



## Module

# Genetics, Stem Cells, CRISPR, and Bioethics

Science Module for existing university or seminary level courses.

Drop in to a course syllabus (with modifications) in

Genetics

Systematic Theology: Anthropology

Moral Theology

Ethics

1 week's assignment for 3 hours of class meeting

### GENETICS, STEM CELLS, AND BIOETHICS

From 1990 into 2003 the worldwide Human Genome Project mapped the human genome, sequencing DNA nucleotides and locating many of our genes. For a period some scientists touted that DNA provides the essence of what makes a human being and suggesting support for genetic determinism. Moral and legal issues exploded over genetic testing, abortion to eliminate certain genes, insurance discrimination, and the return of eugenics in free market form. Theologians have been compelled to re-think many inherited assumptions regarding human nature, and bioethicists have sought to persuade the larger society to love its children regardless of genetic make-up and protect those with genetic difficulties from financial injustice.

Then, the isolation of human embryonic stem cells in 1998 was greeted with a global cheer of joy over the anticipated victories of regenerative medicine. Yet,

some naturalists, evangelicals, and Roman Catholics sought to end the research game before it would begin. Why? Ethicists seemed to talk past one another in answering this question. Like a baseball roster, this unit will list the players and their positions. Ethicists and moral theologians pitch their moral arguments from within their respective frameworks: (1) the medical benefits framework; (2) the embryo protection framework; (3) the nature protection framework; and (4) the research standards framework.

Just recently, scientists at the University of California in Berkeley have made a new discovery known as CRISPR-Cas9, a form of inexpensive gene editing. As the possibility of editing the genomes of a large number of human beings as well as animal species becomes more real, an urgency for social and moral guideless is pressing. How can moral theologians and ethicists incorporate this science into their own thinking and contribute to the wider cultural discussion?

### DLO (Desired Learning Outcomes)

Added to the set of DLOs for the entire course. The student should also demonstrate...

1. knowledge of basic genetics, stem cells, and CRISPR/Cas9;
2. ability to describe issues at stake;
3. awareness of theological and ethical commitments.

### REQUIRED READING

CRISPR at Wikipedia: <https://en.wikipedia.org/wiki/CRISPR>

Watch for CRISPR articles at the TTT (Theologians Testing Transhumanism) site:

<http://theologyandtranshumanism.weebly.com/theology--science-articles.html>

ELCA: "Genetics and Faith: Power, Choice, and Responsibility:"

<http://download.elca.org/ELCA%20Resource%20Repository/GeneticsSS.pdf>

### RECOMMENDED READING

Vatican, *Donum Vitae*,

[http://www.vatican.va/roman\\_curia/congregations/cfaith/documents/rc\\_con\\_cfaith\\_doc\\_19870222\\_respect-for-human-life\\_en.html](http://www.vatican.va/roman_curia/congregations/cfaith/documents/rc_con_cfaith_doc_19870222_respect-for-human-life_en.html)

Peters, Ted, *Playing God? Genetic Determinism and Human Freedom*. London and New York: Routledge, 2nd ed., 2003. ISBN 0-415-94248-9; 0-94249-7.

Peters, Ted, "CRISPR, The Precautionary Principle, and Bioethics," *Theology and Science* 13:3 (July 2015)

<http://www.tandfonline.com/doi/abs/10.1080/14746700.2015.1056583>

Peters, Ted, Karen Lebacqz, and Gaymon Bennett, *Sacred Cells? Why Christians Should Support Stem Cell Research*. Lanham MD: Roman and Littlefield, 2008; ISBN 10: 0-7425-6288-3 cloth; 13: 978-0-7425-6288-2 paper.

RCRS: *The Routledge Companion to Religion and*

*Science*, eds., James W. Haag, Gregory R. Peterson, and Michael L. Spezio. London: Routledge, 2012.  
ISBN 978-0-415-49244-7 (hbk) or 978-0-203-80351-6 (ebk).

**This comprehensive volume is valuable for almost all modules.**

RCRS 39 Ronald Cole-Turner, "Biotechnology and Justice"

RCRS 40 Karen Lebacqz, "Justice and biotechnology: Protestant views"

RCRS 41, Ebrahim Moosa, "Muslim ethics and biotechnology"

RCRS 43 Laurie Zoloth, "Justice in the margins of the land: Jewish response to the challenges  
of biotechnology"

## ADDITIONAL RESOURCES

CTNS Website: [ctns.org](http://ctns.org)

Ted Peters' Website: [TedsTimelyTake.com](http://TedsTimelyTake.com)

Biologos: <http://biologos.org/blogs/chris-stump-equipping-educators/series/this-week-in-creation>