

Term Information

Effective Term Autumn 2022
Previous Value Spring 2021

Course Change Information

What change is being proposed? (If more than one, what changes are being proposed?)

Increasing the course credit hours to 4; approving the course as a Health & Well-being theme GE course; approving the course as an interdisciplinary teamtaught

GE

What is the rationale for the proposed change(s)?

Increasing the course credit hours to 4; approving the course as a Health & Well-being theme GE course; approving the course as an interdisciplinary teamtaught

GE

What are the programmatic implications of the proposed change(s)?

(e.g. program requirements to be added or removed, changes to be made in available resources, effect on other programs that use the course)?

n/a

Is approval of the request contingent upon the approval of other course or curricular program request? No

Is this a request to withdraw the course? No

General Information

Course Bulletin Listing/Subject Area History
Fiscal Unit/Academic Org History - D0557
College/Academic Group Arts and Sciences
Level/Career Undergraduate
Course Number/Catalog 3708
Course Title Vaccines: A Global History
Transcript Abbreviation Vaccines Gib Hst
Course Description This course examines the history and biology of vaccines. We explore the discovery and development of vaccines, along with the political and cultural controversies that have surrounded them for centuries. Team-taught course with faculty member in Pharmacy.
Semester Credit Hours/Units Fixed: 4
Previous Value Fixed: 3

Offering Information

Length Of Course 14 Week
Flexibly Scheduled Course Never
Does any section of this course have a distance education component? Yes
Is any section of the course offered 100% at a distance
Grading Basis Letter Grade
Repeatable No
Course Components Lecture

Grade Roster Component	Lecture
Credit Available by Exam	No
Admission Condition Course	No
Off Campus	Never
Campus of Offering	Columbus, Lima, Mansfield, Marion, Newark, Wooster
<i>Previous Value</i>	<i>Columbus</i>

Prerequisites and Exclusions

Prerequisites/Corequisites	
Exclusions	Not open to students with credit for Phr 3708.
Electronically Enforced	Yes

Cross-Listings

Cross-Listings	Cross-listed in Phr.
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Subject/CIP Code

Subject/CIP Code	51.2001
<i>Previous Value</i>	<i>54.0104</i>
Subsidy Level	Baccalaureate Course
Intended Rank	Freshman, Sophomore, Junior, Senior

Requirement/Elective Designation

General Education course:
Historical Study; Health and Well-being

Previous Value

General Education course:
Historical Study

Course Details

Course goals or learning objectives/outcomes	<ul style="list-style-type: none">• describe the overall historical chronology of changes in the history of vaccines• describe the primary features of the immune system relevant to the development and efficacy of vaccines.• describe the challenges faced by scientists in the development and production of vaccines over time.• explain some of the current consensus views on why historical changes occurred, including institutional, political, economic, and cultural factors affecting vaccine development and use• assess how physicians, other care providers and patients are products of their own time periods and why this insight is crucial for understanding why people believe and behave as they do.
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Previous Value

- *Students acquire a perspective on history and an understanding of the factors that shape human activity.*
- *Students display knowledge about the origins and nature of contemporary issues and develop a foundation for future comparative understanding.*
- *Students think, speak, and write critically about primary and secondary historical sources by examining diverse interpretations of past events and ideas in their historical contexts.*

Content Topic List

- Smallpox: Origins to Inoculation
- Cotton Mather and Early American Inoculation
- Edward Jenner and the Origins of Vaccination
- Cowpox and the Puzzle of Vaccinia Virus
- Viruses: What are they and how do they make us sick?
- Introduction to Immunology
- How vaccines train the immune system
- Community Immunity
- Louis Pasteur: Animal Diseases, Human Trials
- Anti-Vaccinators in the 19th Century
- The Biologics Act and the Very Early FDA
- The DTP Vaccine and the Vaccine Safety Movement
- Smallpox Eradication
- Vaccination Efforts and their impact on Global Health
- Global Disease Eradication Efforts
- American Immunization: From Carter to Clinton
- Modern Vaccine Development
- What is vaccine hesitancy and why does it happen?

Previous Value

- *Introduction history, disease, biology*
- *Smallpox Part 1: Inoculation*
- *Smallpox Part 2: Vaccination-Discovery*
- *How vaccines work*
- *Pasteur: trial and error - animal diseases, human trials*
- *Bacteria v. viruses: do their biological differences matter for vaccine development?*
- *The Anti-vaccinationists, Part 1: 1880-1910 (SCL)*
- *The Biologics Act and the very early FDA (KS)*
- *Launching the vaccine age (SCL/KS)*
- *Influenza and the search for a vaccine, 1930-1950 (SCL)*
- *Vaccines, mortality, morbidity and the 20th century global demographic transition (KS)*
- *Global conquest: The eradication of small pox (SCL) and other global ventures (KS)*
- *Emerging diseases, re-emerging diseases and vaccine development (SCL/KS)*
- *The Anti-vaccinationists, Part 2: 1980-present (SCL/KS) Current concerns/current responses*

Sought Concurrence

No

COURSE CHANGE REQUEST
3708 - Status: PENDING

Last Updated: Vankeerbergen, Bernadette
Chantal
10/20/2021

Attachments

- History-Pharmacy 3708 Syllabus -4 credit hour version.pdf: Syllabus
(Syllabus. Owner: Heikes, Jacklyn Celeste)
- History-Pharmacy 3708 Syllabus -Autumn 2021.pdf: syllabus
(Syllabus. Owner: Heikes, Jacklyn Celeste)
- 3708 - Health and Wellbeing GE documentation.pdf: GE documentation
(Other Supporting Documentation. Owner: Heikes, Jacklyn Celeste)
- 3708 - Integrative Practices GE documentation.pdf: GE documentation
(Other Supporting Documentation. Owner: Heikes, Jacklyn Celeste)
- syllabus change highlights.docx: Syllabus change highlights
(Other Supporting Documentation. Owner: Heikes, Jacklyn Celeste)
- PHR 3708 Technical Review Checklist(1).pdf: Tech review
(Other Supporting Documentation. Owner: Heikes, Jacklyn Celeste)

Comments

Workflow Information

Status	User(s)	Date/Time	Step
Submitted	Heikes, Jacklyn Celeste	08/18/2021 01:29 PM	Submitted for Approval
Approved	Soland, Birgitte	08/18/2021 08:01 PM	Unit Approval
Approved	Vankeerbergen, Bernadette Chantal	10/20/2021 10:52 AM	College Approval
Pending Approval	Cody, Emily Kathryn Jenkins, Mary Ellen Bigler Hanlin, Deborah Kay Hilty, Michael Vankeerbergen, Bernadette Chantal Steele, Rachel Lea	10/20/2021 10:52 AM	ASCCAO Approval

HIST/PHR 3708

Course Change Proposal

Timeline

- AU21 and SP21 offerings: 3 credit hour Historical Studies GE (old GE)
- AU22 offering and beyond: 4 credit hour Health & Wellbeing GE integrative, interdisciplinary Team-taught GE course

During AU21 we will submit a proposal to request approval for HIST/PHR 3708 as a 4 credit hour GE Health & Wellbeing course. We will also submit a proposal for this course to be considered an “integrative, interdisciplinary Team-taught” GE course.

Learning Outcomes

Our current course objectives align well with the learning outcomes for the Health & Wellbeing theme.

1. describe the overall historical chronology of changes in the history of vaccines
2. describe the primary features of the immune system relevant to the development and efficacy of vaccines.
3. describe the challenges faced by scientists in the development and production of vaccines over time.
4. explain some of the current consensus views on why historical changes occurred, including institutional, political, economic, and cultural factors affecting vaccine development and use
5. assess how physicians, other care providers and patients are products of their own time periods and why this insight is crucial for understanding why people believe and behave as they do.

	LO1	LO2	LO3	LO4	LO5
GE LO1.1: Successful students will integrate approaches to health and wellbeing by making connections to out-of- classroom experiences with academic knowledge or across disciplines and/or to work they have done in previous classes and that they anticipate doing in future.	X		X	X	X
GELO1.2: Students will explore and analyze health and wellbeing through attention to at least two dimensions of wellbeing. (Ex: physical, mental, emotional, career, environmental, spiritual, intellectual, creative, financial, etc.) Physical, intellectual	X	X		X	X

Assessments

Class Participation/Discussions

- In previous iterations of 3708, class discussions have been interspersed with lectures for about 20-30 minutes once or twice a week, where applicable. Discussions are based on course lectures and readings, and students are asked to apply knowledge gained in the course to historical and current issues.
- In the 4 credit offering, due to the change in course meeting pattern (2x a week for 80 min to 4x a week for 55 min), our discussions will be more purposeful (scheduled for specific days within the week) and are expected to provide students with a deeper dive into the content. This will also provide students additional opportunities to achieve GE learning outcomes, particularly GE LO1.2; grade weight remains the same.
- 3 credit hour course had weekly discussions built into lecture; averaged 20-40 minutes per week. 4 credit offering will have scheduled discussions weekly averaging 55 minutes (reflecting an increase in student workload, necessary prep work outside of class and increased time in class for discussion).

