THE OHIO STATE UNIVERSITY
COLLEGE OF PUBLIC HEALTH

PUBHEPI 6436-0010 (3663) – Infectious Disease Epidemiology (Lecture)

3 credit hours – Spring Semester, 2026

COURSE CALENDAR

Summary of Course Assessments & Due Dates

Your evaluation in this course is weighted as follows:

Assessment Components	Title	Points (each)	Total Points	Week Due	Weight
Extra credits	Introduce yourself	5	15	01/16	1%
	Syllabus quiz	10		01/16	
Quizzes (7)	**Week 2**: Disease Emergence and Re-emergence	10	70	01/23	10%
	Week 3: Concepts Of Disease Transmission & Implications For Public Health Control Strategies			01/30	
	Week 5: Respiratory Diseases			02/13	
	Week 6: Zoonotic and Vector-Borne Diseases			02/20	
	Week 7: Sexually Transmitted Infections			02/27	
	Week 9: Behavioral and Cultural Aspects of Infectious Diseases			03/13	
	Week 13: Infectious Disease Outbreak Detection, Investigation, and Surveillance			04/10	
Peer-Reviewed Journal Article Discussion (4)	**Read Semester Project Guideline**	0		01/23	
	Journal Discussion 1 - Disease Transmission Dynamics	10	40	02/06	15%
	Journal Discussion 2 - Gastrointestinal /Food-Borne/ Fecal-Oral/Water-Borne Diseases			03/06	
	Journal Discussion 3 - Infectious Diseases and the Environment			04/03	
	Journal Discussion 4 - Advances in Disease Control			04/24	
Case Studies (GROUP)	**I:** COVID-19 Pandemic (2020 to Present)	20	40	02/20	15%
	II: Outbreak Investigation			04/17	
Book Reflection: Typhoid Mary and the Ethics of Quarantine 1900s)	1	100	100	03/27	10%
Participation & Engagement (4)	I	10	40	02/06	10%
	II			03/06	
	III			04/03	
	IV			04/24	
Semester Group Project (9)	**Read Project Semester Guideline**	0	395	01/23	
	Step 1: Project Introduction, Group Formation, and Topic Selection	30		01/30	40%
	Step 2: Preliminary Literature Review, Annotated Bibliography, Research Question Development, & Public Health Significance	35		02/13	
	Step 3: Literature Review, Research Question, Goals, SMART Objectives, and Methods Planning	35		02/27	
	Step 4: Methods Design	40		03/13	
	Step 5: Ethics Consideration	30		03/27	
	Step 6: Budget and Timeline Development	35		04/10	
	Step 7: Submit Video Presentations of Project (Pecha Kucha Slides)	50		04/17	
	Step 8: Written Peer Review and Critique of Video Presentation	20		04/24	
	Step 9: a) Final Proposal Revision Submission & Reflection (Group)	100		05/01	
	b) Reflection on the project (Individual)	20		05/01	
TOTAL		**700**			**100%**

COURSE SCHEDULE

Week	Date	Topics	Course Materials	Course Assessments	Due Date
MODULE 1: COURSE OVERVIEW AND INTRODUCTION | DISEASE EMERGENCE AND BASICS; STUDY DESIGNS; LABORATORY METHODS					
1	Jan. 12, 2026	**Overview of Infectious Diseases: Definitions, Historical Context, and Global Burden** • Epidemiological principles • What does an infectious epidemiologist do?	**READ** **Syllabus** **Textbook:** • Oren, Chapter 1 **Articles:** • (Fauci & Morens, 2012) The perpetual challenge of infectious diseases. *New Eng J Med* 366:454-61. https://pubmed.ncbi.nlm.nih.gov/22296079/ • (Roth, et al., 2021). Trends in patient characteristics and COVID-19 in-hospital mortality in the United States during the COVID-19 Pandemic. JAMA Network Open, 4(5), e218828. https://doi.org/10.1001/jamanetworkopen.2021.8828 **Website exploration:** • Epidemic, Endemic, Pandemic: What are the Differences? https://www.publichealth.columbia.edu/news/epidemic-endemic-pandemic-what-are-differences **WATCH** • Part 1: Life of an Infectious Disease Epidemiologist (17:03 minutes) https://www.youtube.com/watch?v=ob1wjJ07Uzs • Infectious Diseases: A Beginner's Guide to the Basics (4:56 minutes) https://www.youtube.com/watch?v=9axOFtPqS0c&t=42s • Infectious disease epidemiology and transmission dynamics (how infections spread) (2:32 minutes) https://www.youtube.com/watch?v=V0TBsGckUYM • Pasteur's Experiment (1:39 minutes) https://www.youtube.com/watch?v=Xc-hHhDID9A • "Louis Pasteur - Scientist | Mini Bio | BIO". * (3:17 minutes). https://www.youtube.com/watch?v=OXdbQ1JkX7c&t=150s	Syllabus Quiz Introduce yourself and upload your photo	Jan. 16, 2026 Jan. 16, 2026

