Course Description

Advances in biological knowledge bring us closer to a world where we may have the ability to directly manipulate our genetic make-up. With this ability comes new questions concerning the demands of distributive justice. This course examines key developments in biology (especially human genetics), and demonstrates why and how theories of justice may require revision in light of these changes. Issues addressed eugenics, the therapy/enhancement distinction, gene therapy and genome editing, aging, enhancement in sport, future generations, and reproductive freedom. The course is designed to explore the different challenges society faces as a consequence of the genetic revolution and to help equip students with the critical and analytical skills needed to think rationally and cogently about the regulation of new biomedical technologies.

Format: The course consists of a dozen classes spread out over the months of April, May and June. Each class is 3 hours long and the sessions will consistent of a lecture component from the instructor, as well as student presentations and class discussions and debates on the assigned readings.

Assessment: Students will be required to (1) attend and participate in class, (2) give a seminar powerpoint presentation, and (3) an in-class one-hour self-reflection test. These 3 assignments will be weighted as follows: strongest grade is worth 30%, second highest is worth 20% and lowest grade is worth only 10%. Students will also write a research paper (approximately 10 pages long- worth 50%) due at the end of term on any topic or issue covered in the course.

For each class there is a list of required readings. All students are expected to do these readings in advance of each class. All of the readings can be accessed via the University library (or directly from internet), so please make every effort to learn how to search for the articles on the library system. The course textbooks are:
SCHEDULE:

April 26th  Introduction
April 27th  Eugenics, Justice and Genetic Intervention
May 13th  The Therapy/Enhancement Distinction
May 14th  Beyond Humanity? (Part 1)
May 15th  Aging and Life Extension
May 16th  Aging and Life Extension (Part 2)
May 17th  Epigenetics and Beyond Humanity? (Part 2)
June 3rd  Beyond Therapy Report (Part 1)
June 4th  Beyond Therapy Report (Part 2)
June 5th  Reproductive Freedom
June 6th  In-class test; Genetic Privacy and Behavioral Genetics
June 7th  Course Review and Conclusion

Class #1 (April 26th) Introduction
  • Colin Farrelly, Genetic Ethics: An Introduction, Introduction and Chapter 2 The Genetic Revolution: A Snapshot
Class #2 (April 27\textsuperscript{th})  Eugenics, Justice and Genetic Intervention

**Required Readings:**

Class #3 (May 13\textsuperscript{th})  Therapy/Enhancement Distinction

**Class debate:** how helpful is the therapy/enhancement distinction for public policy?

- Colin Farrelly, *Genetic Ethics: An Introduction*, Chapter 3: Disease

Class #4 (May 14\textsuperscript{th})  Beyond Humanity? Part 1

- Chapter 1: The Landscape of the Enhancement Debate
- Chapter 2: Enhancement and Human Development
- Chapter 4: Human Nature and the Natural

Class #5 (May 15\textsuperscript{th})  Aging and Life Extension

Class #6 (May 16\textsuperscript{th}) Aging and Life Extension [Part 2]  
[no student presentations this class]

Class debate: should we aspire to slow the rate of human aging?


Class #7 (May 17\textsuperscript{th})  Epigenetics and \textit{Beyond Humanity}? Part 2

• Chapter 5: Conservatism and Enhancement
• Chapter 6: Unintended Bad Consequences
• Colin Farrelly, \textit{Genetic Ethics: An Introduction}, Chapter 4: Epigenetics

Class #8 (June 3\textsuperscript{rd}) \textit{Beyond Therapy Report} (Part 1)


• Chapter 1: Biotechnology and the Pursuit of Happiness
• Chapter 2: Better Children


Class #9 (June 4\textsuperscript{th}) \textit{Beyond Therapy} (Part 2)

Chapter 3: Superior Performance  
Chapter 5: Happy Souls
• Colin Farrelly, \textit{Genetic Ethics: An Introduction}, Chapter 7: Happiness, Memory and Behaviour
Class #10 (June 5th) Reproductive Freedom

Class debate: should parents be permitted to utilize pre-implantation genetic diagnosis to screen embryos (prior to implantation) for sex for non-medical purposes, like family balancing?

• Colin Farrelly, Genetic Ethics: An Introduction, Chapter 5: Reproductive Freedom

Class #11 (June 6th) In-class test and Genetic Privacy and Behavioral Genetics

• David Wasserman, “Is There Value in Identifying Genetic Predispositions to Violence?” Journal of Law, Medicine, and Ethics (Vol. 32, Spring, 2004).

Class #12 (June 7th): Essay Advice and Conclusion

Essays: You can write an essay on any of the issues covered in the course. Below is the mark sheet I use when assessing your papers.
Mark Sheet for Essays

Student Name/Number:  
Course:  
Essay title:  

Scale: 5 - excellent, 4 - good, 3 - satisfactory, 2 - poor, 1 – very poor

*please note: the numbers above are merely guidelines and are not equivalent to numerical grades. Furthermore, some categories are weighted more heavily than others.