Current Events Analysis

- The Covid-19 pandemic provided us the opportunity to build a new assignment into 3708 during AU20 in which we assigned the students bi-weekly current event analysis assignments to help them apply what they were learning in class to current events. Students were expected to provide a 250 word summary of a current news article or scientific journal article related to Covid-19 vaccine research and development and provide an explanation of how it applied to what they were learning in class.
- For the 4 credit hour version of 3708, we plan to continue this assignment as it has proven successful so far. We plan to broaden the topic, however to a current article related to ongoing vaccine research and/or deployment in general. This assignment provides students a low-stakes opportunity to achieve GE learning outcomes, particularly GE LO1.1; grade weight and student effort remain the same.

Midterm/Quizzes updated to Two Response Papers

- The biggest change between the 3 credit hour course to the 4 credit hour course in terms of assessment is the converting of the midterm and quizzes to two 3-4 page response papers during the semester. Instead of asking students to memorize and repeat facts, we will be changing these assignments to response papers based on prompts provided by faculty that will require students to reflect, apply and expand upon information learned in class.
- This change in assessments will provide students an opportunity to achieve both GE learning outcomes in the Health & Wellbeing theme, and, given their spacing (weeks 7 and 12) will allow faculty to better assess progress in learning over the course of the semester.

- In the 3 credit hour version, the midterm and quizzes accounted for 35% of the overall grade. In the 4 credit course, the response papers will account for 40% of the overall grade, which reflects an increase in student workload.

Term Paper to Final Project

- In past iterations of the course, we have gone back and forth between a final project and a final paper (paper was used during pandemic offerings due to lack of in-person meetings for group projects). For the 4 credit hour offering, we plan to return to the final project as it allows students to demonstrate their learning over the course of the semester in a more creative way. Students will work in small groups to present a research project on any topic of their choice related to vaccines. They will also be given freedom in how they choose to present their project to the class. In years past, we have seen news briefs, interviews, whiteboard videos, PowerPoint presentations, etc.
- Final project checkpoints and meetings with faculty are built into the semester to break the project down to manageable portions and keep faculty aware of group dynamics and progress on projects.
- The final project will provide an in-depth, semester long opportunity for students to achieve both GE learning outcomes and require students to analyze the material at a more advanced and in-depth level than in the foundation courses.
- While the grade weight will decrease slightly in the 4 credit hour version (35% to 30% grade weight) the time students are expected to spend on this project is expected to be the same, if not more as compared to the individual term paper. Going from an individual assignment to a group project accounts for the slight decrease in grade weight. We incorporated the extra 5% into the individual response papers.

Content

One of the most significant changes between the 3 credit hour offering and the 4 credit hour offering is the addition of new content. The change in meeting pattern allows faculty to provide more lectures in addition to the scheduled discussions. The new content will provide students with more information on individual vaccines, as well as provide perspective on the impact of policy, culture and socio-economic status on vaccine acceptance and hesitancy, both in the United States and globally. New lectures help students achieve both GE learning outcomes.

- New topics include: *Viruses-From Vaccinia to SARS-CoV2; Community Immunity; Swine Flu Vaccine Fiasco; A brief history on the Polio Vaccine; From Measles to MMR; The DTP Vaccine and the Vaccine Safety Movement; American Immunization: From Carter to Clinton; Vaccines for STDs: Hepatitis-B and HPV; Vaccine Ethics; What is vaccine hesitancy and why does it happen?; Roadblocks to 21st Century Vaccine Campaigns*

HISTORY/PHARMACY 3708
VACCINES: A GLOBAL HISTORY
AUTUMN 2022
4-CREDIT HOURS

Instructors

Instructors:	Jim Harris, Ph.D.	Katie Summers, Ph.D.
Office address:	368 Dulles Hall	141N Parks Hall
Email address:	harris.1631@osu.edu	summers.266@osu.edu
Phone number:	N/A	614-292-5829
Office hours:	T/W 1-2 pm	T/Th 10-11am

Course Description

Infectious diseases have profoundly affected human history. The discovery and use of vaccines reshaped the experience and effects of these diseases, including contributing to a rapid decline in morbidity and mortality in the 20th and 21st centuries. Empirical development of the first vaccines spurred significant scientific changes in our knowledge of human and animal immune systems, leading to the creation of yet more vaccines. From their very first use, however, vaccines have spurred controversies and resistance. They have also been big business. In this course, we explore their complex history and science.

General Education Health and Wellbeing Theme Goals

- Successful students will analyze health and wellbeing at a more advanced and in-depth level than in the foundations.
- Successful students will integrate approaches to health and wellbeing by making connections to out-of- classroom experiences with academic knowledge or across disciplines and/or to work they have done in previous classes and that they anticipate doing in future.
- Students will explore and analyze health and wellbeing through attention to at least two dimensions of wellbeing. (Ex: physical, mental, emotional, career, environmental, spiritual, intellectual, creative, financial, etc.)

General Education Health and Wellbeing Theme Expected Learning Outcomes

- Engage in critical and logical thinking about the topic or idea of health and wellbeing.
- Engage in an advanced, in-depth, scholarly exploration of the topic or idea of health and wellbeing.

- Identify, describe, and synthesize approaches or experiences as they apply to health and wellbeing.
- Explore and analyze health and wellbeing from theoretical, socio-economic, scientific, historical, cultural, technological, policy, and/or personal perspectives.
- Identify, reflect on, and apply the skills needed for resiliency and wellbeing.

Specific Course Objectives

At the end of this semester, students who complete the course work will be able to:

- describe the overall historical chronology of changes in the history of vaccines
- describe the primary features of the immune system relevant to the development and efficacy of vaccines.
- describe the challenges faced by scientists in the development and production of vaccines over time.
- explain some of the current consensus views on why historical changes occurred, including institutional, political, economic, and cultural factors affecting vaccine development and use
- assess how physicians, other care providers and patients are products of their own time periods and why this insight is crucial for understanding why people believe and behave as they do.

Required Reading

All of the readings and videos for this course are in electronic format. These include:

- pdf copies of selections from books.
- journal articles accessed through the OSU collection of online journals
- websites for which URLs are provided in Carmen modules
- streaming videos via Secured Media Library or YouTube

Course Assignments & Requirements

Class Participation (15%): Everyone is expected to actively participate in class discussions. We encourage you to have a copy of the readings on hand with you. At the very least, bring notes on the readings. If you must miss a class, please notify both instructors in advance or as soon as possible after the missed class. We will work with you to make up for the missed discussion.

Current Events Analysis (15%): In order to appreciate the applicability of this course to current events, **every two weeks** students will submit a link to an article from a major newspaper or scientific journal related to ongoing vaccine research or deployment along with a ~250 word summary of the article. Students will compile a “scrapbook” of a total of **five** articles over the course of the semester.

Response Papers (2 x 20% each): Twice during the semester (in weeks 7 and 12), students will write a short (3-4 page) paper in response to a choice of prompts.

Final Project (30%): Students will develop a creative research project as a group on any topic of their choice related to the history of vaccines. Details of the assignment will be on Carmen.

Grading scale

We use the OSU Standard Scheme for assigning letter grades to points:

93 - 100 (A)	90 - 92.9 (A-)	
87 - 89.9 (B+)	83 - 86.9 (B)	80 - 82.9 (B-)
77 - 79.9 (C+)	73 - 76.9 (C)	70 - 72.9 (C-)
67 - 69.9 (D+)	60 - 66.9 (D)	Below 60 (E)

Late assignments

Late work shall be penalized one letter grade per day (weekends included). For example, A to A- for one day, A- to B+ for two days, B+ to B for three days, etc. No assignment will be accepted more than one week late, except for *extraordinary* circumstances.

Attendance Policy

Attendance is required in this course; however, if you are feeling ill, please contact Dr. Harris and Dr. Summers as soon as possible to notify them of your absence and alternative arrangements for your participation will be made. If you think you may have COVID-19, please contact your primary care physician. If you don't have one, call the Ohio State Telehealth Immediate Care at 614-293-3200. If you have extenuating circumstances (self-quarantine, self-isolation, etc.) that will keep you out of class for an extended period of time, **it is your responsibility to communicate this with the instructor as early as possible. Dr. Harris and Dr. Summers will work with you to ensure your continued success in this course.**

Faculty feedback and response time

Grading and feedback

Evaluation of essays will be completed within **2 weeks**.

