

**Credits:** 3

**Meetings Days:** Tuesday, Thursday

**Meeting Time:** 9:45-11:00am

**Meeting Place:** EE/CSci 2-260

**Course Director:** B. R. Simon Rosser, Ph.D., MPH E-mail: [rosser@umn.edu](mailto:rosser@umn.edu); Web: <http://umn.edu/home/rosser>

**Course Co-Directors:** Joseph Konstan, Ph.D. E-mail: [konstan@umn.edu](mailto:konstan@umn.edu); Web: <http://umn.edu/home/konstan>

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## I. Course Description

*e-Public Health* is defined as "the promotion of health and prevention of disease at the community or population level using Internet-based research methodologies, interventions, and policies. An emerging subdiscipline, e-Public Health encompasses online health promotion strategies for the public or targeted communities, the study of how Internet-use and e-communication may change health risk, and also the health promotion and disease prevention of virtual communities."\* This introductory course covers the planning, design, implementation and evaluation of Internet-based public health interventions or e-Public Health. Because e-Public Health is by definition a multidisciplinary activity, this course will be taught by a multidisciplinary team.

\*Rosser, B.R.S., Oakes, J.M., Bockting, W.O., Babes, G., Miner, M. (2007).

*Capturing the social demographics of hidden sexual minorities: An Internet study of the transgender population in the United States. Sexuality Research and Social Policy, 4 (2): 50-64.*

## Introducing the faculty:

### B. R. Simon Rosser, PhD, MPH, LP

is professor and director of the HIV/STI Intervention and Prevention Studies (HIPS) in the Division of Epidemiology and Community Health. A psychologist, sexologist and behavioral epidemiologist by training, Prof. Rosser is currently or has been principal investigator on 3 federally-funded e-Public Health studies including a formative research study of how online sexual liaisons differ from offline liaisons, a randomized controlled trial of a highly interactive Internet-based HIV prevention site for Men who use the Internet to seek Sex with Men, and a structural intervention online study assessing the impact of law and e-infrastructure on bars and alcohol use in 16 US cities. He will teach the public health dimensions and intervention development in e-Public Health. FFI, see also: <http://umn.edu/home/rosser>

### Joseph A. Konstan, PhD

is Professor of Computer Science and Engineering (and Adjunct Professor in Epidemiology and Community Health) who specializes in human-computer interaction, including design of interactive systems and social design

to elicit participation or behavior change. He has been on the U of M faculty since 1992, has taught courses at all levels, and has served as DGS of two academic programs. He is currently working on collaborative e-Public Health research studies related to nutrition and to HIV-prevention, and has previously collaborated on projects related to health education and exercise promotion as well. He will teach the technology dimensions of e-Public Health and lecture about working in highly multidisciplinary teams.

## Bill West, PhD

is a lecturer in the Department of Writing, College of Liberal Arts (and adjunct assistant professor in Epidemiology and Community Health) specializing in scientific and technical communication. His recent research focuses on learning in e-environments, e-communication in medical and homeland security crises, and differences in learning between online and offline classroom environments. He will teach the e-communication dimensions of e-Public Health including health message construction on the Internet.

## Guest presentations

by faculty undertaking e-Public Health intervention or related research, for example, in such areas as smoking, nutrition, diabetes, sexual health, disaster preparedness and post-disaster intervention. (Because several of the core faculty are working together as a multidisciplinary team on online HIV prevention, students should expect readings and examples to reflect the faculty's current areas of research). Global, international, national, and local populations will be addressed as well as interventions targeting racial/ethnic, immigrant, linguistic and sexual minorities.

