



SCHOOL OF  
PUBLIC HEALTH

*Advancing a Better State of Health*

**Fall 2016: HLTH 672 Introduction to Public Health Informatics**

<b>Instructor</b>  <b>Office/Phone</b> <b>Email:</b> <b>Classroom/Time</b>	Robert S. Gold, PhD, DrPH Professor, Epidemiology and Biostatistics Sandra L. Saperstein, PhD 301 405-0271 <a href="mailto:rsgold_umd.edu">rsgold_umd.edu</a> / <a href="mailto:ssaperst@umd.edu">ssaperst@umd.edu</a> SPH 0227 Tuesday 7:00 – 9:45 PM	Office Hours: By Appointment
<b>Required Textbook</b>	No single textbook will be required but there will be recommended readings for each topical area.	
<b>Course Description</b>	The purpose of this course is to provide students with a basic understanding of “Informatics” and its application in a Public Health setting. The goal of Public Health Informatics is for students to understand the basic technological tools and building blocks needed to utilize these tools in to improve their personal and professional productivity. <u>Course hashtag - #hlth672</u>	
<b>Course Objectives</b>	Upon completion of this course, each student will be able to: Utilize a working vocabulary of information technology terminology Describe the role public health informatics plays as a critical component of system-wide efforts to improve public health practice and training Compare and contrast the various fields within informatics (e.g. biomedical informatics, public health informatics, consumer informatics) Describe current and evolving US public health surveillance systems, including syndromic surveillance Describe the benefits and challenges of electronic health records Describe the US health informatics infrastructure at the national, state, and local levels Describe how health behavior theory has been used in online applications Develop critical and analytical skills about public health informatics issues and problems Discuss the impact of public health informatics and advanced technologies on public health Identify and demonstrate the various tools used in public health and related fields Explain Public Health 2.0 and its impact on health and research Identify the strengths and weaknesses of social media tools for public health practitioners Evaluate the use of gamification strategies for public health interventions	
<b>Course Policies</b>	<b>Class Participation</b> The University policy on attendance is available on <a href="http://www.testudo.umd.edu/soc/atedasse.html">http://www.testudo.umd.edu/soc/atedasse.html</a> and in the Undergraduate	

Catalog This policy includes information about overall class participation including: religious holidays, inclement weather, excused absences, makeup exam.

**Verify your email address!!!**

All enrolled students are provided access to the University's email system and an email account. All official University email communication will be sent to this email address (or an alternate address if provided by the student). Email has been adopted as the primary means for sending official communications to students, so email must be checked on a regular basis. Academic advisors, faculty, and campus administrative offices use email to communicate important and time-sensitive notices.

Students are responsible for keeping their email address up to date or for redirecting or forwarding email to another address. Failure to check email, errors in forwarding email, and returned email (from "full mailbox" or "unknown user" errors for example), will not excuse a student from missing University announcement, messages, deadlines, etc. Email addresses can be quickly and easily updated at [www.my.umd.edu](http://www.my.umd.edu) or in-person at the Student Service Counter on the first floor of the Mitchell Building.

For technical support for University email: [www.helpdesk.umd.edu](http://www.helpdesk.umd.edu) or call 301-405-1400.

**Accommodations for students with disabilities:** If you have a documented disability and wish to discuss academic accommodations for test taking or other needs, you will need documentation from Disability Support Service (301-314-7682). If you are ill or encountering personal difficulties, please let the instructor know as soon as possible. You can also contact Learning Assistance Services (301-314-7693) and/or the Counseling Center (301-314-7651) for assistance.

The University services for students with disabilities is available on: [http://www.counseling.umd.edu/DSS/avail\\_services.html](http://www.counseling.umd.edu/DSS/avail_services.html)

**Religious Observances:** The University System of Maryland policy provides that students should not be penalized because of observances of their religious beliefs; students shall be given an opportunity, whenever feasible, to make up within a reasonable time any academic assignment that is missed due to individual participation in religious observances. It is the student's responsibility to inform the instructor in advance of any intended absences for religious observance.