Week	Date	Topics	Course Materials	Course Assessments	Due Date
2 **MLK Jr. Day (no classes, offices closed) is observed on Mon., Jan. 19, 2026.** **Guest Lecture: Katie Blocksidge, MA, MLIS Associate Professor Head, Research and Education Services** **Fri., Jan. 23**	Jan. 19, 2026	**Disease emergence and re-emergence** • Tools of the trade • Introduction to study designs in infectious disease epidemiology: observational and experimental • Epidemiologic Triad • Factors influencing disease emergence: ecological, environmental, and socio-economic determinants **COLLEGE OF PUBLIC HEALTH LIBRARY - LITERATURE SEARCH METHODS (Guest Lecture)**	**READ** **Textbook:** • Oren, Chapter 1 **Articles:** • (Fauci, 2022). It Ain't Over Till It's Over…but It's Never Over—Emerging and Reemerging Infectious Diseases. New England Journal of Medicine, 387(22), 2009–2011. https://doi.org/10.1056/NEJMp2213814 • (CDC, 2019, September 24). Designing and Conducting Analytic Studies in the Field | Epidemic Intelligence Service |. https://www.cdc.gov/eis/field-epi-manual/chapters/design-conduct-analyze-field-studies.html **Website exploration:** • Emergence and Reemergence of Zoonotic Diseases - https://www.merckvetmanual.com/public-health/zoonoses/emergence-and-reemergence-of-zoonotic-diseases **WATCH** • Classification of infectious diseases (8:59 minutes) https://www.youtube.com/watch?v=Xasd39qbl0Y • Emerging & Reemerging Infections - an overview (6:01 minutes) https://www.youtube.com/watch?v=Ih7WIblQNe4 • Epidemiological Studies: A Beginners guide (9:42 minutes) https://www.youtube.com/watch?v=Jd3gFT0-C4s • The Public Health Lab: Infectious Disease Laboratory (2:33 minutes) https://www.youtube.com/watch?v=qboNlbygsLU	Week 2 Quiz	Jan. 23, 2026
				Read Semester Project Guideline **(no grade)**	Jan. 23, 2026
				Read Journal Discussion Guidelines	Jan. 23, 2026
3	Jan. 26, 2026	**Concepts of disease transmission & implications for public health control strategies** • How do infectious causes of cancer and other diseases	**READ** **Textbook:** • Oren, Chapter 2 **Articles:** • (NCI, 2015). *Risk Factors: Infectious Agents - NCI*. https://www.cancer.gov/about-cancer/causes-prevention/risk/infectious-agents	Week 3 Quiz	Jan. 30, 2026
				Semester Project Step 1: Project Introduction, Group Formation, and Topic Selection	Jan. 30, 2026