The course integrates five areas of learning:

1. theory and practice in designing Public Health interventions
  2. theory and practice in e-learning environments
  3. e-practice exercises
  4. e-Public Health Studio
  5. Readings and Exercises
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1. The **Public Health** content will provide a review of relevant behavioral, community and mass media theories, applications, research, and core competencies relevant to the design, development, implementation and evaluation of public health interventions.
  2. The **e-Learning** content will examine e-learning theories, applications, research, and core competencies relevant to the design, development, implementation and evaluation of effective online interventions.
  3. The **e-practice** component reflects that this is an experiential immersion course. During this course, students will gain first hand experience of using such tools as (examples are included):
    - (a) WebCT/Vista <http://vista.umn.edu>
    - (b) TA Web Certification program <http://dmc.umn.edu/ta-web/index.shtml>\* \* optional
    - (c) UThink blogs <http://blog.lib.umn.edu/>  
-SPH Public Lectures <http://www.sph.umn.edu/podcast>
    - (d) Breeze <http://breeze.umn.edu/>  
-Pandemic Influenza Planning Conference  
<http://www.ahc.umn.edu/about/admin/oer/pandemic/planning.html>
    - (e) Chat <http://chat.umn.edu/>
    - (f) At least one social networking site
  4. While technology is constantly improving, as this course progresses, students will have immersion experience during class time and become familiar with basic tools for implementing public health online interventions.
  5. In the **Studio** component, students in design pods of 4-5 will complete their main assignment (the design, development and formative evaluation of an online public health intervention).
  6. **Readings and Exercises** covers both online and offline key articles and texts and exercises on the Web which the student is required to have read/completed prior to that week's course.
  7. Lectures provide students with an overview of theory and implementation. E-practice provides students with an immersion experience of a variety of intervention modalities and in practice simulations. Guest lecturers will provide summaries of cutting-edge e-Public Health studies and designs being implemented. Studio will provide students with a mentored team experience in designing and developing online interventions.

## II. Course Prerequisites

None.

### Ila. Other co-requisites

In 2008, students are welcome to work on their own laptops if they prefer. Students using their own laptops will be expected to (a) check compatibility prior to start of class and (b) bring them to all classes and studio sessions.

## III. Course Goals and Objectives

1. Identify basic **theories, concepts and models** relevant to e-public health interventions and practice.
2. Identify the **causes** of social, behavioral and Internet-mediated factors that affect health of individuals and populations, including virtual communities.
3. **Identify, individual, organizational and community concerns, assets, resources and deficits** for e-Public Health interventions.
4. **Identify critical stakeholders** for the planning, implementation and evaluation of e-Public Health programs, policies and interventions.
5. Practice the **steps and procedures** involved in **planning, implementing and evaluating** an e-Public Health programs and/or interventions.
6. Describe the **role of the Internet** in both the **onset and solution** of public health problems.
7. Describe the **merits** of e-Public Health interventions.
8. **Apply evidence-based approaches in the development and evaluation of e-Public Health interventions.**
9. Apply **ethical principles** to e-public health interventions.
10. Identify **multiple targets and levels of intervention** in undertaking e-Public Health interventions.

## IV. Methods of Instruction and Work Expectations

This course will include 75 minutes of in-person lectures per week. Part of this is termed immersion e-learning where students will use a variety of formats (e.g., synchronous chat, asynchronous chat), role-plays (e.g., facilitator for facilitated online focus groups), and exercises (e.g., a breeze presentation). To complete the major assignment, students will need to meet (virtually and sometimes physically) in studio pods, normally outside of class time, and for feedback within class to permit team mentored participation in the design, development, and evaluation of an online public health intervention.

### a. Course Schedule, Readings and Assignments

Students are expected to complete the assigned readings and exercises prior to the lesson in which they will be covered.

### b. Activities

The course is designed to teach students the process of designing, developing and evaluating effective online public health interventions. The course covers both basic e-Public Health modalities and methods (such as those inherent in the e-practice and laboratory) and identification and review of more sophisticated e-Public Health interventions and research methods. A field trip to the U of M's Usability laboratory is included in this course.

### c. The Major Assignment: Design Studio

E-Public Health intervention design, like any other design challenge, is most effectively learned through experience. In this course, we will lead students through the design of an intervention of their choice in a studio format, with periodic class sessions devoted to small group formative evaluations, general critique and suggestions, and learning-on-demand. Student teams will work on a single intervention design throughout the course. This may be disease prevention, outbreak intervention, health promotion, or a situation lending itself to e-Public Health intervention (e.g., disaster preparedness). Students will be expected to review and evaluate currently available online interventions relevant to their topic. Students will identify an underlying theory or model to guide the design of their intervention, and then design a prototype of the intervention. In addition, students will develop a plan for formative evaluation research for their design.

