

Course title	<i>Law and the New Biotechnologies</i>
Duration	6 hours
Dates & Time	Wednesday 26 July 2017, 9:00 – 16:20
Instructors	David Grewal, Yale Law School
Course Description	
This course will consider the legal regulation of several new biotechnologies, including the intellectual property regime surrounding (1) synthetic biology; the legal regulation of (2) human germline engineering; and the deployment of (3) gene drives in the field of conservation biology.	
Educational Outcomes	
Students should develop familiarity with several new areas of science and technology and the emerging legal and normative frameworks for managing them – including the problems and/or gaps in these frameworks.	
Basic bibliography	<p><i>Many of the readings listed below may prove unfamiliar due to their scientific nature. Nevertheless, the instructor strongly recommends that the students read them before the class so as to ensure a fruitful discussion and the best possible learning outcome.</i></p> <p>I. <i>Synthetic Biology and its Ownership Regime</i></p> <p>BioBricks Foundation, https://biobricks.org Please look at this website, including at the BioBricks Public Agreement and the video here: https://biobricks.org/bpa/</p> <p>Endy D., Deese I., “Adventures in Synthetic Biology”, The MIT Synthetic Biology Working Group http://web.mit.edu/indy/www/scraps/comic/AiSB.vol1.pdf</p> <p>Specter M., “The Gene Hackers”, <i>The New Yorker</i>, 26 Nov. 2015 http://www.newyorker.com/magazine/2015/11/16/the-gene-hackers</p> <p>Rai A., Boyle J., (2007), Synthetic biology: Caught between property rights, the public domain, and the commons. <i>PLoS Biol</i> 5(3): e58. doi:10.1371/journal.pbio.0050058 http://scholarship.law.duke.edu/cgi/viewcontent.cgi?article=2296&context=faculty_scholarship</p> <p>II. <i>Human Germline Engineering and its Legal Regulation</i></p> <p>Greely H. T., “In 20 to 40 years, most Americans won’t have sex to reproduce. Get ready.”, <i>Vox</i>, 16 Nov. 2016</p>

<http://www.vox.com/2016/9/16/12931962/future-sex-reproductive-technology-ethics-ivf>

Kaczynski T., “Unabomber Manifesto”, selections

National Academies of Sciences, Engineering, and Medicine, (2017), *Human Genome Editing: Science, Ethics, and Governance*. Washington, DC: The National Academies, Press. doi: 10.17226/24623.

[please read the ten-page summary at the start. A digital copy will be made available to students]

III. *Gene Drives and Conservation Biology*

Specter M., “Rewriting the Code of Life”, *The New Yorker*, 22 Jan. 2017 issue

<http://www.newyorker.com/magazine/2017/01/02/rewriting-the-code-of-life>

A Call For Conservation with Conscience, SynBioWatch

http://www.synbiowatch.org/wp-content/uploads/2016/09/letter_vs_genedrives.pdf

Pennisi E., “U.S. Academies gives cautious go-ahead to gene drive”, *Science / American Association for the Advancement of Science*, 8 Jun. 2016, doi: 10.1126/science.aaf5773

<http://www.sciencemag.org/news/2016/06/us-academies-give-cautious-go-head-gene-drive>

Piaggio A. J., Segelbacher G., Seddon P. J., Alphey L., Bennett E. L., Carlson R. H., Friedman R. M., Kanavy D., Phelan R., Redford K. H., Rosales M., Slobodian L., and Wheeler K., (2017), “Is It Time for Synthetic Biodiversity Conservation?”, *Trends in Ecology & Evolution*, Vol. 32, Issue 2, pp. 97–107,

doi: <http://dx.doi.org/10.1016/j.tree.2016.10.016>

[http://www.cell.com/trends/ecology-evolution/fulltext/S0169-5347\(16\)30197-5](http://www.cell.com/trends/ecology-evolution/fulltext/S0169-5347(16)30197-5)

Optional background reading:

The Norwegian Biotechnology Advisory Board, “Statement on gene drives”, 14 Feb. 2017

<http://www.bioteknologiradet.no/filarkiv/2017/02/Statement-on-gene-drives.pdf>

IV. *Conclusion*

Purdy J., “The New Nature”, *Boston Review*, 11 Jan. 2016

<http://bostonreview.net/forum/jedediah-purdy-new-nature>

Teaching methodology	Mixed lecture and Socratic questioning + discussion	6 hours
Language	English	
Location	EPLO Headquarters, Sounion	
General note	N/A	