

# **PSCI 4396.001: Law, Science and Policy**

Spring 2015; ATEC 1.305; T/TH 11:30-12:45

Instructor: Dr. Banks Miller  
Office: GR 2.806  
Email: [millerbp@utdalla.edu](mailto:millerbp@utdalla.edu)  
Phone: 972-883-2930  
Office Hours: Friday, 9-11

“We need to think long and hard about the future of a society as technologically oriented and as law-soaked as ours when our scientists and lawyers cannot even talk to each other.”

-Howard Markey, judge Federal Circuit Court of Appeals

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## **Course Description:**

This course focuses on the relationship between two distinct systems for insight into the “truth.” We will investigate how legal structures influence the production of science and the protection of intellectual property. We will also inquire into the manner in which judges and litigants use science in the courtroom. We will cover topics such as the use of DNA in criminal and family law, how judges evaluate scientific evidence (and the value of scientific peer review), government promotion of science using law and other means, patent law, and the insanity defense in criminal cases—among several others. Throughout our focus will be on how each of these distinct systems determines truth, what happens when they encounter one another, and what policymakers should think about when these conflicts arise.

## **Student Learning Objectives:**

1. Understand and articulate the different approaches to understanding “truth” in law and in science.
2. Describe the strengths and weaknesses of the legal approach to seeking truth.
3. Describe the strengths and weaknesses of the scientific approach to seeking truth.
4. Articulate well-supported policy positions on how court ought to approach issues in science and technology.

## **Course Material:**

### **Books:**

1. Jasanoff, Sheila. *Science at the Bar: Law, Science, and Technology in America*. Cambridge, MA: Harvard University Press. ISBN: 067479303X. Denoted as “Jasanoff” on the syllabus.
2. Lynch, Michael, Simon A. Cole, Ruth McNally, and Kathleen Jordan. *Truth Machine: The Contentious History of DNA Fingerprinting*. Chicago: University of Chicago Press. ISBN: 0226498077.

**Both of the above books are required** and are available for purchase from the University bookstore. Feel free to buy them online as well.

Aside from the books, most of the reading will come from articles which I will make available on the course website on eLearning. Many are also retrievable through LexisNexis.

## **Course Schedule:**

### Introduction

#### Topic 1: Basics

January 13<sup>th</sup>: Course explanation, expectations; go over syllabus

January 15<sup>th</sup>: General theories of judicial decision (political science; cognitive)

-“Motivation and Judicial Behavior: Expanding the Scope of Inquiry,” in *The Psychology of Judicial Decision Making*, Baum

#### Topic 2: Judicial Decision Making, Science, and Technology

January 20<sup>th</sup>: General theories of judicial decision making in light of science and politics; multiculturalism

-*Reliable Knowledge: An Exploration of the Grounds for Belief in Science*, 33-38, 130-33, Ziman

-“Science and the Courts,” Ayala and Black

January 22<sup>nd</sup>: As applied to specific scientific issues

- Ch. 1 & 2 Jasanoff

### Science in the Courtroom

#### Topic 3: Scientific evidence

January 27<sup>th</sup>: The meaning of peer review

-Peerless Science, Ch.4

-Jasanoff Ch. 5 (to 101)

January 29<sup>th</sup>: Admissibility of scientific evidence in court

-Ch. 3 Jasanoff

-*Daubert v. Merrell Dow Pharmaceutical* (1992)

-*Kumho Tire v. Carmichael* (1999)

#### Topic 4: Regulation of Public Risk

February 3<sup>rd</sup>: Environmental law basics and need for impact studies

- Jasanoff Ch.4 (agency evaluation of risk v. harm)
- “Steller Sea Lion Controversy,” Bryant

February 5<sup>th</sup>: Fracking and risk assessment

- Wallach v. Town of Dryden* (2014)
- “Untested Waters: The Rise of Hydraulic Fracturing in Oil and Gas Production and the Need to Revisit Regulation,” Wiseman
- EPA Progress Report on Fracking Study (2012)

Topic 5: The (mis)use of DNA in criminal trials

February 10<sup>th</sup>: *Truth Machine*: 1-16, 20-25, 39-43, 48-68, 83-87, 99-120

February 12<sup>th</sup>: *Truth Machine*: 155-219, 256-284; “Forensic Errors by FBI Lab Unit,” Hsu

Topic 6—Science in criminal law

February 17<sup>th</sup>: Insanity Defense

- “The Brain-Disordered Defendant: Neuroscience and Legal Insanity in the Twenty-First Century,” Redding

February 19<sup>th</sup>: Eyewitness Identification

- Kansas v. Hunt*, 69 P.3d 571 (2003)
- “Suggestive Eyewitness Identification Procedures and the Supreme Court’s Reliability Test in Light of Eyewitness Science: 30 Years Later,” Wells and Quinlivan