The policy that includes information about Religious Observance is available on: <http://www.president.umd.edu/policies/iii510a.html>

**Academic Integrity**

The Honor Pledge is a statement undergraduate and graduate students should be asked to write by hand and sign on examinations, papers, or other academic assignments. The Pledge reads:

***I pledge on my honor that I have not given or received any unauthorized assistance on this assignment/examination.***

The University of Maryland, College Park has a nationally recognized Code of Academic Integrity, administered by the Student Honor Council. This Code sets standards for academic integrity at Maryland for all undergraduate and graduate students. As a student you are responsible for upholding these standards for this course. It is very important for you to be aware of the consequences of cheating, fabrication, facilitation, and plagiarism. For more information on the Code of Academic Integrity or the Student Honor Council, please visit <http://www.shc.umd.edu>.

**Inclement Weather / University Closings:**

In the event that the University is closed for an emergency or extended period of time, the instructor will communicate to students regarding schedule adjustments, including rescheduling of examinations and assignments due to inclement weather and campus emergencies. Official closures and delays are announced on the campus website (<http://www.umd.edu>) and snow phone line (301-405-SNOW), as well as local radio and TV stations.

**Early Warning Grades:** Early warning grades will be submitted for those undergraduate students who are newly enrolled at Maryland. These grades are an important component of our retention efforts as they provide timely feedback to those students who are unfamiliar with our academic expectations. A letter grade or “satisfactory/unsatisfactory” (S/U) marks may be submitted.

**Course evaluation:** Your participation in the evaluation of courses through CourseEvalUM is a responsibility you hold as a student member of our academic community. Your feedback is confidential and important to the improvement of teaching and learning at the University as well as to the tenure and promotion process. CourseEvalUM will be available online ([www.courseevalum.umd.edu](http://www.courseevalum.umd.edu)) for you to complete your courses evaluations. By completing all of your evaluations each semester, you will have the privilege of accessing the summary reports for thousands of courses online at Testudo.

**Online Participation:**

- We will use CANVAS infrastructure as our LMS: [www.elms.umd.edu](http://www.elms.umd.edu)
- It is strongly recommended that students watch all the lectures online and be present on the on-site lectures (face to face), take notes and complete the reading assignments provided on CANVAS.
- Students are **required** to complete ALL in-class labs and its assignments within the period provided. All assignments will be completed online and uploaded to CANVAS (submission of paper hardcopy will not be accepted).
- It is the student's responsibility to contact the instructor prior to a scheduled exam/assignment if there is any University conflict or extenuating personal circumstance prohibiting the student from taking an exam or lab assignment. Failure to inform the instructor or the TA of said conflict either prior to or on the day of the scheduled exam/assignment will result in not being able to make-up the exam/assignment (i.e., a zero grade for that exam/assignment).
- Lab assignments will not be accepted after the deadline, and make-ups will not be allowed, unless previously approved by one of the instructors.
- Materials will be available via CANVAS Infrastructure and web links. All course material will be released as showing on the course schedule.

- **It is the student's responsibility to check CANVAS for updates about course material**

**Communication**

Communications with Dr. Gold or Dr. Saperstein should be done through CANVAS (conversation tab). Messages will be responded during business hours.

**Services Available**

**CANVAS**

[www.elms.umd.edu](http://www.elms.umd.edu)

**OIT Helpdesk**

<http://www.helpdesk.umd.edu/>

**Library**

<http://www.lib.umd.edu/MCK/>

Should you experience difficulty in keeping up with the academic demands of this course, contact:

**Learning Assistance Services**

2201 Shoemaker Bldg.  
301-314-7693.

Their educational counselors can help you with time management, note-taking and exam preparation skills. Additional links and resources will be available on CANVAS