E-mail

We will reply to emails within **24 hours on weekdays**.

Discussion and communication guidelines

The following are my expectations for how we should communicate as a class. Above all, please remember to be respectful and thoughtful.

- **Writing style:** While there is no need to compose an email as if you were writing a research paper, you should remember to write using good grammar, spelling, and punctuation. Informality (including an occasional emoticon) is fine for non-academic topics.
- **Tone and civility:** Let's maintain a supportive learning community where everyone feels safe and where people can disagree amicably. Failure to show respect to each other may result in dismissal from the class.

The Writing Center:

The Writing Center website states that it “offers free help with writing at any stage of the writing process for any member of the university community. During our sessions, consultants can work with you on anything from research papers to lab reports, from dissertations to résumés, from proposals to application materials. Appointments are available in-person at 4120 Smith Lab, as well as for online sessions. You may schedule an in-person or online appointment by visiting WOnline or by calling 614-688-4291. Please note that the Writing Center also offers daily walk-in hours—no appointment necessary—in Thompson Library. You do not have to bring in a piece of writing in order to schedule a writing center appointment. Many students report that some of their most productive sessions entail simply talking through ideas. Please check out our "Services" page for the types of consultations we provide. We also maintain a [resources page \(https://cstw.osu.edu/writing-resources\)](https://cstw.osu.edu/writing-resources) with writing handouts and links to [online resources \(https://cstw.osu.edu/writing-resources/research-resources\)](https://cstw.osu.edu/writing-resources/research-resources).”

Course technology

For help with your password, university e-mail, Carmen, or any other technology issues, questions, or requests, contact the OSU IT Service Desk. Standard support hours are available at <https://ocio.osu.edu/help/hours>, and support for urgent issues is available 24x7.

- **Self-Service and Chat support:** <http://ocio.osu.edu/selfservice>
- **Phone:** 614-688-HELP (4357)
- **Email:** 8help@osu.edu
- **TDD:** 614-688-8743

Technical skills necessary for this course

- Basic computer and web-browsing skills
- Navigating Carmen

Necessary equipment

- Computer: current Mac (OS X) or PC (Windows 7+) with high-speed internet connection
- Microphone: built-in laptop or tablet mic or external microphone

Necessary software

- [Microsoft Office 365 ProPlus](#) All Ohio State students are now eligible for free Microsoft Office 365 ProPlus through Microsoft's Student Advantage program. Each student can install Office on five PCs or Macs, five tablets (Windows, iPad® and Android™) and five phones.
 - Students are able to access Word, Excel, PowerPoint, Outlook and other programs, depending on platform. Users will also receive 1 TB of OneDrive for Business storage.
 - Office 365 is installed within your BuckeyeMail account. Full instructions for downloading and installation can be found <https://ocio.osu.edu/kb04733>.
- Adobe Reader and any plugins (e.g. Flash) needed to view videos; other presentation software, such as Prezi (not OSU approved) or Explain Everything (OSU approved), if desired.

Carmen Access

You will need to use [BuckeyePass](#) multi-factor authentication to access your courses in Carmen. To ensure that you are able to connect to Carmen at all times, it is recommended that you take the following steps:

- Register multiple devices in case something happens to your primary device. Visit the [BuckeyePass - Adding a Device](#) help article for step-by-step instructions.
- Request passcodes to keep as a backup authentication option. When you see the Duo login screen on your computer, click **Enter a Passcode** and then click the **Text me new codes** button that appears. This will text you ten passcodes good for 365 days that can each be used once.
- Download the [Duo Mobile application](#) to all of your registered devices for the ability to generate one-time codes in the event that you lose cell, data, or Wi-Fi service.

If none of these options will meet the needs of your situation, you can contact the IT Service Desk at 614-688-4357 (HELP) and IT support staff will work out a solution with you.

OSU resources

If you do not own a computer, then you may use one in the library or any computer lab for completing written work and accessing Carmen. To create voice-over presentations and videos, take advantage of one of the Digital Unions on campus. A complete list of facilities and their hours is available at <https://odee.osu.edu/digital-union>.

Academic services

Your OSU academic advisor has a wealth of information about how to navigate the university and to manage your time here. Do take advantage of their help. Start with the main website at <http://advising.osu.edu/welcome.shtml> and use the site's search box. If you are struggling with

study skills, check out the Younkin Success Center at <http://younkinsuccess.osu.edu/academic-services/> . The College of Arts and Sciences has its own page of resources at <https://artsandsciences.osu.edu/academics/current-students/resources>. Everyone wants to see you succeed.

Academic integrity policy

Policies for this online course

- **Written assignments:** Your written assignments must be your own original work. In formal assignments, you should follow the citation style specified in the assignments to cite the ideas and words of your research sources. You are encouraged to ask a trusted person to proofread your assignments before you turn them in--but no one else should revise or rewrite your work.
- **Reusing past work:** In general, you are prohibited in university courses from turning in work from a past class to your current class, even if you modify it. If you want to build on past research or revisit a topic you have explored in previous courses, please discuss the situation with us.
- **Falsifying research or results:** All research you will conduct in this course is intended to be a learning experience; you should never feel tempted to make your results or your library research look more successful than it was.
- **Collaboration and informal peer-review:** The course includes opportunities for collaboration with your classmates. While study groups and peer review are encouraged, remember that comparing and copying answers on essays is not permitted. If you are unsure about a particular situation, please feel free just to ask ahead of time.

Ohio State's academic integrity policy

Academic integrity is essential to maintaining an environment that fosters excellence in teaching, research, and other educational and scholarly activities. Thus, The Ohio State University and the Committee on Academic Misconduct (COAM) expect that all students have read and understand the University's *Code of Student Conduct*, and that all students will complete all academic and scholarly assignments with fairness and honesty. Students must recognize that failure to follow the rules and guidelines established in the University's *Code of Student Conduct* and this syllabus may constitute "Academic Misconduct."

The Ohio State University's *Code of Student Conduct* (Section 3335-23-04) defines academic misconduct as: "Any activity that tends to compromise the academic integrity of the University, or subvert the educational process." Examples of academic misconduct include (but are not limited to) plagiarism, collusion (unauthorized collaboration), copying the work of another student, and possession of unauthorized materials during an examination. Ignorance of the University's *Code of Student Conduct* is never considered an excuse for academic misconduct, so

we recommend that you review the *Code of Student Conduct* and, specifically, the sections dealing with academic misconduct.

In addition, OSU had made Turnitin, a learning tool and plagiarism prevention system, available to instructors. For this class, you will submit your papers to Turnitin from Carmen. When grading your work, I will interpret the originality report, following [Section A of OSU's Code of Student Conduct](#) as appropriate. For more information about Turnitin, please see [the vendor's guide for students](#). Note that submitted final papers become part of the OSU database.

If we suspect that a student has committed academic misconduct in this course, we are obligated by University Rules to report our suspicions to the Committee on Academic Misconduct. If COAM determines that you have violated the University's *Code of Student Conduct* (i.e., committed academic misconduct), the sanctions for the misconduct could include a failing grade in this course and suspension or dismissal from the University.

If you have any questions about the above policy or what constitutes academic misconduct in this course, please contact us.

Other sources of information on academic misconduct (integrity) to which you can refer include:

- The Committee on Academic Misconduct web pages ([COAM Home](#))
- *Ten Suggestions for Preserving Academic Integrity* ([Ten Suggestions](#))
- *Eight Cardinal Rules of Academic Integrity* (www.northwestern.edu/uacc/8cards.htm)

Copyright disclaimer

The materials used in connection with this course may be subject to copyright protection and are only for the use of students officially enrolled in the course for the educational purposes associated with the course. Copyright law must be considered before copying, retaining, or disseminating materials outside of the course.

Statement on Title IX

Title IX makes it clear that violence and harassment based on sex and gender are Civil Rights offenses subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories (e.g., race). If you or someone you know has been sexually harassed or assaulted, you may find the appropriate resources at <http://titleix.osu.edu>.

Accessibility accommodations for students with disabilities

The University strives to make all learning experiences as accessible as possible. If you anticipate or experience academic barriers based on your disability (including mental health, chronic or temporary medical conditions), please let me know immediately so that we can privately discuss options. To establish reasonable accommodations, I request that

you register with Student Life Disability Services. After registration, make arrangements with me as soon as possible to discuss your accommodations so that they may be implemented in a timely fashion. SLDS contact information: slds@osu.edu; 614-292-3307; slds.osu.edu; 098 Baker Hall, 113 W. 12th Avenue.