Week	Date	Topics	Course Materials	Course Assessments	Due Date
		blur the chronic/ infectious divide?	• (Destoumieux-Garzón, et al., 2018). The One Health Concept: 10 Years Old and a Long Road Ahead. Frontiers in Veterinary Science, 5. https://doi.org/10.3389/fvets.2018.00014 **Website exploration:** • Infection Control Basics - https://www.cdc.gov/infection-control/about/index.html **WATCH** • CDC NERD Academy Student Quick Learn: How does disease spread? (12:42 minutes) https://www.youtube.com/watch?v=1QLgXzyXOH0 • The basics of controlling infectious diseases (5: 20 minutes) https://www.youtube.com/watch?v=2JWku3Kjpq0 • Natural History of Disease | CMME | (15: 17 minutes) - https://www.youtube.com/watch?v=O3S40u_AgqU		
4 **Guest Lecture:** Laura Pomeroy, PhD **Associate Professor Environmental Health Sciences**	Feb. 2, 2026	**Disease transmission dynamics** • Introduction to mathematical modeling of infectious diseases • Introduction to role of immunity: individual and population • Laboratory diagnosis of infectious diseases: techniques, challenges, and advancements.	**READ** **Textbook:** • Oren, Chapter 3 **Articles:** • (Guerra, et al., 2017). The basic reproduction number (R0) of measles: A systematic review. The Lancet. Infectious Diseases, 17(12), e420–e428. https://doi.org/10.1016/S1473-3099(17)30307-9 https://pubmed.ncbi.nlm.nih.gov/28757186/ • (Prem et al., 2021). Projecting contact matrices in 177 geographical regions: An update and comparison with empirical data for the COVID-19 era. PLOS Computational Biology, 17(7), e1009098. https://doi.org/10.1371/journal.pcbi.1009098 **Website exploration:** • Incorporating Disease Transmission Dynamics Into Value Assessment https://www.healthaffairs.org/content/forefront/incorporating-disease-transmission-dynamics-into-value-assessment **WATCH** • Infectious disease epidemiology and transmission dynamics (how infections spread) (2:22 minutes) https://www.youtube.com/watch?v=V0TBsGckUYM	Journal Discussion 1 Module 1 Participation & Engagement	Feb. 6, 2026 Feb. 6, 2026

Week	Date	Topics	Course Materials	Course Assessments	Due Date
			• Investigations in Infectious Disease: Laboratory Component (12:29 minutes) https://www.youtube.com/watch?v=fvqvQMryZAo • Epidemiology Basics: Reproductive Number (R0) (8:48 minutes) https://www.youtube.com/watch?v=om5aLPdwTyc		
MODULE 2: MODES OF TRANSMISSION AND TYPES OF DISEASES					
5	Feb. 9, 2026	**Respiratory Diseases** • Modes of transmission • Standard precautions • Prevention strategies	**READ** **Textbook:** • Oren, Chapter 4 **Articles:** • (Safiri, et al., 2023). Global burden of lower respiratory infections during the last three decades. *Frontiers in Public Health*, 10. https://doi.org/10.3389/fpubh.2022.1028525 • (Shah, et al., 2017). Transmission of Extensively Drug-Resistant Tuberculosis in South Africa. *The New England Journal of Medicine*, *376*(3), 243–253. https://doi.org/10.1056/NEJMoa1604544 **Website exploration:** • Preventing Transmission of Viral Respiratory Pathogens in Healthcare Settings - https://www.cdc.gov/infection-control/hcp/viral-respiratory-prevention/index.html **WATCH** • Let's talk about transmission of respiratory infectious diseases (4: 25 minutes) https://www.youtube.com/watch?v=AGQYlrXzVJQ • Standard Universal Precautions | Infectious Disease | MedStudy Pediatrics Core Audio Pearls (2: 38 minutes) https://www.youtube.com/watch?v=PMfI9KJWcmQ • Vaccines Prevent Respiratory Diseases (2:00 minutes) https://www.youtube.com/watch?v=9BK29g6LUMg	Week 5 Quiz	Feb. 13, 2026
				Semester Project Step 2: Preliminary Literature Review, Annotated Bibliography, Research Question Development, & Public Health Significance	Feb. 13, 2026
6	Feb. 16, 2026	**Zoonotic and Vector-Borne Diseases** • Differences between vector-borne and zoonotic diseases	**READ** **Textbook:** • Oren Chapter 5 **Articles:** • (Wilson et al., 2020). The importance of vector control for the control and elimination of vector-borne diseases. PLOS Neglected Tropical	Week 6 Quiz	Feb. 20, 2026
				Case Study I: COVID-19 Pandemic	Feb. 20, 2026