## Course Outline and Assignments

Date	Topic
Aug 30	<p><b>Topic:</b> Introduction and overview to the field of public health informatics</p> <p><b>In Class:</b> Brief capability assessment; Scavenger hunt; Teach us something about Microsoft Word and how you use it; Set up RSS aggregator and identify initial feeds for a specific topic</p> <p><b>Required Readings:</b>            In Topol E. <u>The creative destruction of medicine: How the digital revolution will create better health care</u>. New York: Basic Books Publisher, 2013.</p> <ul style="list-style-type: none"> <li>• Chapter 1: The digital landscape: Cultivating a data-driven, participatory culture</li> </ul> <p><b>Supplemental Readings:</b>            Fond, M., Volmert, A., Kendall-Taylor, N. (2015). Making Public Health Informatics Visible: Communicating an emerging field. Frameworks Institute. Available: <a href="http://www.frameworksinstitute.org/assets/files/health_care/phiistrategicmtgfinalseptember2015.pdf">http://www.frameworksinstitute.org/assets/files/health_care/phiistrategicmtgfinalseptember2015.pdf</a></p>
	<p><b>Topic:</b> Epidemiology informatics / Surveillance / Syndromic Surveillance / Digital Epidemiology</p> <p><b>In Class:</b> Aggregate data for community health profile: Community Indicators; County Health Profiles; Transportation and Health Tool – CDC / DOT</p> <p><b>Required Readings:</b>            Paul, M. M., Greene, C. M., Newton-Dame, R., Thorpe, L. E., Perlman, S. E., McVeigh, K. H., &amp; Gourevitch, M. N. (2015). The state of population health surveillance using electronic health records: a narrative review. <i>Popul Health Manag</i>, 18(3), 209-216. doi:10.1089/pop.2014.0093            Fairchild, A. L., &amp; Bayer, R. (2016). In the Name of Population Well-Being: The Case for Public Health Surveillance. <i>J Health Polit Policy Law</i>, 41(1), 119-128. doi:10.1215/03616878-3445650            Smolinski, M.S. et al. (2015). Flu Near You: Crowdsourced Symptom Reporting Spanning 2 Influenza Seasons. <i>Am J PH</i> 105(2124-30).</p> <p><b>Supplemental Readings:</b>            Ayers, J. W., Westmaas, J. L., Leas, E. C., Benton, A., Chen, Y., Dredze, M., &amp; Althouse, B. M. (2016). Leveraging Big Data to Improve Health Awareness Campaigns: A Novel Evaluation of the Great American Smokeout. <i>JMIR Public Health Surveill</i>, 2(1), e16. doi:10.2196/publichealth.5304            Pollack, H. A. (2016). Public Health Surveillance and Human Rights. <i>J Health Polit Policy Law</i>, 41(1), 117-118. doi:10.1215/03616878-3445641</p>
	<p><b>Topic:</b> User-centered design / Usability / Digital divide</p> <p><b>In Class:</b> Usability analysis</p> <p><b>Required Readings:</b>            Ratwani, R.M., Fairbanks, R.J., Hettinger, A.Z., Benda, N.C. (2015) Electronic health record usability: analysis of the user-centered design processes of eleven electronic health record vendors. <i>Journal of the American Medical Informatics Association</i>, 0:1–5. doi:10.1093/jamia/ocv050, Brief Communication            Uhler LM, Pérez Figueroa RE, Dickson M, McCullagh L, Kushniruk A, Monkman H, Witteman HO, Hajizadeh N (2015). InformedTogether: Usability Evaluation of a Web-Based Decision Aid to Facilitate Shared Advance Care Planning for Severe Chronic Obstructive Pulmonary Disease <i>JMIR Human Factors</i>;2(1):e2. DOI: 10.2196/humanfactors.3842</p> <p><b>Supplemental Readings:</b>            Abelson, J., Li, K., Wilson, G., Shields, K., Schneider, C., &amp; Boesveld, S. (2016). Supporting quality public and patient engagement in health system organizations: development and usability testing of the Public and Patient Engagement Evaluation Tool. <i>Health Expect</i>, 19(4), 817-827. doi:10.1111/hex.12378            Ako-Arrey, D. E., Brouwers, M. C., Lavis, J. N., Giacomini, M. K., &amp; Team, A. H. (2016). Health system guidance appraisal--concept evaluation and usability testing. <i>Implement Sci</i>, 11, 3. doi:10.1186/s13012-015-0365-3</p>
Sept 6	
Sept 13	

