

**MEHU 6344-Law, Science, and Society**  
**Preliminary Course Syllabus**  
**SPRING 2017**

**Faculty Contact:**

**E. Bernadette McKinney, J.D., Ph.D.**  
**Assistant Professor**  
**Institute for the Medical Humanities**  
[emmckinn@utmb.edu](mailto:emmckinn@utmb.edu)  
**409-772-9390**

Scientific discoveries generate tremendous excitement, but they can also generate controversies and conflicts. The challenges of protecting the interests of scientists, research institutions, funding agencies, governments, research participants, and ordinary citizens require critical thinking and careful weighing of benefits and burdens. This course explores current controversies and disputes surrounding biomedical research and the thought processes necessary to arrive at well-reasoned policy responses.

Invited experts will join the class to share their insights and perspectives.

The course is designed to address elements of 12 of the 15 Core Competencies in Clinical and Translational Research. It requires critical analyses of research literature from the perspectives of multiple disciplines and provides guidance in gathering and evaluating evidence and designing ways to address research problems. In addition, the course:

1. Examines the role of bioinformatics and electronic health records in addressing research questions,
2. Provides insights into and applications of ethics and compliance in clinical and translation research,
3. Requires clear communication aimed at broad audiences,
4. Raises awareness of cultural needs and differences,
5. Provides opportunities to obtain understanding of multiple disciplines,
6. Fosters leadership through innovation and creativity in problem-solving,
7. Applies adult-learning and competency-based instruction, and
8. Addresses controversies currently affecting biomedical science and society's health and wellbeing and the roles of various interests in creating community.

Readings and other materials will be posted on **Blackboard**. It is the student's responsibility to check Blackboard **daily** for updates and changes. Because changes in the schedule may be necessary to accommodate the needs of guest instructors, readings will be listed by topic rather than by date. We will notify students of changes through Blackboard as soon as possible to allow adequate preparation for the next meeting.

## Grading:

25% Participation  
25% Paper #1  
25% Paper #2  
25% Presentation

### **Week 1: Introduction to Law and Policy Analysis**

Deborah Stone, *Policy Paradox: The Art of Political Decision Making* (New York: W.W. Norton, 2002), ix-34.

### **Week 2: Five Policy Goals**

Deborah Stone, *Policy Paradox: The Art of Political Decision Making* (New York: W.W. Norton, 2002), 35-130.

### **Week 3: Policy Analysis Tools**

T. Collins, "Health Policy Analysis: A Simple tool for Policy Makers," *Public Health* 119 (2005):192-196.

Nuala Kenny and Mita Giacomini, "Wanted: a New Ethics Field for Health Policy Analysis," *Health Care Analysis* 13, no.4 (December 2005): 247-260.

**Work Group for Community Health and Development** at the University of Kansas, *Community Tool Box*, Chapter 31: Section 10, (2004). <http://ctb.ku.edu/en/table-of-contents/advocacy/advocacy-research/influence-policy/main>.

### **Week 4: Zika**

TBA

### **Week 5: Defining the Problem**

Ross Brownson, Charles Royer, Reid Ewing, Timothy McBride, "Researchers and Policymakers: Travelers in Parallel Universes," *American Journal of Preventive Medicine* 30 no. 2(2006):164-172.

### **Week 6: Infectious Disease Challenges (Ebola, Measles, Zika)**

Movie: Contagion

### **Week 7: Epidemiology**

TBA

## **Week 8: Vaccine Research**

TBA.

## **Week 9: Public Health Law**

Barry Furrow et al., *Health Law Cases, Materials and Problems*, 95 to 113.pdf

See Texas Health and Safety Code, Chapter 81, Communicable Diseases.

Model Laws Relevant to disease outbreaks:

[The Turning Point Model State Public Health Act \(MSPHA\)](#)

[The Uniform Emergency Volunteer Health Practitioners Act \(UEVHPA\)](#)

[The Model State Emergency Health Powers Act \(MSEHPA\)](#)

[The Model State Public Health Privacy Act \(MSPHPA\)](#)

Wendy Parmet, “Vaccine Mandates: Second Circuit Reaffirms their Constitutionality,” Bill of Health, Harvard Law, available at [http://blogs.law.harvard.edu/billofhealth/2015/02/03/vaccine-mandates-second-circuit-reaffirms-their-constitutionality/?utm\\_source=feedburner&utm\\_medium=email&utm\\_campaign=Feed%3A+billofhealth+%28Bill+of+Health%29](http://blogs.law.harvard.edu/billofhealth/2015/02/03/vaccine-mandates-second-circuit-reaffirms-their-constitutionality/?utm_source=feedburner&utm_medium=email&utm_campaign=Feed%3A+billofhealth+%28Bill+of+Health%29).