Week	Date	Topics	Course Materials	Course Assessments	Due Date
		• Prevention	Diseases, 14(1), e0007831. https://doi.org/10.1371/journal.pntd.0007831 • (Bobe et al., 2021). Recent Progress in Lyme Disease and Remaining Challenges. Frontiers in Medicine, 8. https://doi.org/10.3389/fmed.2021.666554 **Website exploration:** • Zoonotic and Vectorborne Diseases - https://dph.georgia.gov/epidemiology/zvbd **WATCH** • WHO Vector borne disease animation WHD2014 (2:11 minutes) https://www.youtube.com/watch?v=0xSUITkRvbA • Difference between Zoonotic Diseases and Vector Borne Diseases (2: 31 minutes) https://www.youtube.com/watch?v=nbpYZ2zRrr4 • Demystifying Zoonotic Diseases (6: 55 minutes) https://www.youtube.com/watch?v=14RpqF9cOec • Prevention Strategies for Vector-Borne Diseases (1:13 minutes) https://www.youtube.com/watch?v=4DpwnOrGOqg		
7	Feb. 23, 2026	**Sexually Transmitted Infections** • Barriers to care • Prevention	**READ** **Textbook:** • Oren Chapter 6 **Articles:** • (Ezezika et al., 2022). The Human Papillomavirus Vaccine Project in Rwanda: Lessons for Vaccine Implementation Effectiveness. Global Implementation Research and Applications, 2(4), 394–403. https://doi.org/10.1007/s43477-022-00068-x • (Zheng et al., 2022). Global burden and trends of sexually transmitted infections from 1990 to 2019: An observational trend study. *The Lancet Infectious Diseases*, *22*(4), 541–551. https://doi.org/10.1016/S1473-3099(21)00448-5 **Website exploration:** • STI - https://www.cdc.gov/sti/index.html	Week 7 Quiz	Feb. 27, 2026
				Semester Project Step 3: Literature Review, Research Question, Goals, SMART Objectives	Feb. 27, 2026

Week	Date	Topics	Course Materials	Course Assessments	Due Date
			• How Do I Simulate Infectious Disease Transmission Using a Mathematical Model? https://epiverse-trace.github.io/tutorials-late/instructor/simulating-transmission.html **WATCH** • A Syndemic Approach to STI Interventions and Prevention (6:53 minutes) - https://www.youtube.com/watch?v=8uuOvdxqqPU • Sexually Transmitted Diseases (STDs), Causes, Signs and Symptoms, Diagnosis and Treatment. (5:42 minutes) https://www.youtube.com/watch?v=gVH1gY05MsA • 20 Sexually transmitted diseases, symptoms, and treatment (7:40) https://www.youtube.com/watch?v=UTv_8Llkyw4		
8	Mar. 2, 2026	**Gastrointestinal /Food-Borne/ Fecal-Oral/Water-Borne Diseases** • Disease burden • Food Safety and Food Security	**READ** **Textbook:** • Oren Chapter 7 **Articles:** • (Willmott et al., 2016). Effectiveness of hand hygiene interventions in reducing illness absence among children in educational settings: A systematic review and meta-analysis. Archives of Disease in Childhood, 101(1), 42–50. https://doi.org/10.1136/archdischild-2015-308875 • (Karambizi et al., 2021). Global estimated Disability-Adjusted Life-Years (DALYs) of diarrheal diseases: A systematic analysis of data from 28 years of the global burden of disease study. PloS One, 16(10), e0259077. https://doi.org/10.1371/journal.pone.0259077 **Website exploration**: • Foodborne diseases - https://www.who.int/health-topics/foodborne-diseases/#tab=tab_1 **WATCH** • Fecal–oral Route (1:18) - https://www.youtube.com/watch?v=CLwb_6nKtYI	Module 2 Participation & Engagement Journal Discussion 2	Mar. 6, 2026 Mar. 6, 2026