Topic 7: Biotechnology and genetics

February 24<sup>th</sup>: Ownership of Genes & Regulation

- Jasanoff Ch.7

February 26<sup>th</sup>: Current issues

- “Gene Concepts, Gene Talk, and Gene Patents,” Torrance
- “Synthesizing Law for Synthetic Biology,” Torrance

Topic 8: Family law issues

March 3<sup>rd</sup>: Abortion, embryos, parentage

- Jasanoff Ch.8
- “Assisted Reproduction and the Law,” Shapo

March 5<sup>th</sup>: **Exam 1**

Legal Influences on Science (how the law influences production of scientific knowledge)

## Topic 9: Protecting intellectual property 1

March 10<sup>th</sup>: Primer on patent law

- “Innovations without Patents: Evidence from World’s Fairs,” Moser
- “Patent Reform: Issues in the Biomedical and Software Industries,” Schacht

March 12<sup>th</sup>: Current issues in patent law (software; generic drugs); patent trolls

- “Trouble with Trolls: Innovation, Rent-Seeking, and Patent Law Reform,” Merges
- *Association for Molecular Pathology v. Myriad Genetics* (2013)

## Topic 10: Protecting intellectual property 2

March 24<sup>th</sup>: Primer on copyright

- *Copyright Basics* (Gassaway)

March 26<sup>th</sup>: Current issues in copyright (first-sale, fair-use, other infringement—music; books)

- *ABC v. Aereo* (2014)
- “Copyright Protection, Technological Change, and the Quality of New Products: Evidence from Recorded Music since Napster,” Waldfogel

## Topic 11: Production of science for litigation

March 31<sup>st</sup>: Junk science in toxic torts (A Civil Action)/clinical ecology

- Jasanoff Ch.6
- “Our Science is Sound Science and Their Science is Junk Science,” McGarity

**Note there is no class on April 2<sup>nd</sup>.**

April 7<sup>th</sup>: Toxic tort reform

- “Scientific Ignorance and Reliable Patterns of Evidence in Toxic Tort Causation,” Cranor and Eastmond

## Topic 12: Government promotion of science using law

April 9<sup>th</sup>: General issues (subsidies, mandates, incentives, federalism)

- “Public values and public failures in US science policy,” Bozeman and Sarewitz

April 14<sup>th</sup>: Electric vehicles; renewable energy

- Solar Energy Innovation (CA Energy Comm.)
- “Impact of govt. incentives for hybrid-electric vehicles,” Diamond

## Topic 13: Antitrust law and innovation

April 16<sup>th</sup>: Primer on antitrust law

-National Cooperative Research Act (1984)

April 21<sup>st</sup>: Microsoft litigation/Amazon

-“Citizen Bezos,” Coll

April 23<sup>rd</sup>: Course Review

### **Exam 2:**

April 28<sup>th</sup>: Multiple choice; short answer

April 30<sup>th</sup>: Essay responses

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### **Grading:**

1. There are two exams in the course, a midterm and a final. The midterm, given March 5<sup>th</sup>, is a single day exam that will be worth 35% of your grade. The final exam is a two-day exam (at the end of April) given during the final week of class. The final exam is worth 50% of your grade.
2. Participation and attendance are required in this seminar-style course. Together these two components will constitute 15% of your final grade.

Therefore, your final grade in the course will be calculated as follows and is based on the percentage of total available points earned:

15% Participation and Attendance

35% Midterm Exam

50% Final Exam

The grading scale is as follows:

A = 94% or greater

A- = 90-93%

B+ = 87-89%

B = 84-86%

B- = 80-83%

C+ = 77-79%

C = 74-76%

C- = 70-73%

D = >65%

F = < 65%

### **Course & Instructor Policies:**

I will make special arrangements for students who must miss a test for very good reasons, but you must give me a note describing the reasons that you have to miss the test and must obtain

my permission to do so prior to the test. If I give you permission to miss an exam, you must check with me on the first class day after the examination to find out the time for the makeup examination, and you must take the examination at that time. If you miss an examination without prior permission, ordinarily you will receive a score of zero on that examination. If you have very good reason for missing the examination without prior permission, I will allow you to take the makeup with a penalty of five points for each day after the exam before you notified me (including the examination day itself).

I don't care if you eat or drink in the room, as long as you do so quietly. Also, please be sure to silence your cell phones before coming to class. If ringing cell phones become an issue, then I reserve the right to impose a small penalty on the final grade of those whose phones continue to ring.

Additional UT Dallas policies may be found at: <http://go.utdallas.edu/syllabus-policies>