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Date	Topic
	<p>Juárez-Ramírez, R. (2016). User-centered design and adaptive systems: toward improving usability and accessibility. <i>Universal Access in the Information Society</i>. doi:10.1007/s10209-016-0480-1</p> <p>Nitsch, M., Dimopoulos, C. N., Flaschberger, E., Saffran, K., Kruger, J. F., Garlock, L., . . . Jones, M. (2016). A Guided Online and Mobile Self-Help Program for Individuals With Eating Disorders: An Iterative Engagement and Usability Study. <i>J Med Internet Res</i>, 18(1), e7. doi:10.2196/jmir.4972</p> <p>Wang, T., &amp; Dolezel, D. (2016). Usability of Web-based Personal Health Records: An Analysis of Consumers' Perspectives. <i>Perspect Health Inf Manag</i>, 13, 1f.</p>
	<p><b>Topic:</b> Policy and operational infrastructure for technology and public health; Law &amp; ethics: Electronic Health / Medical Records / Personal Health Records / Blue Button / Technology and Privacy</p>
	<p><b>In Class:</b> Using tools you have but using them in new ways: Part I</p>
	<p><b>Required Readings:</b></p> <p>Wachter R. The digital doctor: Hope, hype, and harm at the dawn of medicine's computer age. New York: McGraw-Hill Publisher, 2015.</p> <ul style="list-style-type: none"> <li>• Chapter 21: Personal health records and patient portals, pp. 183 – 193</li> <li>• Chapter 22: A community of patients, pp. 195 – 201</li> <li>• Chapter 23: Meaningful use, pp. 205 – 217</li> </ul> <p>Magnuson, J.A. &amp; Fu, P.C. (Eds.). Public Health Informatics and Information Systems, 2nd edition. New York: Springer-Verlag, 2014.</p> <ul style="list-style-type: none"> <li>• Chapter 4: Edmunds, M. Governmental and Legislative Context of Informatics, pp. 47-63</li> </ul>
Sept 20	<p><b>Supplemental Readings:</b></p> <p>Charles, D., Gabriel, M, Furukawa, M.R. (2014) Adoption of Electronic Health Record Systems among US Non-federal Acute Care Hospitals: 2008-2013. Available from <a href="https://www.healthit.gov/sites/default/files/oncdatabrief16.pdf">https://www.healthit.gov/sites/default/files/oncdatabrief16.pdf</a> (Links to an external site.)</p> <p>Heisey-Grove, D., Chaput, D., Daniel, J. (March 2015) Hospital Reporting on Meaningful Use Public Health Measures in 2014. <i>ONC Data Brief</i>, no. 22. Office of the National Coordinator for Health Information Technology: Washington DC. Available from: <a href="https://www.healthit.gov/sites/default/.../databrief22_hospitalreporting.pdf">https://www.healthit.gov/sites/default/.../databrief22_hospitalreporting.pdf</a></p> <p>Kim, J., Ohsfeldt, R. L., Gamm, L. D., Radcliff, T. A., &amp; Jiang, L. (2016). Hospital Characteristics are Associated With Readiness to Attain Stage 2 Meaningful Use of Electronic Health Records. <i>J Rural Health</i>. doi:10.1111/jrh.12193</p> <p>Kruse, C. S., Kothman, K., Anerobi, K., &amp; Abanaka, L. (2016). Adoption Factors of the Electronic Health Record: A Systematic Review. <i>JMIR Med Inform</i>, 4(2), e19. doi:10.2196/medinform.5525</p> <p>Mishuris, R. G., Yoder, J., Wilson, D., &amp; Mann, D. (2016). Integrating data from an online diabetes prevention program into an electronic health record and clinical workflow, a design phase usability study. <i>BMC Med Inform Decis Mak</i>, 16(1), 88. doi:10.1186/s12911-016-0328-x</p> <p>Ratwani, R. M., Zachary Hettinger, A., Kosydar, A., Fairbanks, R. J., &amp; Hodgkins, M. L. (2016). A framework for evaluating electronic health record vendor user-centered design and usability testing processes. <i>J Am Med Inform Assoc</i>. doi:10.1093/jamia/ocw092</p>
	<p><b>Topic:</b> Geographic Information Systems</p>
	<p><b>In Class:</b> Using tools . Part II</p>
Sept 27	<p><b>Required Readings:</b></p> <p>Fletcher-Lartey, S. M., &amp; Caprarelli, G. (2016). Application of GIS technology in public health: successes and challenges. <i>Parasitology</i>, 143(4), 401-415. doi:10.1017/S0031182015001869</p>