Week	Date	Topics	Course Materials	Course Assessments	Due Date
			• Giardiasis - Giardia Lamblia (Giardia intestinalis, Giardia duodenalis) infection (7:54 minutes) - https://www.youtube.com/watch?v=Rjw6kWiRX8Y • CDC in Action: Foodborne Outbreaks (2:19 minutes) - https://www.youtube.com/watch?v=iIaKWNZhz74 • Food safety is part of food security (0:41 minutes) - https://www.youtube.com/watch?v=dpUpyq7Ubas		
MODULE 3: INFECTIOUS DISEASES IN CONTEXT					
9 **Guest Lecture:** Amyn Malik, M.P.H., Ph.D., M.B.B.S. Asst. Professor UTSW Medical Center, TX	Mar. 9, 2026	**Behavioral and Cultural Aspects of Infectious Diseases** • Role of culture and behavior on disease control • "Social" mechanisms of transmission • Role of mobility patterns	**READ** **Textbook:** • Oren, Chapter 8 **Articles:** • (Yan et al, 2020). Measuring voluntary and policy-induced social distancing behavior during the COVID-19 pandemic. Proc Natl Acad Sci U S A. 2021 Apr 5;118(16):e2008814118. doi: 10.1073/pnas.2008814118https://pmc.ncbi.nlm.nih.gov/articles/PMC8076999/ • (Kazi., Aguolu, et al., 2021). Respiratory Syncytial Virus–Associated Mortality Among Young Infants in Karachi, Pakistan: A Prospective Postmortem Surveillance Study. Clinical Infectious Diseases, 73(Supplement_3), S203–S209. https://doi.org/10.1093/cid/ciab488 • (Kiti, & Aguolu, et al., 2023). Changing social contact patterns among US workers during the COVID-19 pandemic: April 2020 to December 2021. Epidemics, 45, 100727. https://doi.org/10.1016/j.epidem.2023.100727 **Website exploration:** • Infectious Diseases Through the Lens of Anthropology - https://banotes.org/biological-anthropology/infectious-diseases-anthropology-perspective/ **WATCH** • How Infections Spread | Contagion - (3:17 minutes) https://www.youtube.com/watch?v=RGj5blR6IHg	Week 9 Quiz **Semester Project Step 4:** Methods Design	Mar. 13, 2026 Mar. 13, 2026

Week	Date	Topics	Course Materials	Course Assessments	Due Date
			• The Story of Ebola (7:24 minutes) https://www.youtube.com/watch?v=XCrOde-JYs0 • The Story of Cholera (4:28 minutes) https://www.youtube.com/watch?v=jG1VNSCsP5Q • The Story of Coronavirus (full version), English (3:58) https://www.youtube.com/watch?v=w5HvxsOo00E • What can mathematical models tell us about how infectious diseases affect our body? (2:14 minutes) https://www.youtube.com/watch?v=eA-dKLmnosY		
OSU Spring Break 2026 is from Monday, March 16 to Friday, March 20, 2026					
10	Mar. 23, 2026	**Social Dimensions and Health Equity** • Key social determinants for infectious diseases, and how they arise. • Interventions	**READ** **Textbook:** • Oren, Chapter 9 **Articles:** • (Gibbons et al., 2022). Community Boosts Immunity? Exploring the Relationship Between Social Capital and COVID-19 Social Distancing. *Spatial Demography*, *10*(1), 75–105. https://doi.org/10.1007/s40980-021-00096-5 • (Noppert et al., 2019). Understanding the intersection of race and place: The case of tuberculosis in Michigan. *BMC Public Health*, *19*, 1669. https://doi.org/10.1186/s12889-019-8036-y • (Rourke et al., 2015). Tackling the social and structural drivers of HIV in Canada. *Canada Communicable Disease Report*, *41*(12), 322. https://doi.org/10.14745/ccdr.v41i12a03 **Website exploration:** • Social determinants of infectious disease - https://www.nature.com/collections/fdddiaidjd **WATCH** • Let's Talk Health Equity, Infectious Diseases, Covid-19 and Vaccines with Martha Carvour (24:50 minutes) https://www.youtube.com/watch?v=77i5tW5FNlU	• **Semester Project Step 5:** Ethics Consideration • **Book Reflection:** Typhoid Mary and the Ethics of Quarantine (1900s)	Mar. 27, 2026 Mar. 27, 2026