Accessibility of course technology

This course requires use of Carmen (Ohio State's learning management system) and other online communication and multimedia tools. If you need additional services to use these technologies, please request accommodations with your instructor or with Student Life Disability Services.

Commitment to a diverse and inclusive learning environment

The Ohio State University affirms the importance and value of diversity in the student body. Our programs and curricula reflect our multicultural society and global economy and seek to provide opportunities for students to learn more about persons who are different from them. We are committed to maintaining a community that recognizes and values the inherent worth and dignity of every person; fosters sensitivity, understanding, and mutual respect among each member of our community; and encourages each individual to strive to reach his or her own potential. Discrimination against any individual based upon protected status, which is defined as age, color, disability, gender identity or expression, national origin, race, religion, sex, sexual orientation, or veteran status, is prohibited.

Your mental health!

As a student you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance or reduce a student's ability to participate in daily activities. No matter where you are engaged in distance learning, The Ohio State University's Student Life Counseling and Consultation Service (CCS) is here to support you. If you find yourself feeling isolated, anxious or overwhelmed, on-demand resources are available at <https://go.osu.edu/ccsondemand>. You can reach an on-call counselor when CCS is closed at 614-292-5766, and 24-hour emergency help is also available through the 24/7 National Prevention Hotline at 1-800-273-TALK or at <https://suicidepreventionlifeline.org>. The Ohio State Wellness app is also a great resource available at <https://go.osu.edu/wellnessapp>.

Course schedule

Week 1

T: Introduction to the Course (JH, KS)

W: Lecture: Smallpox: Origins to Inoculation (JH)

Reading:

- Ian and Jenifer Glynn, *The Life and Death of Smallpox* (New York: Cambridge University Press, 2004), chapter 6.

R: Discussion: Smallpox Primary Sources (JH)

Reading:

- William Buchan, *Domestic Medicine: Or, A Treatise on the Prevention and Cure of Diseases* (London: Strahan, Cadell, 1790), 214-240
- New England Inoculation Debate in Letters

Week 2

Assignment: Current Events Analysis #1 - Due End of the Week

M: Lecture: Cotton Mather and Early American Inoculation (JH)

T: Lecture: Edward Jenner and the Origins of Vaccination (JH)

W: Discussion: Edward Jenner - Primary Documents (JH)

Reading:

- Edward Jenner, *An Inquiry into the Causes and Effects of the Variolæ Vaccinæ* (1798).

R: Lecture: Cowpox and the Puzzle of Vaccinia Virus (KS)

Week 3

M: **Labor Day - No class**

T: Lecture: Viruses: What are they and how do they make us sick? (KS)

W: Discussion: Viruses- From Vaccinia to SARS-CoV2 (KS)

Reading:

- Derrick Baxby, "The Origins of the Vaccinia Virus," *The Journal of Infectious Diseases* Vol. 136, No. 3 (Sept. 1977): 453-455
- Peter Razzell, "The origins of vaccinia virus—a brief rejoinder." *Social History of Medicine* 11.1 (1998): 107-108.

- Find third reading

R: Lecture: Introduction to Immunology (KS)

Week 4

Assignment: Current Events Analysis #2 - Due End of the Week

M: Lecture: How vaccines train the immune system (KS)

T: Discussion: Immunology and vaccines (KS)

Reading:

- Dan, Jennifer M., et al. "Immunological memory to SARS-CoV-2 assessed for up to 8 months after infection." *Science* 371.6529 (2021).
- One more reading?

W: Lecture: What's in a vaccine and how do they work? (KS)

R: Discussion: Vaccine Immunology (KS)

Reading:

- Plotkin, Stanley A., Walter A. Orenstein, and Paul A. Offit. 2013. *Vaccines*. <http://www.clinicalkey.com/dura/browse/bookChapter/3-s2.0-C20090499732>. Chapter 2
- Pardi, N., Hogan, M., Porter, F. et al. mRNA vaccines — a new era in vaccinology. *Nat Rev Drug Discov* 17, 261–279 (2018).

Week 5

M: Lecture: Community Immunity (KS)

T: Discussion: Community Immunity (KS)

Reading:

- Zimmer, K. "Why R0 Is problematic for predicting COVID-19 spread." *The Scientist* (2020).
- World Health Organization. "Coronavirus disease (COVID-19): Herd immunity, lockdowns and COVID-19. 2020." URL <https://www.who.int/news-room/qa-detail/herd-immunity-lockdowns-and-covid-19> (2021).

W: Lecture: Louis Pasteur: Animal Diseases, Human Trials (JH)

R: Discussion: Pasteur's Experimental Ethics (JH)

Reading:

- Gerald Geison, *The Private Science of Louis Pasteur* (Princeton: Princeton University Press, 1995), chapter 6 (anthrax), 8 (rabies)

Week 6

Assignment: Current Events Analysis #3 - Due End of the Week

M: Discussion: Introduction of the Final Project (JH/KS)

T: Lecture: Anti-Vaccinators in the 19th Century, Part I: Europe (JH)

Reading:

- Nadja Durbach, “‘They Might as Well Brand Us’: Working-Class Resistance to Compulsory Vaccination in Victorian England,” *Social History of Medicine* 13 (April 2000): 45-63.
- Anti-Vaccination Society Pamphlet

W: Lecture: Anti-Vaccinators in the 19th Century, Part II: America (JH)

Reading:

- Michael Willrich, *Pox: An American History* (New York: Penguin Books, 2011), Chapter 7.

R: Discussion: Vaccination, and Public Health in the Law: The Case of *Jacobson v. Massachusetts* (1905) (JH)

Reading:

- *Jacobson v. Massachusetts* (1905) - Skim the case
- James Colgrove and Ronald Bayer, “Manifold restraints: liberty, public health, and the legacy of *Jacobson v. Massachusetts*.” *American Journal of Public Health* 95 (2005): 571-6.
- “The 115-year-old Supreme Court opinion that could determine rights during a pandemic,” CNN, April 10, 2020.
<https://www.cnn.com/2020/04/10/politics/pandemic-coronavirus-jacobson-supreme-court-abortion-rights/index.html>

Week 7

Assignment: Response Paper #1 will be distributed on Monday, Due Sunday

M: Film: *Outbreak: Anatomy of a Plague* (JH)

T: Discussion: *Outbreak: Anatomy of a Plague* (JH)

W: Lecture: The Biologics Act and the Very Early FDA (KS)

R: Writing Day - Work on Response Paper #1

Week 8

M: Lecture: The Expansion of the Pharmaceutical Industry (KS)

T: Discussion: The Early FDA and the Pharmaceutical Industry (KS)

Reading:

- Julie B. Milstien, "Regulation of Vaccines: Strengthening the Science Base," *Journal of Public Health Policy*, Vol. 25, No. 2 (2004), pp. 173-189.
- "Industrial Research Comes of Age: The American Pharmaceutical Industry, 1920-1940" by John Parascandola, *Pharmacy in History*, Vol. 27, No.1 (1985), pp. 12-21.

W: **Work on Project Topics/Proposals - Due by 5 pm**

R: **No Class - Enjoy Fall Break**

Week 9

Assignment: Current Events Analysis #4 - Due End of the Week

M: Lecture: Influenza, Part I: The Search for a Virus (JH)

T: Lecture: Influenza, Part II: The Quest for a Vaccine (JH)

- John M. Eyler, "DeKruif's Boast: Vaccine Trials and the Construction of a Virus," *Bulletin of the History of Medicine* 80 (2006), 409-438.

W: Lecture: Swine Flu Vaccine fiasco (KS)

R: Lecture: A Brief History of the Polio Vaccine (JH)

Week 10

M: Lecture: From Measles to MMR (JH)

T: Discussion: The DTP Vaccine and the Vaccine Safety Movement (JH)

Reading:

- Arthur Allen, *Vaccine: The Controversial Story of Medicine's Greatest Lifesaver* (New York: Norton, 2007), ch. 8

W: Lecture: Smallpox Eradication (JH)

Reading:

- *The Life and Death of Smallpox*, chapters 14 and 15 (JH)

R: Lecture: Smallpox Eradication, Continued (JH)

Weeks 11

Assignment: Current Events Analysis #5 - Due End of the Week

M: Vaccination Efforts and their impact on Global Health (KS)

Readings:

- “Valuing Vaccination” O’Brien, et al., *Proceedings of the National Academy of Sciences*, Vol. 111, No. 34 (2014).
- “The Economic and Social Benefits of Childhood Vaccinations in BRICS” Grewal et al., *Bulletin of the World Health Organization*, Vol. 92, No. 6 (June 2014).

