

Chem 7770 The Gene: an Intimate History by Siddhartha Mukherjee

Fall 2017

Section, 001, Time T 12:00-2:00

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Text: **The Gene: an Intimate History** by Siddhartha Mukherjee

Grading:	Class participation during 8 discussions	160pts
	Scientific article presentation	100pts
	Ethics discussion	<u>50 pts</u>
		310pts

Exams: Make-up exams are possible only for excused absences as specified in the USU General Catalog.

OBJECTIVES: Using the new IDEA evaluation system, I have identified three main course objectives:

1. *Gaining factual knowledge (terminology, classifications, methods, trends)*
2. *Learning fundamental principles, generalizations, or theories*
3. *Developing specific skills, competencies, and points of view needed by professionals in the field most closely related to this course*

Specific Course Goals:

1. Know the major discoveries related to heredity and genes, the scientists responsible and the context in which the discoveries were made.
2. Be able to retrieve very old journal articles.
3. Be able to discuss the implications of technologies/inventions that allow the human genome to be altered

Assignments

A. For each assigned reading, create a diagram/flow chart that portrays:

- 1) the time period
- 2) the current state of thought/knowledge regarding heredity and genes/what was the major question/goal
- 3) who were the investigators that were working on the problem
- 4) who/what influenced the investigator
- 5) what allowed the investigator to succeed? Were there obstacles/ethical/social issues?
- 6) implications of the new knowledge/method?
- 7) identify two things you found out in this chapter that surprised you

B. When we come to class we will discuss how each of you interpreted the book parts and the answers to these questions. A pair of students will be assigned as leaders for discussions.

C. We will pick several of the major scientific articles discussed in the book, retrieve them from the archives and discuss the science in class. Two students will be tasked with retrieving the article, making it available to everyone in the class, and leading the discussion (8 people enrolled, pick 4 papers)

D. Ethics and social norms play a big part in the storytelling of this book. Ethics and social norms are also at play in many of our scientific advancements. At the end of the semester we will have one class period where we discuss/debate the ethical concerns of altering the human genome.

In accordance with the Americans with Disabilities Act, reasonable accommodations will be provided for all persons with disabilities in order to ensure equal participation in Chem 7770. In cooperation with the Disability Resource Center, reasonable accommodation will be provided for students with disabilities. Please meet with the instructor during the first week of class to make arrangements. Alternative format print materials, large print, audio, diskette or Braille, will be available through the Disability Resource Center.