Week	Date	Topics	Course Materials	Course Assessments	Due Date
			• Trachoma in Turkana (3:16 minutes) https://www.youtube.com/watch?v=bZxPnrD6omA&list=PL9S6xGsoqIBUeWze_YYfz0Y04S_lKVvQV&index=5 • Our Invisible Guardians | A Public Health Documentary (26:40 minutes) https://www.youtube.com/watch?v=LivCy_CPung		
11	Mar. 30, 2026	**Infectious Diseases and the Environment** • One Health	**READ** **Textbook:** • Oren, Chapter 10 **Articles:** • (Burki, 2023). Environment and infectious diseases. The *Lancet Infectious Diseases*, 23(10), 1118. https://doi.org/10.1016/S1473-3099(23)00569-8 • (Freeman, et al., 2017). The impact of sanitation on infectious disease and nutritional status: A systematic review and meta-analysis. *International Journal of Hygiene and Environmental Health*, 220(6), 928–949. https://doi.org/10.1016/j.ijheh.2017.05.007 • (Grobusch & Grobusch, 2022). A hot topic at the environment-health nexus: Investigating the impact of climate change on infectious diseases. *International Journal of Infectious Diseases*: IJID: Official Publication of the International Society for Infectious Diseases, 116, 7–9. https://doi.org/10.1016/j.ijid.2021.12.350 **Website exploration:** • Centers for Disease Control and Prevention (CDC) – One Health - https://www.cdc.gov/one-health/about/index.html **WATCH** • Environment health and infectious diseases (17:07 minutes) https://www.youtube.com/watch?v=YW1IZhWK3N8 • Diseases and Disorders caused by Poor Environmental Sanitation (5:10 minutes) https://www.youtube.com/watch?v=F7LOmmcNkQk • WHO: Preventing disease through healthy environments (2:00) https://www.youtube.com/watch?v=tupJDf13jBo	• Module 3 Participation & Engagement • Journal Discussion 3	Apr. 3, 2026 Apr. 3, 2026
MODULE 4: DISEASE CONTROL, ERADICATION, AND EMERGENCE					

Week	Date	Topics	Course Materials	Course Assessments	Due Date
12	Apr. 6, 2026	**Infectious Disease Outbreak Detection, Investigation, and Surveillance** • Steps of an Outbreak Investigation	**READ** **Textbook:** • Oren, Chapter 11 **Articles:** • (CDC, 2023). Principles of Epidemiology: Lesson 6, Section 2|Self-Study Course SS1978|CDC. https://archive.cdc.gov/www_cdc_gov/csels/dsepd/ss1978/lesson6/section2.html • (Jian et al., 2020). Contact tracing with digital assistance in Taiwan's COVID-19 outbreak response. International Journal of Infectious Diseases, 101, 348–352. https://doi.org/10.1016/j.ijid.2020.09.1483 • (Mao et al., 2020). The potential of wastewater-based epidemiology as surveillance and early warning of infectious disease outbreaks. Current Opinion in Environmental Science & Health, 17, 1–7. https://doi.org/10.1016/j.coesh.2020.04.006 **Website exploration:** • CDC Foodborne Outbreak Investigation Toolkit: https://www.cdc.gov/foodborne-outbreaks/investigation-steps/index.html **WATCH** • Contact tracing scenes from Contagion (2011) - (4:14 minutes) https://www.youtube.com/watch?v=Jt5Kl9j7D54 • CDC NERD Academy Student Quick Learn: How is an outbreak investigated? (12:43 minutes) - https://www.youtube.com/watch?v=kYFIqTbRd2o • How CDC Investigates Foodborne Outbreaks (4:50 minutes) https://www.youtube.com/watch?v=RKxYw6H7xlg	• Week 12 Quiz	Apr. 10, 2026
				• **Semester Project Step 6**: Budget and Timeline Development	Apr. 10, 2026
13	Apr. 13, 2026	**Vaccines: Impact, Questions, and Challenges** • Antibiotics Resistance	**READ** **Textbook:** • Oren, Chapter 12 **Articles:**	• **Semester Project Step 7**: Submit Video Presentations of Project	Apr. 17, 2026