T: Discussion: Global Disease Eradication Efforts (KS)

Readings:

- “Why is it Taking So Long to Rid the World of Polio?” by Susan Scutti, CNN.com, June 12, 2017.
- Marcel Tanner and Don de Savigny, “Malaria Eradication Back on the Table,” *Bulletin of the World Health Organization* Vol. 86, No. 2 (2008)

W: Lecture: American Immunization: From Carter to Clinton (JH)

R: Discussion: Vaccines for STDs: Hepatitis-B and HPV (JH)

Reading:

- Elena Conis, *Vaccine Nation: America’s Changing Relationship with Immunization* (Chicago: University of Chicago Press, 2015), chapters 8 and 10.

Weeks 12

Assignment: Response Paper #2 will be distributed on Monday, Due Sunday

M: Modern Vaccine Development (KS)

Reading:

- new readings

T: In-Class Activity: Vaccine Ethics (JH)

W: Discussion: Vaccine Ethics Debrief (JH)

R: Writing Day - Work on Response Paper #2

Week 13

M: Lecture: What is vaccine hesitancy and why does it happen? (KS)

T: Lecture: What is vaccine hesitancy and why does it happen? (KS)

W: Discussion: Andrew Wakefield and the MMR Myth (KS)

Reading:

- Brian Deer, “How the Case Against the MMR Vaccine Was Fixed,” *British Medical Journal*, 6 January 2011.

R: Discussion: Roadblocks to 21st Century Vaccine Campaigns (conspiracy theories, fake news, etc.?) (JH/KS)

Reading:

- Maya J. Goldenberg, *Vaccine Hesitancy: Public Trust, Expertise, and the War on Science* (Pittsburgh: University of Pittsburgh Press, 2021), 21-70.

Week 14

M: Work on final projects

T: Work on final projects

W/R: **No Class- Thanksgiving Break**

Week 15

M: Presentation Preparation

T: Project Presentations

W: Project Presentations

R: Project Presentations

Week 16

M: Project Presentations

T: Project Presentations

W: Project Presentations

Final Exam Slot: Project Presentations

HISTORY/PHARMACY 3708
VACCINES: A GLOBAL HISTORY
AUTUMN 2021
MONDAY/WEDNESDAY 9:35-10:55 AM
PARKS HALL 103

Instructors

Instructors:	Jim Harris, Ph.D	Katie Summers, Ph.D.
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Office hours:	T/W 1-2 pm via Zoom	T/Th 10-11am via Zoom

Course Description

Infectious diseases have profoundly affected human history. The discovery and use of vaccines reshaped the experience and effects of these diseases, including contributing to a rapid decline in morbidity and mortality in the 20th and 21st centuries. Empirical development of the first vaccines spurred significant scientific changes in our knowledge of human and animal immune systems, leading to the creation of yet more vaccines. From their very first use, however, vaccines have spurred controversies and resistance. They have also been big business. In this course, we explore their complex history and science.

OSU Covid-19 Statement

All students, faculty and staff are required to comply with and stay up to date on all university safety and health guidance (<https://safeandhealthy.osu.edu>), which includes wearing a face mask in any indoor spaces. Non-compliance will be warned first and disciplinary actions will be taken for repeated offenses.

Course General Education Objectives: Historical Study

History courses develop students' knowledge of how past events influence today's society and help them understand how human beings view themselves.

1. Students acquire a perspective on history and an understanding of the factors that shape human activity. *In this course, we focus on the ways that scientific, social, economic and cultural change affected understanding of infectious diseases and the immune system, the discovery and development of vaccines, the effect of vaccines on global health, and the controversies surrounding their use.*
2. Students display knowledge about the origins and nature of contemporary issues and develop a foundation for future comparative understanding. *One of the main goals of this course is for students to grasp the very complicated relationships between science,*

technology and medicine as a body of knowledge and a set of practices that are continuously defined by social and cultural ideas about health and healing.

3. Students think, speak, and write critically about primary and secondary historical sources by examining diverse interpretations of past events and ideas in their historical contexts. *We will take a particularly close look at historical primary sources about infectious diseases, vaccine discovery and vaccine controversies. Students will read both secondary sources in the academic history of vaccines and technical sources on vaccines, immunology, and the pharmacological development of new vaccines, including clinical trials and the FDA approval process.*

Specific Course Objectives

At the end of this semester, students who complete the course work will be able to:

- describe the overall historical chronology of changes in the history of vaccines
- describe the primary features of the immune system relevant to the development and efficacy of vaccines.
- describe the challenges faced by scientists in the development and production of vaccines over time.
- explain some of the current consensus views on why historical changes occurred, including institutional, political, economic, and cultural factors affecting vaccine development and use
- assess how physicians, other care providers and patients are products of their own time periods and why this insight is crucial for understanding why people believe and behave as they do.

At the end of the semester, students who complete the course assignments will have:

- demonstrated proficiency with locating articles in electronic journal repositories in the OSU libraries.
- located and articulated the main arguments and the main sources of historical evidence used to support claims made in academic chapters and journal articles about the history of vaccines.
- located and articulated the main arguments, data collection and data analysis in scientific academic chapters and journal articles about infectious diseases, immunology, vaccine development or demographics.
- demonstrated interpersonal communication skills through participation in small group work, classroom discussions and peer review of assignments.
- practiced writing in an appropriately formal style on exams and assignments.

Course materials

Required

All of the readings and videos for this course are in electronic format. These include:

- pdf copies of selections from books.

- journal articles accessed through the OSU collection of online journals
- websites for which URLs are provided in Carmen modules
- streaming videos via Secured Media Library or YouTube

Course technology

For help with your password, university e-mail, Carmen, or any other technology issues, questions, or requests, contact the OSU IT Service Desk. Standard support hours are available at <https://ocio.osu.edu/help/hours>, and support for urgent issues is available 24x7.

- **Self-Service and Chat support:** <http://ocio.osu.edu/selfservice>
- **Phone:** 614-688-HELP (4357)
- **Email:** 8help@osu.edu
- **TDD:** 614-688-8743

Technical skills necessary for this course

- Basic computer and web-browsing skills
- Navigating Carmen

Necessary equipment

- Computer: current Mac (OS X) or PC (Windows 7+) with high-speed internet connection
- Microphone: built-in laptop or tablet mic or external microphone

Necessary software

- Microsoft Office 365 ProPlus All Ohio State students are now eligible for free Microsoft Office 365 ProPlus through Microsoft's Student Advantage program. Each student can install Office on five PCs or Macs, five tablets (Windows, iPad® and Android™) and five phones.
 - Students are able to access Word, Excel, PowerPoint, Outlook and other programs, depending on platform. Users will also receive 1 TB of OneDrive for Business storage.
 - Office 365 is installed within your BuckeyeMail account. Full instructions for downloading and installation can be found <https://ocio.osu.edu/kb04733>.
- Adobe Reader and any plugins (e.g. Flash) needed to view videos; other presentation software, such as Prezi (not OSU approved) or Explain Everything (OSU approved), if desired.

Carmen Access

You will need to use [BuckeyePass](#) multi-factor authentication to access your courses in Carmen. To ensure that you are able to connect to Carmen at all times, it is recommended that you take the following steps:

- Register multiple devices in case something happens to your primary device. Visit the [BuckeyePass - Adding a Device](#) help article for step-by-step instructions.
- Request passcodes to keep as a backup authentication option. When you see the Duo login screen on your computer, click **Enter a Passcode** and then click the **Text me new codes** button that appears. This will text you ten passcodes good for 365 days that can each be used once.
- Download the [Duo Mobile application](#) to all of your registered devices for the ability to generate one-time codes in the event that you lose cell, data, or Wi-Fi service.

If none of these options will meet the needs of your situation, you can contact the IT Service Desk at 614-688-4357 (HELP) and IT support staff will work out a solution with you.

OSU resources

If you do not own a computer, then you may use one in the library or any computer lab for completing written work and accessing Carmen. To create voice-over presentations and videos, take advantage of one of the Digital Unions on campus. A complete list of facilities and their hours is available at <https://odee.osu.edu/digital-union>.

Course Assignments & Requirements

Class Participation (15%): Everyone is expected to actively participate in class discussions. We encourage you to have a copy of the readings on hand with you. At the very least, bring notes on the readings. If you must miss a class, please notify both instructors in advance or as soon as possible after the missed class. We will work with you to make up for the missed discussion.

Current Events Analysis (15%): In order to appreciate the applicability of this course to current events, **every two weeks** students will submit a link to an article from a major newspaper or scientific journal related to ongoing vaccine research or deployment along with a ~250 word summary of the article. Students will compile a “scrapbook” of a total of **five** articles over the course of the semester.

Response Papers (2x20% each): Twice during the semester (in weeks 7 and 12), students will write a short (3-4 page) paper in response to a choice of prompts.

