before class to assist you with taking notes. You should expect to take notes by hand; not all information discussed is on the PowerPoint slides. You do not have to print the Powerpoint notes; however, you will need to take notes yourself. Laptops may not be used in class. See Electronics Policy below.

Assignments

Weekly quizzes. Every Thursday a quiz will be held at the beginning of the lecture for the previous week lecture's material. There are 14 quizzes and your lowest score will be dropped. Each quiz will last 10 minutes and will largely be short answer/short essay questions.

Written piece. You will be asked to critically construct an appropriate response to an emerging pathogen. Your response will be based on your understanding of the ecology and evolution of the associated disease and its interaction with the current cultural context. You will be given a chance to write each piece as a first draft and then receive feedback prior to submitting a revision. If you are happy with your score on the first draft the same can be automatically applied to the revision. Our weekly discussions and guide questions on the readings will not be assessed but will prepare you for these writing pieces.

**Grading Scale:

Final grades will be assigned based upon the following percentages:

A	94-100%
A-	90-93
B+	87-89
B	83-86
B-	80-82
C+	76-79
C	70-75
D	60-69
F	< 60

**When the course is over, decimal numbers 1-4 will be rounded down, while decimal numbers 5 to 9 will be rounded up.

Your grades will be updated on CANVAS throughout the semester, so you will know exactly where you stand at all times. If you find discrepancies between what you think your grades should be and what you find on CANVAS, please let me know as soon as possible.

Participation & Engagement*

Research has shown that you can only learn a limited amount from listening to lectures, no matter how clear or entertaining. People learn much more from being actively engaged and grappling with the material while learning it. Taking notes is a productive form of active engagement as studies have shown learning begins as you write notes. Your course grade will be impacted if you do not attend class or you do not take notes – typically one letter grade or more. Not everything on the exams will be on the PowerPoint slides. Active participation and collaboration will be an integral part of your learning in this course and will provide extra credit opportunities.

Electronics Use Policy: Recent research shows that dividing our attention, or "multitasking", is severely detrimental to learning. Research has shown that using an electronic device with a screen during class distracts you and other students around you (called a "halo" effect) and impairs their learning as well as yours. Recent research on students in introductory Astronomy classes shows that students who use their smart phones for texting and other non-class related purposes during class on average perform almost a letter grade lower than their classmates who do not use their phones. It's important to note that their grades were not penalized *because* they were texting -- it was their learning that was reduced, which led to lower grades. So they performed worse on the exams on the material covered while they were multitasking. The only classes covered in this study that did not show this drop in course grades were classes with a strictly enforced policy that prohibits phone and laptop use.

Some students prefer to take notes electronically. There are two problems with this: 1) It hurts your learning and 2) It hurts your classmates' learning. While you can choose to negatively impact your own learning, it is unacceptable for you to negatively impact the learning of others. Laptop screens are visually distracting to those around you; this distraction reduces their learning (and lowers their grades). The speed and ease of note-taking electronically has been shown to lead to shallower mental processing and reduced learning (and indeed, lower grades) as compared to handwritten notes. Read more about how [taking notes on paper has been proven to be more effective than taking notes on a laptop](#). Handwritten notes are more laborious, but you are learning while you take notes. So there's a payoff for the extra effort!

- To help improve your learning and eliminate the screen distraction "halo" effect on neighbors, all electronic devices must be put away during class. To help you, I will discuss how to take good notes during lecture. If you feel you have a special need to use a laptop during class, please see Nancy.

Disability Statement: Penn State welcomes students with disabilities into the University's educational programs. Every Penn State campus has an office for students with disabilities. The Office for Disability Services (ODS) Web site provides contact information for every Penn State campus: <http://equity.psu.edu/ods/dcl>. For further information, please visit the

Office for Disability Services Web site: <http://equity.psu.edu/ods>.

In order to receive consideration for reasonable accommodations, you must contact the appropriate disability services office at the campus where you are officially enrolled, participate in an intake interview, and provide documentation: <http://equity.psu.edu/ods/guidelines>. If the documentation supports your request for reasonable accommodations, your campus's disability services office will provide you with an accommodation letter. Please share this letter with your instructors and discuss the accommodations with them as early in your courses as possible. You must follow this process for every semester that you request accommodations.

Academic Integrity

Honest behavior: Talking about course concepts with others is a great way to help each other learn, but be sure to write up your assignments on your own. Be sure you can explain everything in your own words. All work submitted by you should be an honest reflection of what you yourself personally know and understand without assistance.