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Date	Topic
	<p>Kearfott, K. J., Whetstone, Z. D., &amp; Rafique Mir, K. M. (2016). Use of a geographic information system (GIS) for targeting radon screening programs in South Dakota. <i>J Radiat Res</i>, 57(1), 84-90. doi:10.1093/jrr/rrv041</p> <p><b>Supplemental Readings:</b>            Padilla, C. M., Kihal-Talantikit, W., Perez, S., &amp; Deguen, S. (2016). Use of geographic indicators of healthcare, environment and socioeconomic factors to characterize environmental health disparities. <i>Environ Health</i>, 15(1), 79. doi:10.1186/s12940-016-0163-7            Radzikowski, J., Stefanidis, A., Jacobsen, K. H., Croitoru, A., Crooks, A., &amp; Delamater, P. L. (2016). The Measles Vaccination Narrative in Twitter: A Quantitative Analysis. <i>JMIR Public Health Surveill</i>, 2(1), e1. doi:10.2196/publichealth.5059            Ramos Herrera, I. M., Gonzalez Castaneda, M., Robles, J., &amp; Fonseca Leon, J. (2016). Development of the Health Atlas of Jalisco: A New Web-Based Service for the Ministry of Health and the Community in Mexico. <i>JMIR Public Health Surveill</i>, 2(1), e11. doi:10.2196/publichealth.5255</p>
Oct 4	<b>Topic:</b> Visualization
	<b>In Class:</b> Using data from previous weeks, create an interactive graph, chart, or google mashup with fusion tables / interactive map in excel AND a visualization or infographic using Canva / Vizualize / Easel.ly / Infogr.am / Visual.ly / Powerpoint template
	<p><b>Required Readings:</b>            Froese, M. E., &amp; Tory, M. (2016). Lessons Learned from Designing Visualization Dashboards. <i>IEEE Comput Graph Appl</i>, 36(2), 83-89. doi:10.1109/MCG.2016.33            Maciejewski, R., &amp; Montgomery, D. C. (2016). Visualization for Data Science: Adding Credibility, Legitimacy, and Saliency. <i>Big Data</i>, 4(2), 73-74. doi:10.1089/big.2016.29007.vis</p> <p><b>Supplemental Readings:</b></p>
Oct 11	<b>Topic:</b> Midterm
	<b>In Class:</b> HTML Programming Part I
	<p><b>Required Readings:</b>            None required</p> <p><b>Supplemental Readings:</b></p>
Oct 18	<b>Topic:</b> Introduction to consumer health informatics / mHealth / Quantified self / Behavior change applications / Role of theory in design and development
	<b>In Class:</b> Report on your one-week required use of a quantified self-tool
	<p><b>Required Readings:</b>            Hoy, M. B. (2016). Personal Activity Trackers and the Quantified Self. <i>Med Ref Serv Q</i>, 35(1), 94-100. doi:10.1080/02763869.2016.1117300            Noar S.M., and Harrington N.G. (Eds.) eHealth applications: Promising strategies for behavior change. New York: Routledge / Taylor &amp; Francis Group Publishers, 2012.  <ul style="list-style-type: none"> <li>• Chapter 8: Noar S.M. &amp; Harrington N.G.: Computer-tailored interventions for improving health behaviors, pp. 128-146.</li> </ul>           Davis, S.F., et al.(2016). Health Behavior Theory in Popular Calorie Counting Apps: A Content Analysis. <i>JMIR mHealth and UHealth</i>, 4, e19.</p> <p><b>Supplemental Readings:</b></p>