### d. Expected Effort

University of Minnesota policy states that work expectations per credit hour are fixed at a ratio of 1:3. That is, a 3-credit course assumes 12 hours of work per week *including* class attendance. The course has been designed with this expectation in mind, however, this is an average. Some weeks may require more time, other weeks less.

## V. Course Text and Readings

The field of e-Public Health is so new and evolving so far, no text exists. Hence there is no required texts for this course. Rather, as is appropriate to an online course, students can expect to be asked to review online materials and readings available on the class website prior to the class.

For students interested in additional readings: *There are three reference texts for this course that will be available to students in studio:*

### On Public Health Theory:

Glanz, K., Rimer, B.K., Lewis, F.M. (Eds). *Health Behavior and Health Education: Theory, Research and Practice (3rd Edition)*. San Francisco, CA: Jossey-Bass.

### On e-communication:

Gurak, L.J. & Lannon, J.M. (2004). *A Concise Guide to Technical Communication. Second Edition*. New York, NY: Pearson Longman.

### On building e-learning interventions:

Allen, M.W. (2003). *Michael Allen's Guide to e-Learning: Building interactive, fun, and effective learning programs for any company*. Hoboken, NJ: John Wiley & Sons.

In addition, background additional readings which may interest students include:

### On health website comparative analysis:

Noar, S., Clark, A., Cole, C., Lustria, M.L. (2006). Review of interactive safer sex web sites; practice and potential. *Health Communication, 20*, (3): 233-241.

### On formative evaluation:

1. needs assessment. Hooper, S., Rosser, B.R.S., Horvath, K.J., Remafedi, G., Naumann, C. and the Men's INTeRnet Study II (MINTS-II) Team (2008). An evidence-based approach to designing appropriate and effective Internet-based HIV prevention interventions: Results of the Men's INTeRnet Sex (MINTS-II) Study needs assessment. *AIDS & Behavior, 12*, online first.
2. quantitative survey assessment. Pequegnat, W., Rosser, B.R.S., Bowen, A., Bull, S.S., DiClemenete<sup>2</sup>, R.J., Bockting, W.O., Elford, J., Fishbein, M., Gurak, L., Horvath, K., Konstan, J., Noar, S., Ross, M.W., Sherr, L., Spiegel, D., Zimmerman, R. (2007). Conducting Internet-based HIV/STD prevention survey research: Considerations in design and evaluation. *AIDS & Behavior: 11*:505-521.
3. qualitative online interviewing. Davis, M., Bolding, G., Hart, G., Hart, L., Sherr, L., Elford, J. (2004). Reflecting on the experience of interviewing online: perspectives from the Internet and HIV study in London. *AIDS Care, 16*, (8):944-952.

### On human subjects design considerations:

1. Designing human consent procedures online: Gurak, L., Rosser, B.R.S., Oakes, J.M. The challenges of ensuring participant consent in internet studies: a case study of the Men's INTeRnet Study. Manuscript in review
2. Ethical issues in e-Public Health research: Rosser, B.R.S., and Horvath, K. (2007). Ethical issues in Internet-based HIV primary prevention research. In Loue, S & Pike, E. (eds). *Case Studies in Ethics and HIV research*. New York, NY: Springer.

### On online/offline learning comparisons:

West, W., Rosser, B. R. S., Hooper, S., Monani, S, Gurak, L. (2007). How Learning Styles Impact E-Learning: A Case Comparative Study of Undergraduate Students who Excelled, Passed, or Failed an Online Course in Scientific Writing. *Journal of Administrators of Electronic Learning, 3*(4):533-541.