Dishonest behavior: Any action whereby a student fails to do all the assigned work on their own, including, but not limited to: submitting the written work of anyone else, getting answers from any other source other than your own thinking or course content, using unauthorized sources of information for any assignments or tests, or misrepresenting any information to the instructor.

Written assignments: Written work that you submit for this class may be analyzed with plagiarism detection software, so be sure that any writing you do for this course, no matter how short or long, is completely in your own words and cite your sources of information. No quoted text (using someone else's writing word for word) from a source may be used in your written assignments, except for the New Term Definitions assignment as explained above. Plagiarism is one of the most frequently committed violations of academic integrity in college classes.

Warning: Ignorance is not a valid defense for plagiarism. Educate yourself about what constitutes plagiarism so you don't get burned. See <http://tlt.its.psu.edu/plagiarism>.

From Penn State's website: "Academic integrity includes a commitment not to engage in or tolerate acts of falsification, plagiarism, misrepresentation or deception. Such acts of dishonesty violate the fundamental ethical principles of the University community and compromise the worth of work completed by others." Code of student conduct <http://studentaffairs.psu.edu/conduct/codeofconduct> . Academic Integrity Guidelines for the College of Agricultural Sciences <http://agsci.psu.edu/students/resources/academic-integrity>.

Beware of improper sharing or use of course materials: All materials students receive during this course or to which students have online access are protected by copyright laws. Students may use course materials and make copies for their own use as needed, but unauthorized distribution and/or uploading of materials without the instructor's express permission is strictly prohibited. University Policy AD 40, the University Policy Recording of Classroom Activities and Note Taking Services addresses this issue. Students who engage in the unauthorized distribution or sharing of copyrighted materials may be held in violation of the University's Code of Conduct, and/or liable under Federal and State laws. This means that if you obtain and use copies of course notes, assignments or exams from another person, you are in violation of copyright laws and PSU's Code of Conduct.

For the best information about how to avoid plagiarism go to:
<http://tlt.its.psu.edu/plagiarism/tutorial/>

Lecture and Assignment Schedule
Available under Modules in Canvas

*The Participation & Engagement and Etiquette sections are lightly edited from Julia Kregenow's course materials in Astronomy.

ENT216N Plagues Through the Ages

Spring Semester 2019, 3 credits

Lectures Tuesday and Thursday 1:35-2:50, 111 Forum

Instructors: Prof. Elizabeth McGraw (Entomology) and Keith Machtinger (Education)

W251 Millennium Sciences Complex, eam7@psu.edu ; kem397@psu.edu

Course description: This general education course examines the major plagues of human history from both a scientific and societal lens. The course will be co-taught by instructors with biology and political science backgrounds who will help the students to integrate across those disciplines. Each week during a single lecture, students will learn the etiology, mode of transmission and treatment/control measures of a different disease. In parallel, students will also read popular press articles on how these diseases have had particular cultural, economic or political impacts. These readings, in conjunction with guide questions, will prepare students for a weekly discussion during the second lecture run by both instructors. During the course, students will develop their ability to think critically about diseases and society and demonstrate this skill by designing a novel response to an emerging pathogen in particular cultural context. This course will also develop student communication skills both oral and written.

Prerequisites/Co-requisites/Concurrent requirements/recommended preparation: none

Course Attributes: GenEd, Inter-domain, GN, GH

Education Learning Objectives: Effective Communication, Critical & Analytical Thinking, Integrative Thinking

Course schedule:

Week	Dates	Disease	Weekly Assignments	Written piece
1	Jan 7	The nature of plagues/Bubonic plague	Readings/quiz/discussion	
2	Jan 14	Smallpox	Readings/quiz/discussion	
3	Jan 21	Yellow Fever	Readings/quiz/discussion	
4	Jan 28	Spanish flu	Readings/quiz/discussion	
5	Feb 4	Potato famine	Readings/quiz/discussion	
6	Feb 11	Syphilis	Readings/quiz/discussion	
7	Feb 18	Malaria	Readings/quiz/discussion	First draft due
8	Feb 25	HIV	Readings/quiz/discussion	
	March 4	-BREAK-		
9	March 11	Cholera	Readings/quiz/discussion	
10	March 18	Tuberculosis	Readings/quiz/discussion	
11	March 25	Ebola	Readings/quiz/discussion	
12	April 1	DENV/Zika	Readings/quiz/discussion	
13	April 8	Measles/Vaccines	Readings/quiz/discussion	*Revision due
14	April 15	Lyme/Vaccines	Readings/quiz/discussion	
15	April 22	Emerging pathogens Review session	Readings/quiz/discussion	

*Meet with Prof. McGraw to get individual feedback on paper before submitting revision.