Final Project (30%): Students will develop a creative research project as a group on any topic of their choice related to the history of vaccines. Details of the assignment will be on Carmen.

Grading scale

We use the OSU Standard Scheme for assigning letter grades to points:

93 - 100 (A)	90 - 92.9 (A-)	
87 - 89.9 (B+)	83 - 86.9 (B)	80 - 82.9 (B-)

77 - 79.9 (C+) 73 - 76.9 (C) 70 - 72.9 (C-)
67 - 69.9 (D+) 60 - 66.9 (D) Below 60 (E)

Late assignments

Late work shall be penalized one letter grade per day (weekends included). For example, A to A- for one day, A- to B+ for two days, B+ to B for three days, etc. No assignment will be accepted more than one week late, except for *extraordinary* circumstances.

Attendance Policy

Attendance is required in this course; however, if you are feeling ill, please contact Dr. Harris and Dr. Summers as soon as possible to notify them of your absence and alternative arrangements for your participation will be made. If you think you may have COVID-19, please contact your primary care physician. If you don't have one, call the Ohio State Telehealth Immediate Care at 614-293-3200. If you have extenuating circumstances (self-quarantine, self-isolation, etc.) that will keep you out of class for an extended period of time, **it is your responsibility to communicate this with the instructor *as early as possible*. Dr. Harris and Dr. Summers will work with you to ensure your continued success in this course.**

Faculty feedback and response time

Grading and feedback

Evaluation of essays will be completed within **two weeks**.

E-mail

We will reply to e-mails within **24 hours on weekdays**.

Discussion and communication guidelines

The following are my expectations for how we should communicate as a class. Above all, please remember to be respectful and thoughtful.

- **Writing style:** While there is no need to compose an email as if you were writing a research paper, you should remember to write using good grammar, spelling, and punctuation. Informality (including an occasional emoticon) is fine for non-academic topics.
- **Tone and civility:** Let's maintain a supportive learning community where everyone feels safe and where people can disagree amicably. Failure to show respect to each other may result in dismissal from the class.

The Writing Center:

The Writing Center website states that it “offers free help with writing at any stage of the writing process for any member of the university community. During our sessions, consultants can work with you on anything from research papers to lab reports, from dissertations to résumés, from proposals to application materials. Appointments are available in-person at 4120 Smith Lab, as well as for online sessions. You may schedule an in-person or online appointment by visiting WOnline or by calling 614-688-4291. Please note that the Writing Center also offers daily walk-in hours—no appointment necessary—in Thompson Library. You do not have to bring in a piece of writing in order to schedule a writing center appointment. Many students report that some of their most productive sessions entail simply talking through ideas. Please check out our "Services" page for the types of consultations we provide. We also maintain a [resources page \(https://cstw.osu.edu/writing-resources\)](https://cstw.osu.edu/writing-resources) with writing handouts and links to [online resources \(https://cstw.osu.edu/writing-resources/research-resources\)](https://cstw.osu.edu/writing-resources/research-resources).”

Academic services

Your OSU academic advisor has a wealth of information about how to navigate the university and to manage your time here. Do take advantage of their help. Start with the main website at <http://advising.osu.edu/welcome.shtml> and use the site’s search box. If you are struggling with study skills, check out the Younkin Success Center at <http://younkinsuccess.osu.edu/academic-services/>. The College of Arts and Sciences has its own page of resources at <https://artsandsciences.osu.edu/academics/current-students/resources>. Everyone wants to see you succeed.

Academic integrity policy

Policies for this online course

- **Written assignments:** Your written assignments must be your own original work. In formal assignments, you should follow the citation style specified in the assignments to cite the ideas and words of your research sources. You are encouraged to ask a trusted person to proofread your assignments before you turn them in--but no one else should revise or rewrite your work.
- **Reusing past work:** In general, you are prohibited in university courses from turning in work from a past class to your current class, even if you modify it. If you want to build on past research or revisit a topic you have explored in previous courses, please discuss the situation with us.
- **Falsifying research or results:** All research you will conduct in this course is intended to be a learning experience; you should never feel tempted to make your results or your library research look more successful than it was.

- **Collaboration and informal peer-review:** The course includes opportunities for collaboration with your classmates. While study groups are encouraged, and peer-review of the term paper draft is required, remember that comparing and copying answers on exams or assignments is not permitted. If you are unsure about a particular situation, please feel free just to ask ahead of time.

Ohio State's academic integrity policy

Academic integrity is essential to maintaining an environment that fosters excellence in teaching, research, and other educational and scholarly activities. Thus, The Ohio State University and the Committee on Academic Misconduct (COAM) expect that all students have read and understand the University's *Code of Student Conduct*, and that all students will complete all academic and scholarly assignments with fairness and honesty. Students must recognize that failure to follow the rules and guidelines established in the University's *Code of Student Conduct* and this syllabus may constitute "Academic Misconduct."

The Ohio State University's *Code of Student Conduct* (Section 3335-23-04) defines academic misconduct as: "Any activity that tends to compromise the academic integrity of the University, or subvert the educational process." Examples of academic misconduct include (but are not limited to) plagiarism, collusion (unauthorized collaboration), copying the work of another student, and possession of unauthorized materials during an examination. Ignorance of the University's *Code of Student Conduct* is never considered an excuse for academic misconduct, so we recommend that you review the *Code of Student Conduct* and, specifically, the sections dealing with academic misconduct.

In addition, OSU had made Turnitin, a learning tool and plagiarism prevention system, available to instructors. For this class, you will submit your papers to Turnitin from Carmen. When grading your work, I will interpret the originality report, following [Section A of OSU's Code of Student Conduct](#) as appropriate. For more information about Turnitin, please see [the vendor's guide for students](#). Note that submitted final papers become part of the OSU database.

If we suspect that a student has committed academic misconduct in this course, we are obligated by University Rules to report our suspicions to the Committee on Academic Misconduct. If COAM determines that you have violated the University's *Code of Student Conduct* (i.e., committed academic misconduct), the sanctions for the misconduct could include a failing grade in this course and suspension or dismissal from the University.

If you have any questions about the above policy or what constitutes academic misconduct in this course, please contact us.

Other sources of information on academic misconduct (integrity) to which you can refer include:

- The Committee on Academic Misconduct web pages ([COAM Home](#))
- *Ten Suggestions for Preserving Academic Integrity* ([Ten Suggestions](#))
- *Eight Cardinal Rules of Academic Integrity* (www.northwestern.edu/uacc/8cards.htm)

Copyright disclaimer

The materials used in connection with this course may be subject to copyright protection and are only for the use of students officially enrolled in the course for the educational purposes associated with the course. Copyright law must be considered before copying, retaining, or disseminating materials outside of the course.

Statement on Title IX

Title IX makes it clear that violence and harassment based on sex and gender are Civil Rights offenses subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories (e.g., race). If you or someone you know has been sexually harassed or assaulted, you may find the appropriate resources at <http://titleix.osu.edu>.

Accessibility accommodations for students with disabilities

The University strives to make all learning experiences as accessible as possible. If you anticipate or experience academic barriers based on your disability (including mental health, chronic or temporary medical conditions), please let me know immediately so that we can privately discuss options. To establish reasonable accommodations, I request that you register with Student Life Disability Services. After registration, make arrangements with me as soon as possible to discuss your accommodations so that they may be implemented in a timely fashion. SLDS contact information: slds@osu.edu; 614-292-3307; slds.osu.edu; 098 Baker Hall, 113 W. 12th Avenue.

Accessibility of course technology

This course requires use of Carmen (Ohio State's learning management system) and other online communication and multimedia tools. If you need additional services to use these technologies, please request accommodations with your instructor or with Student Life Disability Services.

Commitment to a diverse and inclusive learning environment

The Ohio State University affirms the importance and value of diversity in the student body. Our programs and curricula reflect our multicultural society and global economy and seek to provide

opportunities for students to learn more about persons who are different from them. We are committed to maintaining a community that recognizes and values the inherent worth and dignity of every person; fosters sensitivity, understanding, and mutual respect among each member of our community; and encourages each individual to strive to reach his or her own potential. Discrimination against any individual based upon protected status, which is defined as age, color, disability, gender identity or expression, national origin, race, religion, sex, sexual orientation, or veteran status, is prohibited.

Your mental health!

As a student you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance or reduce a student's ability to participate in daily activities. No matter where you are engaged in distance learning, The Ohio State University's Student Life Counseling and Consultation Service (CCS) is here to support you. If you find yourself feeling isolated, anxious or overwhelmed, on-demand resources are available at <https://go.osu.edu/ccsondemand>. You can reach an on-call counselor when CCS is closed at 614-292-5766, and 24-hour emergency help is also available through the 24/7 National Prevention Hotline at 1-800-273-TALK or at <https://suicidepreventionlifeline.org>. The Ohio State Wellness app is also a great resource available at <https://go.osu.edu/wellnessapp>.

