Syllabus 2015

PHG 542 / BH 530: Genetic Discovery in Medicine & Public Health
3 credits

Instructor: Wylie Burke MD PhD
email: wburke@u.washington.edu

Course Objectives
The goal of this course is to explore the implications of discoveries in genetic science for clinical and public health practice, with an emphasis on health policy and ethics.

Specific Learning Objectives:
- Describe the major genetic discoveries that have expanded opportunities for screening, diagnosis and treatment.
- Explain the personal and societal challenges posed by the use of genetic testing in medicine and public health.
- Identify and analyze policies aimed at ensuring appropriate use of genetic services in medicine and public health.

Course Requirements (See "Assignments" for further details)
- Participation in class discussion
- Serve as moderator for one class discussion
- Assigned readings
- Interview with a local expert
- Paper (10-12 pages of text plus references) addressing a policy issue related to the use of genetics in medical or public health.

Grading
- Participation in class discussion: 20% (cannot achieve full 20% credit if more than one class is missed)
- Moderation of class discussion: 10%
- Interview: 10%
- Paper: 60% (see "Assignments" for further details regarding components of the paper to be submitted during the course)
- Grading will be based on student performance using the grading system for graduate students published at the UW Graduate School web site: http://www.grad.washington.edu/stsv/gradpol3.htm#Grading.

Course Materials
All course materials can be accessed by enrolled students through the course web site under "Readings."

SCHEDULE

WEEK	TOPIC	DISCUSSION TOPICS
1 Jan 5 & 7	Introduction	• Contributions of genetics to goals of medicine and public health • Policy and ethics Readings: Manolio et al- Future is Here Chaufon_2007 *OPTIONAL* Background Readings: Burke et al- ELSI impact Burke et al –Categorizing Burke et al -Debating Clinical Utility McGuire_Burke_JAMA See also additional readings found in "Readings" section of course web site
2 Jan 12 & 14	Evolution of genetic technology **Draft idea for paper topic due Jan 14**	Applying new knowledge in medicine and public health • Assuring safety and efficacy • Enabling innovation • Supporting equity Readings: EGAPP_Methods Ginn et al - Gene therapy review Gutmann_Ethics_synthetic_biology Ransohoff et al JAMA
3 Jan 21	No class this week	Individual sessions to discuss paper topic, to be scheduled between Jan 15 and 26
4 Jan 26 & 28	Screening **Plan for interview due Jan 26**	• Implications of newborn screening, 1960s-present • Rationale for genomic screening Readings: Burke et al. Genetic screening Grosse, Boyle et al Wall St J - genomes
5 Feb 2 & 4	Reproductive genetics	Choices, responsibilities, dilemmas of reproductive genetics Readings: Brown – Boy in the Moon -Excerpt Lippman 1991 Prenatal Genetic Testing and Screening Parens, Asch Yurkiewicz et al - Prenatal whole-genome sequencing

6 Feb 9 & 11	Direct to consumer genetics **Interview report due Feb 11**	Who should determine/control access direct-to-consumer genomics? Readings: Annas & Elias FDA Warning Letter McGowan et al Early Users That Personal Touch
7 Feb 18	Genomic translation in context	What do we hope to accomplish with genomic knowledge? Readings: Farley_AJPH Juengst et al Rhetoric of Empowerment Topol- Prewomb to Tomb Woolf - Misplaced Priorities
8 Feb 23 & 25	Summary: Using genomics for health benefit **Rough draft of paper due Feb 25**	Readings: Berg J JAMA Commentary Khoury et al- Population precision medicine Langenberg et al –type 2 diabetes
9 Mar 2 & 4	Discussion Topics	Readings to be determined
10 Mar 9 & 11	Discussion Topics **Final paper due 5:00 PM Mar 13**	Readings to be determined