### On data security:

Konstan, J. Rosser, B.R.S., Stanton, J., Brady, P., Gurak, L. Protecting subject data privacy in Internet-based HIV survey research. STD/HIV Prevention and the Internet Conference, Washington, DC. August 25-27, 2003.

### On reaching hidden populations:

Rosser, B.R.S., Oakes, J.M., Bockting, W.O., Miner, M. (2007) Demographic Characteristics of Transgender

Persons in the United States: Results of the National Online Transgender Study. *Sexuality Research and Social Policy*, 4(2):50-64.

**On structural change in physical community secondary to virtual community growth:**

Rosser, B.R.S., West, W., Weinmeyer, R. (2008). Are Gay Communities Dying or Just in Transition? An International Consultation from the Eighth AIDS Impact Conference Examining Structural Change in Gay Communities. *AIDS Care*, 20(5):588-595.

**VI. Overview of Course Outline/Weekly Schedule At a Glance**

Week	Day 1 Topic	Instructor	Day 2 Topic	Instructor	Assignment due
1.	Sep 2 Overview; introduction of e-PH concepts	Rosser & Team	Sep 4 Cases and the e-environment	Konstan	Pod Selection
2.	Sep 9 e-PH Proposal	Rosser	Sep 11 Technology Overview and Tutorial	Konstan	Submit project topic: Audience/Problem
3.	Sep 16 Behavior Change	Rosser	Sep 18 Interactivity & Personalization	Konstan	Design sketch(es) of the intervention
4.	Sep 23 e-Communication Persuasive Computing	West	Sep 25 Studio 1: Domain Experts	Rosser	Identify: theory for intervention; Draft: background, epidemiology, justification
5.	Sept 30 E-learning Design	West	Oct 2 Social Computing	Konstan	Draft: theory Identify: related work
6.	Oct 7 Games, Calendars, etc.	Konstan	Oct 9 Human Subjects: Ethical and Other issues	Rosser	Draft: related work Revised design sketch
7.	Oct 14 Paper Prototyping/Project management	Konstan Danilenko	Oct 16 Studio 2: Design Studio	Konstan & Team	Full Project Proposal
8.	Oct 21 Studio 3: Cognitive Walkthrough	Konstan & Team	Oct 23 e-Health Literacy	West	Paper Prototype ( <b>Tues</b> ) Development Plan
9.	Oct 28 Evaluation Strategies	Konstan	Oct 30 Case Study: Smoking Cessation	An (Rosser)	Cognitive Walkthrough
10.	Nov 4 Studio 4: Scope & Technology Issues	Konstan & Team	Nov 6 Usability Lab	Konstan	Heuristic Evaluation
11.	Nov 11 Case Study: MINTS (HIV Prevention)	Rosser	Nov 13 Case: Nutrition/Diabetes	Horvath (Rosser)	Running Prototype User Test Plan
12.	Nov 18 E-mail, Recruitment & Retention	Konstan	Nov 20 Security Issues	Konstan	No deliverable this week
13.	Nov 25 Studio 5: Experts	Rosser & Team	Nov 27 Thanksgiving - no class		User Testing ( <b>Tues</b> )
14.	Dec 2 Project Presentations	Team	Dec 4 Project Presentations	Team	Final Presentations Change List
15.	Dec 9 Course Wrap-up Course Evaluations				Group Self-Evaluation

## VII. Evaluation and Grading

Students will be evaluated through multiple methods. Final grade will be assessed on a 100-point scale.

10% Pod Formation Assignment

15% Participation

20% Proposal

20% Design

15% Final Presentation

20% Final Project including User Testing and Implementation

Grades will be based on the following scale, as rounded to the nearest grade:

A 93 - 100	B- 80 - 82	D+ 67 - 69
A- 90 - 92	C+ 77 - 79	D 63 - 66
B+ 87 - 89	C 73 - 76	D- 60 - 62
B 83 - 86	C- 70 - 72	F Below 60

The S/N option is available for this course. A grade of B- or better is required for an S.