Course schedule

Week 1

8/25: Introduction to the Course (JH, KS)

Week 2

8/30: Smallpox, Part I: Inoculation (JH)

Reading:

- Ian and Jenifer Glynn, *The Life and Death of Smallpox* (New York: Cambridge University Press, 2004), chapter 6.

9/1: Discussion of Early Reactions to Smallpox (JH)

Reading:

- William Buchan, *Domestic Medicine: Or, A Treatise on the Prevention and Cure of Diseases* (London: Strahan, Cadell, 1790), 214-240
- New England Inoculation Debate in Letters

Due Sunday September 5: Current Events Analysis #1

Week 3**9/6: Labor Day - No class**

9/8: Smallpox, Part 2: Vaccination (JH)

Reading:

- Edward Jenner, selections from *An Inquiry into the Causes and Effects of the Variolæ Vaccinæ* (1798).

Week 4

9/13: Introduction to Immunology (KS)

Reading:

- Bloom, Barry R., and P. H. Lambert. 2016. *The vaccine book*. <http://www.sciencedirect.com/science/book/9780128021743>. Chapter 2, "How Vaccines Work"

9/15: Cowpox and the Puzzle of Vaccinia Virus (KS)

Reading:

- Derrick Baxby, "The Origins of the Vaccinia Virus," *The Journal of Infectious Diseases* Vol. 136, No. 3 (Sept. 1977): 453-455
- Peter Razzell, "The origins of vaccinia virus—a brief rejoinder." *Social History of Medicine* 11.1 (1998): 107-108. (KS)
- Downie, Allan W., and K. R. Dumbell. "Pox viruses." *Annual Reviews in Microbiology* 10.1 (1956): 237-252.

*Due Sunday September 19: Current Events Analysis #2***Week 5**

9/20, 9/22: Vaccines: how they work and what's in them (KS)

Reading:

- Plotkin, Stanley A., Walter A. Orenstein, and Paul A. Offit. 2013. *Vaccines*. <http://www.clinicalkey.com/dura/browse/bookChapter/3-s2.0-C20090499732>. Chapter 2
- Barry R. Bloom and P. H. Lambert. 2016. *The vaccine book*. <http://www.sciencedirect.com/science/book/9780128021743>. Chapter 16, "New Approaches for Needed Vaccines: Bacteria"
- Pardi, N., Hogan, M., Porter, F. et al. mRNA vaccines — a new era in vaccinology. *Nat Rev Drug Discov* 17, 261–279 (2018).

Week 6

9/27: Pasteur's Vaccines: Animal Diseases, Human Trials (JH)

Reading:

- Gerald Geison, *The Private Science of Louis Pasteur* (Princeton: Princeton University Press, 1995), chapter 6 (anthrax), 8 (rabies)

9/29: Anti-Vaccinators in the 19th Century (JH)

Reading:

- Anti-Vaccination League Pamphlet
- Michael Willrich, *Pox: An American History* (New York: Penguin Books, 2011), Chapter 7.

Due Sunday October 3: Current Events Analysis #3

Week 7

Response Paper #1 will be distributed on Monday 10/4, Due Sunday 10/10

10/4, 10/6

The Biologics Act and the Very Early FDA (KS)

Reading:

- Julie B. Milstien, "Regulation of Vaccines: Strengthening the Science Base," *Journal of Public Health Policy*, Vol. 25, No. 2 (2004), pp. 173-189.
- Primary source: *The Virus-Toxin Law (Biologics Control Act) of 1902*, Ch. 1378, <https://www.loc.gov/law/help/statutes-at-large/57th-congress/session-1/c57s1ch1378.pdf>

Film: *Outbreak: Anatomy of a Plague* (2010)

Week 8

10/11: Influenza: The Search for a Virus and a Vaccine (JH)

Reading:

- John M. Eyer, "DeKruif's Boast: Vaccine Trials and the Construction of a Virus," *Bulletin of the History of Medicine* 80 (2006), 409-438.

10/13: Launching the Vaccine Age (JH)

Due Sunday October 17: Current Events Analysis #4

Week 9

10/18: The Expansion of the Pharmaceutical Industry (KS)

10/20: Mortality, Morbidity and the 20th Century Global Demographic Transition (KS)

Reading:

- “Industrial Research Comes of Age: The American Pharmaceutical Industry, 1920-1940” by John Parascandola, *Pharmacy in History*, Vol. 27, No.1 (1985), pp. 12-21.
- “Valuing Vaccination” O’Brien, et al., *Proceedings of the National Academy of Sciences*, Vol. 111, No. 34 (2014).
- “The Economic and Social Benefits of Childhood Vaccinations in BRICS” Grewal et al., *Bulletin of the World Health Organization*, Vol. 92, No. 6 (June 2014).

Week 10

10/25: Smallpox, Part III: Eradication (JH)

Reading:

- *The Life and Death of Smallpox*, chapters 14 and 15 (JH)

10/27: Global Disease Eradication Efforts (KS)

Reading:

- “Why is it Taking So Long to Rid the World of Polio?” by Susan Scutti, CNN.com, June 12, 2017.
- Marcel Tanner and Don de Savigny, “Malaria Eradication Back on the Table,” *Bulletin of the World Health Organization* Vol. 86, No. 2 (2008)

Due Sunday October 31: Current Events Analysis #5

Weeks 11

11/1: Immunization in Modern America (JH)

Reading:

- TBD

11/3: Modern Vaccine Development (KS)

Reading:

- Excler, JL., Saville, M., Berkley, S. *et al.* Vaccine development for emerging infectious diseases. *Nat Med* 27, 591–600 (2021).
<https://doi.org/10.1038/s41591-021-01301-0>

Weeks 12

Response Paper #2 will be distributed on Monday 11/8, Due Sunday 11/14

11/8: Vaccine Ethics (JH)

11/10: Anti-Vaccinators Today (JH, KS)

Reading:

- Brian Deer, “How the Case Against the MMR Vaccine Was Fixed,” *British Medical Journal*, 6 January 2011.

- Seth Mnookin, *The Panic Virus: The True Story Behind the Vaccine-Autism Controversy* (New York, NY: Simon & Schuster, 2011), ch. 17, 21

Week 13/14

11/15, 11/17, 11/22: Groups will have individual appointments with Drs. Harris and Summers to check in on projects.

Week 15/16

11/29, 12/1, 12/6, 12/8 + Final Exam time: Project Presentations

Interdisciplinary Team-Taught Course Inventory

Overview

The GE allows students to take a single, 4+ credit course to satisfy a particular GE Theme requirement if that course includes key practices that are recognized as integrative and high impact. Courses seeking one of these designations need to provide a completed Integrative Practices Inventory at the time of course submission. This will be evaluated with the rest of the course materials (syllabus, Theme Course submission document, etc). Approved Integrative Practices courses will need to participate in assessment both for their Theme category and for their integrative practice.

Please enter text in the boxes below to describe how your class will meet the expectations of Interdisciplinary Team-Taught courses. It may be helpful to consult the Description & Expectations document for this pedagogical practice or to consult your Director of Undergraduate Studies or appropriate support staff person as you complete this Inventory and submit your course.

Please use language that is clear and concise and that colleagues outside of your discipline will be able to follow. You are encouraged to refer specifically to the syllabus submitted for the course, since the reviewers will also have that document. Because this document will be used in the course review and approval process, you should be as specific as possible, listing concrete activities, specific theories, names of scholars, titles of textbooks etc.

Accessibility

If you have a disability and have trouble accessing this document or need to receive it in another format, please reach out to Meg Daly at daly.66@osu.edu or call 614-247-8412.