Week	Date	Topics	Course Materials	Course Assessments	Due Date
			• (Park et al., 2024). Comparing frequency of booster vaccination to prevent severe COVID-19 by risk group in the United States. Nature Communications, 15, 1883. https://doi.org/10.1038/s41467-024-45549-9 • (Galagali et al., 2022). Vaccine Hesitancy: Obstacles and Challenges. Current Pediatrics Reports, 10(4), 241. https://doi.org/10.1007/s40124-022-00278-9 **Website exploration:** • Gavi, The Vaccine Alliance - https://www.gavi.org/ **WATCH** • Mechanisms of antibiotic resistance (4:05 minutes) - https://www.youtube.com/watch?v=ReKG-vuYHY4 • Antibiotics - Mechanisms of Action (Classification) and Antibiotic Resistance (7:26 minutes) - https://www.youtube.com/watch?v=N7dTM7nLw1Q	(Pecha Kucha Slides) • **Case study II:** Outbreak Investigation	 Apr. 17, 2026
14	Apr. 20, 2026	**Advances in Disease Control** • Novel data sources • Public participation in disease control • Social media approaches • Hypothesis testing and chance in infectious diseases	**READ** **Textbook:** • Oren Chapter 13 **Articles:** • (Akpan, Aguolu... 2021). Association Between What People Learned About COVID-19 Using Web Searches and Their Behavior Toward Public Health Guidelines: Empirical Infodemiology Study. *Journal of Medical Internet Research*, *23*(9), e28975. https://doi.org/10.2196/28975 • (Olatunji et al., 2024). Revolutionizing infectious disease management in low-resource settings: The impact of rapid diagnostic technologies and portable devices. International Journal of Applied Research in Social Sciences, 6(7), Article 7. https://doi.org/10.51594/ijarss.v6i7.1332 • (Shang et al., 2023). Point-of-care testing of infectious diseases: Recent advances. Sensors & Diagnostics, 2(5), 1123–1144. https://doi.org/10.1039/D3SD00092C	• Module 4 Participation & Engagement • Journal Discussion 4 • **Semester Project Step 8:** Written Peer Review and Critique of Video Presentation	Apr. 24, 2026 Apr. 24, 2026 Apr. 24, 2026

Week	Date	Topics	Course Materials	Course Assessments	Due Date
			• (Oren et al., 2020). Twitter Communication During an Outbreak of Hepatitis A in San Diego, 2016-2018. American Journal of Public Health, 110(S3), S348–S355. https://doi.org/10.2105/AJPH.2020.305900 **Website exploration:** • Nextstrain - https://nextstrain.org/ • Global Burden of Disease (GBD) Project - http://www.healthdata.org/gbd **WATCH** • Advances in Infectious Diseases (5:47 minutes) - https://www.youtube.com/watch?v=0_Tk7h7IINs • Beyond the Data - Changes in Clinical Diagnostics and Tracking Infectious Diseases (7:13 minutes) https://www.youtube.com/watch?v=fltnnhKn_gs		
15	Apr. 27 to May 5, 2026	**Semester Project Step 9:** a) Final Proposal Revision Submission & Reflection (Group) b) Reflection on the project (Individual)			May 1, 2026
		Last Day of Regularly Scheduled Classes Monday, April 27, 2026			
		Final Examinations from Wednesday, April 29, To Tuesday, May 5, 2026.			

Note: This syllabus is subject to further change or revision, as needed, to best realize the educational goals of the course. Necessary revisions will be announced on Carmen or on course materials with fair prior notice.

Alignment of Competencies with Assessments

Core MPH Competencies in Epidemiology	Case Studies	Module Participation & Engagement	Quiz	Book Reflection	Journal Article Discussion	Semester Project	Evidence of Student Learning
1. EPI C1. Describe a public health problem in terms of magnitude, person, time, and place	X	X	X		X	X	Accurate characterization of infectious disease burden, transmission patterns, and population impact
2. EPI C2. Identify key sources of data for epidemiologic purposes	X			X	X	X	Appropriate selection and justification of surveillance, clinical, and population-based data sources
3. EPI C3. Utilize basic terminology and principles of epidemiology	X	X	X	X	X	X	Correct use of epidemiologic concepts, definitions, and frameworks in written and oral work
4. EPI C4. Apply epidemiologic study designs and methods	X					X	Design of observational infectious disease studies with appropriate methodological choices
5. EPI C5. Calculate and interpret basic epidemiologic measures	X		X			X	Correct calculation and interpretation of measures such as risk, rates, and ratios
6. EPI C6. Evaluate the strengths and limitations of epidemiologic studies reported in the literature, including an assessment of the internal validity of the design and the appropriateness of the analysis.	X			X	X	X	Critical appraisal of internal validity, bias, confounding, and generalizability
7. EPI C7. Draw appropriate inferences from epidemiologic data	X		X		X	X	Evidence-based conclusions that appropriately reflect data limitations and public health context
8. EPI C8. Communicate epidemiologic findings effectively	X	X		X	X	X	Clear, professional written and oral communication tailored to public health audiences