-Weekly quizzes – 4% each x 14 (2 can be dropped) = 48% of course mark
These will be short, 2 question quizzes to make sure you attended/understood the lecture material from the Tuesday each week.

-First draft written piece – 12%
Second draft of written piece – 19%

-Participation in weekly Thursday discussion sessions – 1.5% x 14 weeks = 21%

Meetings: We are available to meet with you at your convenience. The best way to make an appointment is by email since we are away from our phones much of the time. We will endeavor to respond to every email within 24 hours. If you haven't received a response within 48 hours, please send a reminder.

Emailing you: We will occasionally email all members of the class. Please check your email at least twice a week, including the day before or the day of class. By default, we will use your PSU email address.

Course web sites:

CANVAS: <http://canvas.psu.edu/>

Canvas will be used for, obtaining information on your assignments, posting your written assignments, downloading class notes, communicating with your instructors and classmates, and accessing your grades. Due dates for assignments and exams are listed on the calendar on CANVAS. This syllabus, instructions for written assignments, and the grading rubric for these assignments are posted here as well.

Course Goals:

First, we want you to understand the ecology and evolution of the major infectious diseases that have shaped human history. For each pathogen you will understand its transmission, disease progression in the body and the most effective treatment/prevention practices.

Second, you will learn how the particular ecology and evolution of each pathogen affected its emergence and trajectory through human populations. You will also understand how human society and the pathogen's place in time affected the nature of the human response.

Third, having integrated the goals above, we want you to be able to think critically and develop appropriate courses of action for putative newly emerging pathogens.

Course Objectives:

Demonstrate mastery of the ecology and evolution of ~14 different human pathogens. This will be assessed by fortnightly quizzes based on lecture material and readings.

Demonstrate an understanding of how these major diseases have affected human society and how their time of emergence has shaped the human response to the disease.

Demonstrate your ability to think critically and design appropriate responses to emerging pathogens. In one written piece, you will design a plan of action and support your choices with evidence. During each week we will spend the last 20 minutes discussing parallel concepts to help you prepare.

Demonstrate your ability to communicate effectively in writing. Each of the written pieces will include a first and second draft. Feedback from the instructor and TAs on the first draft will improve your performance on the revision.

Materials you will need for this class: No textbook required for this course although you will be given weekly reading material. Everything else you need to know occurs in class, thus, attendance is critical.

Lecture Notes: Lectures handouts will be posted on CANVAS before class to assist you with taking notes. You should expect to take notes by hand; not all information discussed is on the PowerPoint slides. You do not have to print the Powerpoint notes; however, you will need to take notes yourself. Laptops may not be used in class. See Electronics Policy below.

Assignments:

Weekly quizzes. Every Thursday a quiz will be held at the beginning of the lecture for the previous Tuesday's lecture's material. There are 14 quizzes and your lowest score will be dropped. Each quiz will last 10 minutes and will largely be short answer/short essay questions.

Written piece. You will be asked to critically construct an appropriate response to an emerging pathogen. Your response will be based on your understanding of the ecology and evolution of the associated disease and its interaction with the current cultural context. You will be given a chance to write each piece as a first draft and then receive feedback prior to submitting a revision. If you are happy with your score on the first draft the same can be automatically applied to the revision. Our weekly discussions and guide questions on the readings will not be assessed but will prepare you for these writing pieces.

**Grading Scale:

Final grades will be assigned based upon the following percentages:

A	94-100%
A-	90-93
B+	87-89
B	83-86
B-	80-82
C+	76-79
C	70-75
D	60-69
F	< 60

**When the course is over, decimal numbers 1-4 will be rounded down, while decimal numbers 5 to 9 will be rounded up.

Your grades will be updated on CANVAS throughout the semester, so you will know exactly where you stand at all times. If you find discrepancies between what you think your grades should be and what you find on CANVAS, please let me know as soon as possible.

Participation & Engagement: Research has shown that you can only learn a limited amount from listening to lectures, no matter how clear or entertaining. People learn much more from being actively engaged and grappling with the material while learning it. Taking notes is a productive form of active engagement as studies have shown learning begins as you write notes. Your course grade will be impacted if you do not attend class or you do not take notes – typically one letter grade or more. Not everything on the exams will be on the PowerPoint slides. Active participation and collaboration will be an integral part of your learning in this course and will provide extra credit opportunities.