## **Week 10: Genomics, “Omics” and Personalized Medicine**

Barry Furrow, et al., *Health Law Cases, Materials and Problems*, 1352 to 1359.pdf

Gene editing using CRISPR Cas9 Jennifer Doudna YouTube: <https://youtu.be/4HIPUHi9GpQ>

Boseman Science “CRISPER Cas9 <https://www.youtube.com/watch?v=MnYppmstxIs>

Jennifer Doudna, “How CRISPR lets us edit our DNA,” TED talk <https://www.youtube.com/watch?v=TdBAHexVYzc>

## **Week 11: Synthetic Biology**

James Collins, Mary Maxon, Andy Ellington, Martin Fussenegger, Ron Weiss, and Herbert Sauro, “Synthetic Biology: How Best to Build a Cell,” *Nature* 509, no. 7499 (May 7, 2014) available at <http://www.nature.com/news/synthetic-biology-how-best-to-build-a-cell-1.15150>.

## **Week 12: Neuroscience**

Walter Glannon, *Brain, Body, and Mind: Neuroethics with a Human Face* (New York: Oxford University Press, 2011): 41-92.

### **Week 13: Student Presentations**

### **Week 14: 3D Printing**

Dylan Jack Richards, Yu Tan, Jia Jia, Hai Yao, and Ying Mei, "3D Printing for Tissue Engineering," *Israel Journal of Chemistry*, 53 (2013):805-814.

Please review the various items available on the *Bioprinting World* website, available at <http://bioprintingworld.com/>

### **Week 15: Wrap-up**

**Other Readings and tasks as assigned. Please see Blackboard Content and Announcements for additional materials.**

### **Course Evaluations:**

End-of-course evaluations are required for all GSBS courses that are graded A-F. The GSBS Executive Committee voted in July and August 2007 to reaffirm this policy, which is required for accreditation by the Southern Association of Colleges and Schools (SACS). Beginning with the Fall Term 2007, students have been required to complete evaluations in any course graded A-F in order to receive a grade in the course. If a completed evaluation form is not received from a student, an Incomplete (I) grade will be reported to the Office of Enrollment Services. If the course evaluation is not completed within thirty days, the grade of I automatically converts to a grade of F (failure in the course). The evaluations are anonymous and are available to the course director and instructor(s) only after grades have been assigned.

### **Honor Pledge:**

On my honor, as a member of the UTMB community, I pledge to act with integrity, compassion and respect in all my academic and professional endeavors.

<http://www.utmb.edu/studentervices/honorpledge.asp>

For more information, see: *Institutional Handbook of Policies and Procedures (IHOP)*, Section 7.1.3. *Student Conduct and Discipline*. [http://www.utmb.edu/Policies\\_And\\_Procedures/search.aspx](http://www.utmb.edu/Policies_And_Procedures/search.aspx).

### **Absence Policy:**

More than 2 absences may result in a lower grade, depending on the circumstances. More than 3 absences may result in being dropped from the course.

### **Late Papers and Assignments:**

Late papers and assignments may result in grade reductions, depending on the circumstances.

## Additional Resources

Michael Klompas, MD, MPH; Daniel J. Diekema, MD; Neil O. Fishman, MD; and Deborah S. Yokoe, MD, “Ebola Fever: Reconciling Planning With Risk in U.S. Hospitals,” *Annals of Internal Medicine* 161, no. 10(2014): 751-752.

Laura Tedesco, “Only 6 Percent of U.S. Hospitals are Equipped to Handle Ebola,” Yahoo Health (October 27, 2014), available at <https://www.yahoo.com/health/only-6-percent-of-u-s-hospitals-are-equipped-to-handle-101105027082.html>.

[Mark G. Kortepeter](#),<sup>✉</sup>\* [James W. Martin](#),\* [Janice M. Rusnak](#),\* [Theodore J. Cieslak](#),<sup>†</sup> [Kelly L. Warfield](#),\* [Edwin L. Anderson](#),\* and [Manmohan V. Ranadive](#)\* “Managing Potential Laboratory Exposure to Ebola Virus by Using a Patient Biocontainment Care Unit” *Emerging Infectious Diseases* 14, no.6 (June 2008):881-887 available at <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2600302/>.

[George F. Risi](#),<sup>✉</sup> [Marshall E. Bloom](#), [Nancy P. Hoe](#), [Thomas Arminio](#), [Paul Carlson](#), [Tamara Powers](#), [Heinz Feldmann](#), and [Deborah Wilson](#), “Preparing a Community Hospital to Manage Work-related Exposures to Infectious Agents in BioSafety Level 3 and 4 Laboratories,” *Emerging Infectious Diseases*, 16 no.6 (2010):373-378 <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3322039/>.

Alicia Chang, “Measles Pops Up in Outbreak Linked to Disney Parks,” *Bioscience Technology* last visited April 24, 2015 <http://www.biosciencetechnology.com/news/2015/01/measles-pops-outbreak-linked-disney-parts?type=cta>.

Helen Branswell, “Infection Secrets of Ebola Explained,” *Scientific American* (November, 7, 2014), available at <http://www.scientificamerican.com/article/how-ebola-blindsides-the-bodys-defenses/>.

Time Magazine, *Ebola Fighters in West Africa: TIME’s Person of the Year 2014* (video) available at <http://time.com/time-person-of-the-year-ebola-fighters/>.

Assignment: Read three articles by Dr. Geisbert and prepare questions to discuss with Dr. Geisbert