Pedagogical Practices for Interdisciplinary Team-Taught Courses

Course subject & number

Performance expectations set at appropriately high levels (e.g. Students investigate large, complex problems from multiple disciplinary perspectives). Please link this expectation to the course goals, topics and activities and indicate *specific* activities/assignments through which it will be met. (50-500 words)

Interdisciplinary Team-Taught Course Inventory

Significant investment of time and effort by students over an extended period of time (e.g., engage the issue iteratively, analyzing with various lenses and seeking to construct an integrative synthesis). Please link this expectation to the course goals, topics and activities and indicate *specific* activities/assignments through which it will be met. (50-500 words)

Interactions with faculty and peers about substantive matters including regular, meaningful faculty mentoring and peer support about conducting interdisciplinary inquiry. Please link this expectation to the course goals, topics and activities and indicate *specific* activities/assignments through which it will be met. (50-500 words)

Interdisciplinary Team-Taught Course Inventory

Students will get frequent, timely, and constructive feedback on their work, scaffolding multiple disciplinary perspectives and integrative synthesis to build over time. Please link this expectation to the course goals, topics and activities and indicate *specific* activities/assignments through which it will be met. (50-500 words)

Periodic, structured opportunities to reflect and integrate learning (e. g. students should work to integrate their insights and construct a more comprehensive perspective on the issue). Please link this expectation to the course goals, topics and activities and indicate *specific* activities/assignments through which it will be met. (50-500 words)

Interdisciplinary Team-Taught Course Inventory

Opportunities to discover relevance of learning through real-world applications and the integration of course content to contemporary global issues and contexts. Please link this expectation to the course goals, topics and activities and indicate *specific* activities/assignments through which it will be met. (50-500 words)

Public Demonstration of competence, such as a significant public communication of their integrative analysis of the issue. Please link this expectation to the course goals, topics and activities and indicate *specific* activities/assignments through which it will be met. (50-500 words)

Interdisciplinary Team-Taught Course Inventory

Experiences with diversity wherein students demonstrate intercultural competence and empathy with people and worldview frameworks that may differ from their own. Please link this expectation to the course goals, topics and activities and indicate *specific* activities/assignments through which it will be met. (50-500 words)

Explicit and intentional efforts to promote inclusivity and a sense of belonging and safety for students, e.g. universal design principles, culturally responsive pedagogy, structured development of cultural self-awareness. Please link this expectation to the course goals, topics and activities and indicate *specific* activities/assignments through which it will be met. (50-500 words)

Interdisciplinary Team-Taught Course Inventory

Clear plans to promote this course to a diverse student body and increase enrollment of typically underserved populations of students. Please link this expectation to the course goals, topics and activities and indicate *specific* activities/assignments through which it will be met. (50-500 words)

GE THEME COURSES

Overview

Courses that are accepted into the General Education (GE) Themes must meet two sets of Expected Learning Outcomes (ELOs): those common for all GE Themes and one set specific to the content of the Theme. This form begins with the criteria common to all themes and has expandable sections relating to each specific theme.

A course may be accepted into more than one Theme if the ELOs for each theme are met. Courses seeing approval for multiple Themes will complete a submission document for each theme. Courses seeking approval as a 4-credit, Integrative Practices course need to complete a similar submission form for the chosen practice. It may be helpful to consult your Director of Undergraduate Studies or appropriate support staff person as you develop and submit your course.

Please enter text in the boxes to describe how your class will meet the ELOs of the Theme to which it applies. Please use language that is clear and concise and that colleagues outside of your discipline will be able to follow. You are encouraged to refer specifically to the syllabus submitted for the course, since the reviewers will also have that document. Because this document will be used in the course review and approval process, you should be *as specific as possible*, listing concrete activities, specific theories, names of scholars, titles of textbooks etc.

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Course subject & number

General Expectations of All Themes

GOAL 1: Successful students will analyze an important topic or idea at a more advanced and in-depth level than the foundations.

Please briefly identify the ways in which this course represents an advanced study of the focal theme. In this context, “advanced” refers to courses that are e.g., synthetic, rely on research or cutting-edge findings, or deeply engage with the subject matter, among other possibilities. (50-500 words)

Course subject & number

ELO 1.1 Engage in critical and logical thinking about the topic or idea of the theme. Please link this ELO to the course goals and topics and indicate *specific* activities/assignments through which it will be met. (50-700 words)

ELO 1.2 Engage in an advanced, in-depth, scholarly exploration of the topic or idea of the theme. Please link this ELO to the course goals and topics and indicate *specific* activities/assignments through which it will be met. (50-700 words)

Course subject & number

GOAL 2: Successful students will integrate approaches to the theme by making connections to out-of-classroom experiences with academic knowledge or across disciplines and/or to work they have done in previous classes and that they anticipate doing in future.

ELO 2.1 Identify, describe, and synthesize approaches or experiences as they apply to the theme.

Please link this ELO to the course goals and topics and indicate *specific* activities/assignments through which it will be met. (50-700 words)

ELO 2.2 Demonstrate a developing sense of self as a learner through reflection, self-assessment, and creative work, building on prior experiences to respond to new and challenging contexts. Please link this ELO to the course goals and topics and indicate *specific* activities/assignments through which it will be met.

(50-700 words)

Course subject & number

Specific Expectations of Courses in Health & Wellbeing

GOAL Students will explore and analyze health and wellbeing through attention to at least two dimensions of wellbeing. (Ex: physical, mental, emotional, career, environmental, spiritual, intellectual, creative, financial, etc.).

ELO 1.1 Explore and analyze health and wellbeing from theoretical, socio-economic, scientific, historical, cultural, technological, policy, and/or personal perspectives. Please link this ELO to the course goals and topics and indicate *specific* activities/assignments through which it will be met. *(50-700 words)*

ELO 1.2 Identify, reflect on, and apply the skills needed for resiliency and wellbeing. Please link this ELO to the course goals and topics and indicate *specific* activities/assignments through which it will be met. *(50-700 words)*

Arts and Sciences Distance Learning Course Component Technical Review Checklist

Course: PHR 3708

Instructor: Jim Harris and Katie Summers

Summary: Vaccines: A Global History

Standard - Course Technology	Yes	Yes with Revisions	No	Feedback/ Recomm.
6.1 The tools used in the course support the learning objectives and competencies.	X			
6.2 Course tools promote learner engagement and active learning.	X			Use of CarmenZoom for synchronous discussion Carmen Discussion Boards
6.3 A variety of technology is used in the course.	X			CarmenZoom, Quizzes, SML, Mediasite interactive videos
6.4 The course provides learners with information on protecting their data and privacy.		X		Add privacy policy info for Prezi if still recommending for use.
Standard - Learner Support				
7.1 The course instructions articulate or link to a clear description of the technical support offered and how to obtain it.	X			Email, phone, and chat service info with 8-HELP are provided.
7.2 Course instructions articulate or link to the institution's accessibility policies and services.	X			a
7.3 Course instructions articulate or link to the institution's academic support services and resources that can help learners succeed in the course.	X			b Resources to writing center have been included.
7.4 Course instructions articulate or link to the institution's student services and resources that can help learners succeed.	X			c
Standard – Accessibility and Usability				
8.1 Course navigation facilitates ease of use.	X			Recommend using the Carmen Distance Learning “Master Course” template developed by ODEE and available in the Canvas Commons to provide student-users with a consistent user experience in terms of navigation and access to course content.
8.2 The course design facilitates readability.	X			Consistent module structures are employed: comment D
8.3 The course provides accessible text and images in files, documents, LMS pages, and web pages to meet the needs of diverse learners.	X			Recommend that resources be developed to address any requests for alternative means of access to course materials.
8.4 The course provides alternative means of access to multimedia content in formats that meet the needs of diverse learners.	X			Recommend using the Carmen Distance Learning “Master Course” template developed by ODEE and available in the Canvas Commons to provide student-users with a consistent user experience in terms of navigation and access to course content.
8.5 Course multimedia facilitate ease of use.	X			All assignments and activities that use the Carmen LMS with embedded multimedia facilitates ease of use. All other multimedia resources facilitate ease of use by being available through a standard web browser.

8.6 Vendor accessibility statements are provided for all technologies required in the course.		X	Include accessibility statement for Secured Media Library
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Reviewer Information

- Date reviewed: 9/8/20
- Reviewed by: Steven Nagel

Notes:

^aThe following statement about disability services (recommended 16 point font):
The University strives to make all learning experiences as accessible as possible. If you anticipate or experience academic barriers based on your disability (including mental health, chronic or temporary medical conditions), please let me know immediately so that we can privately discuss options. To establish reasonable accommodations, I may request that you register with Student Life Disability Services. After registration, make arrangements with me as soon as possible to discuss your accommodations so that they may be implemented in a timely fashion. SLDS contact information: slids@osu.edu; 614-292-3307; slids.osu.edu; 098 Baker Hall, 113 W. 12th Avenue.

^bAdd to the syllabus this link with an overview and contact information for the student academic services offered on the OSU main campus.
<http://advising.osu.edu/welcome.shtml>

^cAdd to the syllabus this link with an overview and contact information for student services offered on the OSU main campus. <http://ssc.osu.edu>. Also, consider including this link in the "Other Course Policies" section of the syllabus.

Comment D: Module structures are consistent. Headers facilitate student actions (e.g., "Background Reading, "Week X Online Lecture" and "assignments". Online lectures are embedded within pages, which is great. This would be helpful to do with readings as well.