## Course Outline and Assignments

Date	Topic
	<p>Almalki, M., Gray, K., &amp; Martin-Sanchez, F. (2016). Activity Theory as a Theoretical Framework for Health Self-Quantification: A Systematic Review of Empirical Studies. <i>J Med Internet Res</i>, 18(5), e131. Doi:10.2196/jmir.5000</p> <p>Topol E. The patient will see you now: The future of medicine is in your hands. Philadelphia: Basic Books Publishers, 2015.</p> <ul style="list-style-type: none"> <li>Chapter 15: The emancipated consumer, pp. 275 – 290.</li> </ul>
Oct 25	<p><b>Topic:</b> Health on the web / Online communities</p> <p><b>In Class:</b> HTML Programming Part II Build an HTML application (BMI / BAC / Risk Assessment)</p> <p><b>Required Readings:</b> Nelson R, and Staggers, N. (Eds.) Health informatics: An interprofessional approach. St. Louis: Elsevier, Mosby Publishers, (2014)</p> <ul style="list-style-type: none"> <li>Okun S, and Caligtan CA. Chapter 13: The evolving ePatient, pp. 212 – 224.</li> </ul> <p>Schroeder, E. B., Desai, J., Schmittiel, J. A., Paolino, A. R., Schneider, J. L., Goodrich, G. K., . . . Steiner, J. F. (2015). An Innovative Approach to Informing Research: Gathering Perspectives on Diabetes Care Challenges From an Online Patient Community. <i>Interact J Med Res</i>, 4(2), e13. doi:10.2196/ijmr.3856</p> <p><b>Supplemental Readings:</b> Rolls, K., Hansen, M., Jackson, D., &amp; Elliott, D. (2016). How Health Care Professionals Use Social Media to Create Virtual Communities: An Integrative Review. <i>J Med Internet Res</i>, 18(6), e166. doi:10.2196/jmir.5312</p> <p>Wicks, P., Massagli, M., Frost, J., Brownstein, C., Okun, S., Vaughan, T., . . . Heywood, J. (2010). Sharing health data for better outcomes on PatientsLikeMe. <i>J Med Internet Res</i>, 12(2), e19. doi:10.2196/jmir.1549</p>
	<p><b>Topic:</b> Gamification: Part I</p> <p><b>In Class:</b> Adventure Scenarios / Building interactive games</p> <p><b>Required Readings:</b> Alahaivala, T., &amp; Oinas-Kukkonen, H. (2016). Understanding persuasion contexts in health gamification: A systematic analysis of gamified health behavior change support systems literature. <i>Int J Med Inform</i>. doi:10.1016/j.ijmedinf.2016.02.006</p> <p>Bartholomew, L. K., Shegog, R., Parcel, G. S., Gold, R. S., Fernandez, M., Czyzewski, D. I., . . . Berlin, N. (2000). Watch, Discover, Think, and Act: a model for patient education program development. <i>Patient Educ Couns</i>, 39(2-3), 253-268.</p> <p><b>Supplemental Readings:</b> Dithmer, M., Rasmussen, J. O., Gronvall, E., Spindler, H., Hansen, J., Nielsen, G., . . . Dinesen, B. (2016). "The Heart Game": Using Gamification as Part of a Telerehabilitation Program for Heart Patients. <i>Games Health J</i>, 5(1), 27-33. doi:10.1089/g4h.2015.0001</p> <p>Miller, A. S., Cafazzo, J. A., &amp; Seto, E. (2016). A game plan: Gamification design principles in mHealth applications for chronic disease management. <i>Health Informatics J</i>, 22(2), 184-193. doi:10.1177/1460458214537511</p>
Nov 8	<p><b>Topic:</b> Gamification: Part II</p> <p><b>In Class:</b> Finish building and demonstrate game</p> <p><b>Required Readings:</b> Bartholomew, L. K., Gold, R. S., Parcel, G. S., Czyzewski, D. I., Sockrider, M. M., Fernandez, M., . . . Swank, P. (2000). Watch, Discover, Think, and Act: evaluation of computer-assisted instruction to improve asthma self-management in inner-city children. <i>Patient Educ Couns</i>, 39(2-3), 269-280.</p>