Electronics Use Policy: Recent research shows that dividing our attention, or "multitasking", is severely detrimental to learning. Research has shown that using an electronic device with a screen during class distracts you and other students around you (called a "halo" effect) and impairs their learning as well as yours. Recent research on students in introductory Astronomy classes shows that students who use their smart phones for texting and other non-class related purposes during class on average perform almost a letter grade lower than their classmates who do not use their phones. It's important to note that their grades were not penalized *because* they were texting -- it was their learning that was reduced, which led to lower grades. So they performed worse on the exams on the material covered while they were multitasking. The only classes covered in this study that did not show this drop in course grades were classes with a strictly enforced policy that prohibits phone and laptop use.

Some students prefer to take notes electronically. There are two problems with this: 1) It hurts your learning and 2) It hurts your classmates' learning. While you can choose to negatively impact your own learning, it is unacceptable for you to negatively impact the learning of others. Laptop screens are visually distracting to those around you; this distraction reduces their learning (and lowers their grades). The speed and ease of note-taking electronically has been shown to lead to shallower mental processing and reduced learning (and indeed, lower grades) as compared to handwritten notes. Read more about how [taking notes on paper has been proven to be more effective than taking notes on a laptop](#). Handwritten notes are more laborious, but you are learning while you take notes. So there's a payoff for the extra effort!

- To help improve your learning and eliminate the screen distraction "halo" effect on neighbors, all electronic devices must be put away during class. To help you, I will discuss how to take good notes during lecture. If you feel you have a special need to use a laptop during class, please see Nancy.

Disability Statement:

Penn State welcomes students with disabilities into the University's educational programs. Every Penn State campus has an office for students with disabilities. The Office for Disability Services (ODS) Web site provides contact information for every Penn State campus: <http://equity.psu.edu/ods/dcl>. For further information, please visit the Office for Disability Services Web site: <http://equity.psu.edu/ods>.

In order to receive consideration for reasonable accommodations, you must contact the appropriate disability services office at the campus where you are officially enrolled, participate in an intake interview, and provide documentation: <http://equity.psu.edu/ods/guidelines> . If the documentation supports your request for reasonable accommodations, your campus's disability services office will provide you with an accommodation letter. Please share this letter with your instructors and discuss the accommodations with them as early in your courses as possible. You must follow this process for every semester that you request accommodations.

Academic Integrity:

Honest behavior: Talking about course concepts with others is a great way to help each other learn, but be sure to write up your assignments on your own. Be sure you can explain everything in your own words. All work submitted by you should be an honest reflection of what you yourself personally know and understand without assistance.

Dishonest behavior: Any action whereby a student fails to do all the assigned work on their own, including, but not limited to: submitting the written work of anyone else, getting answers from any other source other than your own thinking or course content, using unauthorized sources of information for any assignments or tests, or misrepresenting any information to the instructor.

Written assignments: Written work that you submit for this class may be analyzed with plagiarism detection software, so be sure that any writing you do for this course, no matter how short or long, is completely in your own words and cite your sources of information. No quoted text (using someone else's writing word for word) from a source may be used in your written assignments, except for the New Term Definitions assignment as explained above. Plagiarism is one of the most frequently committed violations of academic integrity in college classes.

Warning: Ignorance is not a valid defense for plagiarism. Educate yourself about what constitutes plagiarism so you don't get burned. See <http://tlt.its.psu.edu/plagiarism>.

From Penn State's website: "Academic integrity includes a commitment not to engage in or tolerate acts of falsification, plagiarism, misrepresentation or deception. Such acts of dishonesty violate the fundamental ethical principles of the University community and compromise the worth of work completed by others." Code of student conduct <http://studentaffairs.psu.edu/conduct/codeofconduct> . Academic Integrity Guidelines for the College of Agricultural Sciences <http://agsci.psu.edu/students/resources/academic-integrity>.

Beware of improper sharing or use of course materials: All materials students receive during this course or to which students have online access are protected by copyright laws. Students may use course materials and make copies for their own use as needed, but unauthorized distribution and/or uploading of materials without the instructor's express permission is strictly prohibited. University Policy AD 40, the University Policy Recording of Classroom Activities and Note Taking Services addresses this issue. Students who engage in the unauthorized distribution or sharing of copyrighted materials may be held in violation of the University's Code of Conduct, and/or liable under Federal and State laws. This means that if you obtain and use copies of course notes, assignments or exams from another person, you are in violation of copyright laws and PSU's Code of Conduct.

For the best information about how to avoid plagiarism go to:
<http://tlt.its.psu.edu/plagiarism/tutorial/>

Lecture and Assignment Schedule:
Available under Modules in Canvas

*The Participation & Engagement and Etiquette sections are lightly edited from Julia Kregenow's course materials in Astronomy.