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<tbody>
<tr>
<td><strong>Structure and organization</strong></td>
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<td>Essay well structured</td>
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| **Quality of discussion and analysis** |   |   |   |   |   |
| Shows theoretical awareness |   |   |   |   |   |
| Conceptual clarity |   |   |   |   |   |
| Logical and coherent |   |   |   |   |   |
| Analytical |   |   |   |   |   |
| Critical |   |   |   |   |   |
| Shows independent thought |   |   |   |   |   |

| **Literature review and sources** |   |   |   |   |   |
| Evidence of reading/research |   |   |   |   |   |
| Effective use of evidence/literature |   |   |   |   |   |

Further Readings:

Useful books include:

Nick Bostrom and Julian Savulescu (editors) *Human Enhancement* (Oxford University Press, 2010)


Allen Buchanan, et. al. *From Change to Choice: Genetics and Justice*

John Harris and Justine Burley (eds), *A Companion to Genethics*

Justine Burley (ed), *The Genetic Revolution and Human Rights*

John Harris, *Clones, Genes and Immortality*
John Harris and Soren Holm (eds) *The Future of Human Reproduction*
David Held, *Genethics*
Walter Glannon, *Genes and Future People*
Philip Kitcher, *The Lives to Come*
John Harris, *Enhancing Evolution*
David Magnus, Arthur Caplan, Glenn McGee (eds), *Who Owns Life?*

**Articles:**

(key journals include Bioethics, Journal of Medical Ethics, American Journal of Bioethics, Kennedy Institute of Ethics Journal and Cambridge Quarterly of Healthcare Ethics)


Walter Glannon “Genes, Embryos and Future People” Bioethics, 12(3), 1999, pp. 187-211.

Philip Kitcher “Creating Perfect People” in Companion to Genethics, chapter 17.

Julian Savulescu “Is there a “right not to be born”: Reproductive decision making, options and the right to information” (editorial) Journal of Medical Ethics, 28, 2002, pp. 65-67.


C.L. Ten “The Use of Reproductive Technologies in Selecting the Sexual Orientation, the Race, and the Sex of Children” Bioethics, 12(1), 1999, pp. 45-48

Tuha Raikka “Freedom and a Right (Not) to Know” Bioethics 12(1), pp. 49-63.


Mary Briody Mahowald, “Self-Preservation: An Argument for Therapeutic Cloning, and a


H. Hayry, “How to Assess the Consequences of Genetic Engineering” In *Ethics and Biotechnology*. Edited by A. Dyson and John Harris. Pp. 144-156

J. Harris “Intimations of Immortality” *Science*, 2000, 288, p. 59


Arthur Caplan “Death as an unnatural process” *European Molecular Biology Organization, EMBO Reports*, vol. 6, special issues, 2005, S72-S75.


Michael Sandel, “The Case Against Perfection” (available online at http://www.catholiceducation.org/articles/medical_ethics/me0056.html )


Whole issue of Bioethics, vol. 16(6) 2002 on Stem Cell Research

Whole issue of Bioethics August 2004 on Pharmacogenomics

Useful Internet Sources:

HFSA report on Sex Selection


Universal Declaration on the Human Genome and Human Rights
http://www.nus.edu.sg/irb/Articles/IBC-Universal%20Declaration%20on%20the%20Human%20Genome.pdf

President’s Council on Bioethics:


Nuffield Council on Bioethics:


http://www.nuffieldbioethics.org/patenting-dna [report on DNA patenting]

http://www.nuffieldbioethics.org/stem-cells [discussion paper on stem cell therapy]

Wellcome Trust: The Human Genome- http://genome.wellcome.ac.uk/

National Human Genome Research Institute: Genetic Discrimination or Employment- http://www.genome.gov/11510227

**[very helpful] A Multimedia Guide to Genetic Disorders is available on the web at: http://www.yourgenesyourhealth.org/

Myriad Genetic Laboratories: http://www.myriad.com/
“Should we accept performance-enhancing drugs in competitive sports?”
Moderator: Bob Costas

Academic integrity comprises the five core fundamental values of honesty, trust, fairness, respect and responsibility (see www.academicintegrity.org). These values are central to the building, nurturing and sustaining of an academic community in which all members of the community will thrive. Adherence to the values expressed through academic integrity forms a foundation for the “freedom of inquiry and exchange of ideas” essential to the intellectual life of the University (see the Senate Report on Principles and Priorities). Students are responsible for familiarizing themselves with the regulations concerning academic integrity and for ensuring that their assignments conform to the principles of academic integrity. Information on academic integrity is available in the Arts and Science Calendar: see Academic Regulation 1 (http://www.queensu.ca/artsci/academic-calendars/regulations/academic-regulations/regulation-1) and from the instructor of this course. Departures from academic integrity include plagiarism, use of unauthorized materials, facilitation, forgery and falsification, and are antithetical to the development of an academic community at Queen’s. Given the seriousness of these matters, actions which contravene the regulation on academic integrity carry sanctions that can range from a warning or the loss of grades on an assignment to the failure of a course to a requirement to withdraw from the university.

_Students are advised that incomplete standing will be granted only with the permission of the chair of undergraduate or graduate studies (as appropriate) and only where there is a clear demonstration of need. Applications for “Incomplete” standing must be made in the first instance to the instructor on the form available in the General Office. The simple fact of non-submission of work does not constitute an application and will result in a grade of zero for that assignment._

Students who feel that there are reasons to have their grades reviewed should follow the steps set out in the Faculty of Arts and Science’s Regulation 11, “Review of Grades and Examinations” (http://www.queensu.ca/artsci/academic-calendars/regulations/academic-regulations/regulation-11).

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GRADING SCHEME:

All components of this course will receive letter grades which, for purposes of calculating your course average, will be translated into numerical equivalents using the Faculty of Arts and Science approved scale:

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<th>Numerical value for calculation of final mark</th>
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Your course average will then be converted to a final letter grade according to Queen’s Official Grade Conversion Scale:

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