

Ethics and Science of Stem Cells **Philosophy 107/ Biology 107**

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Class times: Tuesdays and Thursdays, 11:05 a.m. – 12:20 p.m.
Bausch and Lomb 269

Stem cell research is one of the most important and exciting fields of current biological research. But the use of stem cells created from human embryos raises a number of ethical issues, many of which are unique to stem cells. This course will explore some of those ethical issues and raise awareness of ethical considerations that exist for many forms of scientific research. The course uses a case-studies approach to guide students through frameworks for evaluating scientific and ethical arguments, recognizing the different values that can be used to assess evidence. The course is designed for non-science majors so that they can intelligently assess the debates about this new line of research. By the end of the course, you should be able to

- Obtain accurate and up-to-date information on stem cell research
- Recognize and understand the different perspectives that many people hold about stem cell research
- Develop skills for critically evaluating media and Internet information on stem cell research
- Develop decision making skills needed to integrate scientific information with an understanding of the ethical, legal, and social implications that emerge from stem cell technology

This is an introductory course, but the case study method will require your active participation in the course every day. You should bring a laptop to class to help you in your investigations. Our goal is that you will not only understand the basic scientific and ethical issues related to stems cells, but that you will also have a framework for pursuing your own investigations into biological plausibility and ethical permissibility of any new scientific advances.

Required readings: Assigned articles will be posted on Blackboard

Tentative Course Schedule:

Date	Topic
Thur 8/30	Introduction to class, building our stem cell knowledge framework
Tues 9/4	Stem cell cream case; Argument analysis
Thur 9/6	Stem cell cream case; Analysis of evidence; Evaluating Sources
Tues 9/11	Stem cell cream case; Ethical arguments and analysis
Thur 9/13	Regenxx: Understanding the scientific argument, identifying preliminary questions
Tues 9/18	Regenxx: Refining the argument and the evidence

Thur 9/20	Regenexx: Analysis of evidence
Tues 9/25	Regenexx: Ethical argument, identify stakeholders
Thur 9/27	Regenexx: Ethical analysis
Tues 10/2	Stem Cell Clinic Guidelines; what should they be, what kind of force they should have
Thur 10/4	Stem Cell Clinic Guidelines: Giving a good talk; time to work in groups
Tues 10/9	Fall Break
Thur 10/11	Presentations
Tues 10/16	Exam 1
Thur 10/18	Evaluating embryonic stem cell research: Different perspectives and values
Tues 10/23	Evaluating embryonic stem cell research: Different perspectives and values
Thur 10/25	Evaluating embryonic stem cell research: Different perspectives and values
Tues 10/30	Evaluating embryonic stem cell research: Different perspectives and values
Thur 11/1	Egg donation: Identify arguments, premises, stakeholders
Tues 11/6	Egg donation: Evidence analysis
Thur 11/8	Egg donation: Evidence analysis
Tues 11/13	Stem cells and heart disease
Thur 11/15	Stem cells and heart disease
Tues 11/20	Stem cells and heart disease
Thur 11/22	Thanksgiving Break
Tues 11/27	Exam 2
Thur 11/29	Presentations
Tue 12/4	Presentations
Thur 12/6	Presentations
Thur 12/11	Presentations
Thurs 12/20	Final paper due before 4:00pm

Grades will be based on the following:

Presentations	20%
In class participation and posting of research notes	20%
Writing assignments	15%
In-class exams	20%
Final paper	15%
Final presentation and facilitation of discussion	10%

The topic for your final presentation and 8-10 page paper (double spaced, 12 pt font, 1 inch margins) should be cleared with Dr. Dees and Dr. Chen by 11/20. Your topic should address some aspect of stem cell research that is expected to have an impact on human health, and is relevant to what has been discussed in class. Your presentation and paper should address the following:

- The biological mechanism by which the research is expected to impact human health
- Identify and describe at least 2 ongoing studies with published data
- Address ethical issues associated with the work and arguments for and against the work.
- Identification of alternative forms of treatment for the health issue and how these compare to a potential stem cell treatment

Academic integrity:

You are expected to be familiar with and to follow the University's policies on academic integrity (see <http://www.rochester.edu/College/honesty/>).