## Course Outline and Assignments

Date	Topic
	<p><b>Supplemental Readings:</b>                      Love, S. M., Sanders, M. R., Turner, K. M., Maurange, M., Knott, T., Prinz, R., . . . Ainsworth, A. T. (2016). Social media and gamification: Engaging vulnerable parents in an online evidence-based parenting program. <i>Child Abuse Negl</i>, 53, 95-107. doi:10.1016/j.chiabu.2015.10.031</p>
Nov 15	<p><b>Topic:</b> Social media / Social marketing / Health communication</p> <p><b>In Class:</b> Social media analysis</p> <p><b>Required Readings:</b>                      Huesch, M. D., Galstyan, A., Ong, M. K., &amp; Doctor, J. N. (2016). Using Social Media, Online Social Networks, and Internet Search as Platforms for Public Health Interventions: A Pilot Study. <i>Health Serv Res</i>, 51 Suppl 2, 1273-1290. doi:10.1111/1475-6773.12496                      Lofters, A. K., Slater, M. B., Nicholas Angl, E., &amp; Leung, F. H. (2016). Facebook as a tool for communication, collaboration, and informal knowledge exchange among members of a multisite family health team. <i>J Multidiscip Healthc</i>, 9, 29-34. doi:10.2147/JMDH.S94676                      Pagoto, S., Waring, M. E., May, C. N., Ding, E. Y., Kunz, W. H., Hayes, R., &amp; Oleski, J. L. (2016). Adapting Behavioral Interventions for Social Media Delivery. <i>J Med Internet Res</i>, 18(1), e24. doi:10.2196/jmir.5086</p> <p><b>Supplemental Readings:</b>                      Park, H., Reber, B. H., &amp; Chon, M. G. (2016). Tweeting as Health Communication: Health Organizations' Use of Twitter for Health Promotion and Public Engagement. <i>J Health Commun</i>, 21(2), 188-198. doi:10.1080/10810730.2015.1058435                      Xu, S., Markson, C., Costello, K. L., Xing, C. Y., Demissie, K., &amp; Llanos, A. A. (2016). Leveraging Social Media to Promote Public Health Knowledge: Example of Cancer Awareness via Twitter. <i>JMIR Public Health Surveill</i>, 2(1), e17. doi:10.2196/publichealth.5205</p>
	<p><b>Topic:</b> Internet of things / Wearables, ingestibles, implantables / Robotics and smart prosthetics</p> <p><b>In Class:</b> Teach us something we don't know</p> <p><b>Required Readings:</b>                      Mercer, K., Li, M., Giangregorio, L., Burns, C., &amp; Grindrod, K. (2016). Behavior Change Techniques Present in Wearable Activity Trackers: A Critical Analysis. <i>JMIR Mhealth Uhealth</i>, 4(2), e40. doi:10.2196/mhealth.4461                      Yingling, L. R., Brooks, A. T., Wallen, G. R., Peters-Lawrence, M., McClurkin, M., Cooper-McCann, R., . . . Powell-Wiley, T. M. (2016). Community Engagement to Optimize the Use of Web-Based and Wearable Technology in a Cardiovascular Health and Needs Assessment Study: A Mixed Methods Approach. <i>JMIR Mhealth Uhealth</i>, 4(2), e38. doi:10.2196/mhealth.4489                      Zhou, Z., Tsang, K.-F., Zhao, Z., &amp; Gaaloul, W. (2016). Data intelligence on the Internet of Things. <i>Personal and Ubiquitous Computing</i>, 20(3), 277-281. doi:10.1007/s00779-016-0912-1</p> <p><b>Supplemental Readings:</b>                      Bietz, M. J., Bloss, C. S., Calvert, S., Godino, J. G., Gregory, J., Claffey, M. P., . . . Patrick, K. (2016). Opportunities and challenges in the use of personal health data for health research. <i>J Am Med Inform Assoc</i>, 23(e1), e42-48. doi:10.1093/jamia/ocv118</p>
Nov 22	<p><b>Topic:</b> Internet of things / Wearables, ingestibles, implantables / Robotics and smart prosthetics</p> <p><b>In Class:</b> Teach us something we don't know</p> <p><b>Required Readings:</b>                      Mercer, K., Li, M., Giangregorio, L., Burns, C., &amp; Grindrod, K. (2016). Behavior Change Techniques Present in Wearable Activity Trackers: A Critical Analysis. <i>JMIR Mhealth Uhealth</i>, 4(2), e40. doi:10.2196/mhealth.4461                      Yingling, L. R., Brooks, A. T., Wallen, G. R., Peters-Lawrence, M., McClurkin, M., Cooper-McCann, R., . . . Powell-Wiley, T. M. (2016). Community Engagement to Optimize the Use of Web-Based and Wearable Technology in a Cardiovascular Health and Needs Assessment Study: A Mixed Methods Approach. <i>JMIR Mhealth Uhealth</i>, 4(2), e38. doi:10.2196/mhealth.4489                      Zhou, Z., Tsang, K.-F., Zhao, Z., &amp; Gaaloul, W. (2016). Data intelligence on the Internet of Things. <i>Personal and Ubiquitous Computing</i>, 20(3), 277-281. doi:10.1007/s00779-016-0912-1</p> <p><b>Supplemental Readings:</b>                      Bietz, M. J., Bloss, C. S., Calvert, S., Godino, J. G., Gregory, J., Claffey, M. P., . . . Patrick, K. (2016). Opportunities and challenges in the use of personal health data for health research. <i>J Am Med Inform Assoc</i>, 23(e1), e42-48. doi:10.1093/jamia/ocv118</p>
	<p><b>Topic:</b> To be determined in consultation with class</p> <p><b>In Class:</b></p> <p><b>Required Readings:</b>                      None Required</p> <p><b>Supplemental Readings:</b></p>
Nov 29	<p><b>Topic:</b> To be determined in consultation with class</p> <p><b>In Class:</b></p> <p><b>Required Readings:</b>                      None Required</p> <p><b>Supplemental Readings:</b></p>