### Language on Course Evaluation

Beginning in fall 2008 the SPH will collect student course evaluations electronically using a software system called CourseEval. The system will send email notifications to students when they can access and complete the course evaluations. Students who complete the course evaluations promptly will be able to access their final grades just as soon as the faculty member renders the grade. All students will have access to their final grades two weeks after the last day of the semester regardless of whether they completed the course evaluation or not. Student feedback on course content and faculty teaching skills are important means for improving our work. Please take the time to complete a course evaluation for each of the course for which you are registered.

### For Master's of Public Health (MPH) students

This course is designated as part of the community health education curriculum, but is not a core course.

### Incomplete Grade

An incomplete grade is permitted only in cases of exceptional circumstances *and* following consultation with the instructor. In such cases an "I" grade will require a specific written agreement between the instructor and the student specifying the time and manner in which the student will complete the course requirements. Extension for completion of the work will not exceed one year.

### University of Minnesota Uniform Grading and Transcript Policy

A link to the policy can be found at [onestop.umn.edu](http://onestop.umn.edu).

## VIII. Other Course Information and Policies

### Grade Option Change (if applicable)

For full-semester courses, students may change their grade option, if applicable, through the second week of the semester. Grade option change deadlines for other terms (i.e. summer and half-semester) can be found at [onestop.umn.edu](http://onestop.umn.edu).

### Course Withdrawal

Students should refer to the Refund and Drop/Add Deadlines for the particular term at [onestop.umn.edu](http://onestop.umn.edu) for information and deadlines for withdrawing from a course. As a courtesy, students should notify their instructor and, if applicable, advisor of their intent to withdraw.

Students wishing to withdraw from a course after the noted final deadline for a particular term must contact the School of Public Health Student Services Center at [sph-ssc@umn.edu](mailto:sph-ssc@umn.edu) for further information.

### **Student Conduct, Scholastic Dishonesty and Sexual Harassment Policies**

Students are responsible for knowing the University of Minnesota, Board of Regents' policy on Student Conduct and Sexual Harassment found at [www.umn.edu/regents/polindex.html](http://www.umn.edu/regents/polindex.html).

Students are responsible for maintaining scholastic honesty in their work at all times. Students engaged in scholastic dishonesty will be penalized, and offenses will be reported to the Office of Student Academic Integrity (OSAI, [www.osai.umn.edu](http://www.osai.umn.edu)).

The University's Student Conduct Code defines scholastic dishonesty as *plagiarizing; cheating on assignments or examinations; engaging in unauthorized collaboration on academic work; taking, acquiring, or using test materials without faculty permission; submitting false or incomplete records of academic achievement; acting alone or in cooperation with another to falsify records or to obtain dishonestly grades, honors, awards, or professional endorsement; or altering, forging, or misusing a University academic record; or fabricating or falsifying of data, research procedures, or data analysis.*

Plagiarism is an important element of this policy. It is defined as the presentation of another's writing or ideas as your own. Serious, intentional plagiarism will result in a grade of "F" or "N" for the entire course. For more information on this policy and for a helpful discussion of preventing plagiarism, please consult University policies and procedures regarding academic integrity: <http://writing.umn.edu/tww/plagiarism/>. Students are urged to be careful that they properly attribute and cite others' work in their own writing. For guidelines for correctly citing sources, go to <http://tutorial.lib.umn.edu/> and click on *Citing Sources*.

In addition, original work is expected in this course. It is unacceptable to hand in assignments for this course for which you receive credit in another course unless by prior agreement with the instructor. Building on a line of work begun in another course or leading to a thesis, dissertation, or final project is acceptable. If you have any questions, consult the instructor.

### **Disability Statement**

It is University policy to provide, on a flexible and individualized basis, reasonable accommodations to students who have a documented disability (e.g., physical, learning, psychiatric, vision, hearing, or systemic) that may affect their ability to participate in course activities or to meet course requirements. Students with disabilities are encouraged to contact Disability Services to have a confidential discussion of their individual needs for accommodations. Disability Services is located in Suite 180 McNamara<sup>2</sup> Alumni Center, 200 Oak Street. Staff can be reached by calling 612/626-1333 (voice or TTY).