

Public Health Genomics
Population Health Sciences 650 Section 023
Summer 2009, 07/20/09 – 07/24/09

Instructors: Corinne Engelman, MSPH, PhD
1007A WARF
608-265-5491
cengelman@wisc.edu

Kristin Meyers, MPH, PhD
kjmeyers2@wisc.edu

Office Hours: 8:30-9:00 in the HSLC atrium right outside of 1222 HSLC or inside 1222 if it is available (or by appointment)

Lecture Time: 9:00 AM – 12:00 noon

Location: 1222 HSLC

Course Description:

Public health genomics is a new discipline that uses knowledge gained from genetic and molecular research along with a consideration of ethical, legal, and social implications (ELSI) to prevent disease and improve the health of the population often by enacting health services, programs, and policies. It requires an understanding of genetics, epidemiology, public health, the principles of ethics, law and the social sciences, and much more.

This course will provide 1) an introduction to public health genomics, 2) a background in basic genetics, genetic technology, the human genome project, and post-genome challenges, 3) fundamentals of genetic epidemiology, 4) a background in the use of genetics in medicine and health services, including genetic testing and screening, genetic counseling, and utilization of genetic information in disease prevention and management, 5) an awareness of the ethical, legal, and social implications (ELSI) of genetics, including such issues as genetic determinism, eugenics, genetics and reproductive choice, embryonic stem cells, genetic information and discrimination, ethical and legal aspects of clinical genetics, and public perceptions of genetics, and 6) an introduction to policy implications.

Learning Objectives:

The learning objectives of this course are to 1) have a basic understanding of genetics and genetic epidemiology and 2) be able to think critically about the impact of genetics on public health and about ethical, legal, social, and policy implications. These learning objectives will be met through lectures introducing each concept interspersed with journal discussions of current topics incorporating these concepts. These learning objectives will be assessed by observation of participation in the journal discussions along with the journal discussion write-up and by a final written paper in which the student will discuss each side of a controversial topic.

Journal Discussions:

The purpose of the journal discussions is to critically review and discuss current literature related to topics in public health genomics.

Each journal discussion will be led by a group of students. The group leading the discussion should spend about 20 minutes (jointly) presenting the paper. The rest of the time (30 minutes) should be spent in discussion either as questions arise, or at the end of the presentation.

For those leading the discussion: While everyone should have read the paper, don't assume that everyone will remember everything. Give an overview of the paper and pose discussion questions/points that relate to concepts presented in the lectures. You will be evaluated on the clarity of your presentation and, more importantly, your efforts to facilitate discussion.

For those not leading the discussion: All students not leading the discussion will prepare a type written short paragraph summarizing the paper along with 2-3 questions/points for discussion, which will be handed in to the instructor at the end of the discussion. You will be evaluated on your preparation (handing in your summary and discussion questions/points) and participation in the discussion.

Required readings:

The required readings will consist of relevant and current papers listed in the syllabus, which will be read for journal discussions (see above).

Final Paper:

The students will be provided with several controversial topics/scenarios in public health genomics and asked to research and discuss both sides of one of the topics (more specific details will be included with each topic/scenario). This paper will be no more than 6 double spaced pages plus references (size 11 with 1 inch margins). It will be due 2 weeks after the last day of class.

Evaluation:

Journal article presentation and participation	50%
Final Paper	50%

Academic Integrity:

The students leading a journal discussion must work together to some extent; the students not leading the journal discussion are expected to read and write-up a summary and discussion questions/points on their own with minimal discussion with other students (please save all your good discussion for inside the classroom so others may benefit from it to!). The final paper MUST reflect only individual work. This is equivalent to a final take-home exam and should NOT be worked on or discussed with other students until after the paper has been turned in by all students. Students are expected to attend every class and stay for the entire scheduled class time unless extreme circumstances arise. Please let me know before class if you will be unable to attend due to such circumstances.

Date	Topic	Required Readings
	Introduction to Public Health Genomics	None
	Genetic Science and Technology	None
	Fundamentals of Genetic Epidemiology	None
	Journal Discussion: Commercially available genetic tests for common complex disease	Janssens et al, 2008
	Genetics in Medicine	None
	Journal Discussion:	TBD
	Journal Discussion:	TBD
	Genetics in Health Services	None
	Journal Discussion:	TBD
	Journal Discussion:	TBD
	Ethical, Legal, and Social Implications (ELSI) of Genetics	None
	Journal Discussion: Genetic Information Nondiscrimination Act (GINA) of 2008	TBD
	Journal Discussion:	TBD
	Policy Implications	TBD
	Journal Discussion:	TBD