## Course Outline and Assignments

Date	Topic
Dec 6	<b>Topic:</b> Final Presentations
Dec 13	<b>Final Examination</b>

**ASPH MPH Competencies Met**

- 3. Describe the merits of social and behavioral science interventions and policies
- 4. Apply ethical principles to public health program planning, implementation and evaluation
- 5. Specify multiple targets and levels of intervention for social and behavioral science programs and/or policies
- 14. Identify key sources of data for epidemiological purposes.
- 16. Identify the principles and limitations of public health screening programs.
- 21. Specify approaches for assessing, preventing, and controlling environmental hazards that pose risks to human health and safety.

**Evaluation**

Students will be graded from successful completion of course assignments, class participation, and a final examination. Grades will be determined on a 300-point scale by the following methods:

80 pts **Individual Project:** Each student will choose an individual project from a list provided by the Instructor (there will be an option to propose a different project). The final product will be different depending upon the selection, but the overall point distribution will be as follows:  
 Sept 23: Topic choice – 5 points  
 Nov 17: Draft of final project – 5 points  
 Dec 1: Final presentation of project – 20 points  
 Instructor evaluation of project materials 50 points

80 pts **Midterm examination.**

80 pts **Final examination.**

60 pts **Student participation.** Participation is judged by class attendance, engagement in course activities, familiarity with assigned readings, and overall class participation. In-class attendance & social media participation – being present and engaged face-to-face and online will result in higher grades. Failure to participate in class activities and repeatedly arriving late or being absent will lower your participation grade.

- a. Classroom activities – 20 points
- b. Muddiest points – 20 points
- c. Teach us something we don't know – 20 points

**Grading  
Total Points - 400**

290	A+
280	A
270	A-
260	B+
250	B
240	B-
230	C+
220	C
210	C-
200	D
< 200	F