

# Frankenscience: Ethics in Biology

## P727

Spring 2022

### Learning Objectives:

1. To understand why ethics is important and necessary in the area of biological sciences, and to be able to apply the information from this seminar to other disciplines.
2. To learn and acknowledge the history of scientific discoveries, and to unravel the ways in which ethical and moral boundaries have been crossed, along with the responses to these.
3. To be able to ask critical questions about the ethics of historical and modern scientific experiments.

### Course Topics & Lesson Plan:

#### Topic 1: Frankenstein

- How did Mary Shelley's *Frankenstein* highlight the ways in which science requires moral and ethical boundaries?
- What/Who is Frankenstein's Monster? Was an ethical line crossed by this experiment?

#### Topic 2: The Holocaust, Dr. Mengele, and the Nuremberg Code (1939-1947)

- Scientific experimentation during the Holocaust.
- Peter Somogyi, a victim of twin experimentation at Auschwitz, and the interview I had done with him.
- The Nuremberg Code and its moral/ethical implications on science: does this code limit knowledge? Class discussion.

#### Topic 3: HeLa Cells (1951) and the Stanford Prison Experiment (1971)

- Unethical science continues to persist even after the Nuremberg Code: who enforces the code? Who decides what breaks its terms?
- Discussion of the historical unethical extraction of cells from Henrietta Lacks.
- What is the Stanford Prison Experiment? How did it pass regulations?

#### Topic 4: CRISPR

- Should humans be able to play god and stop natural selection from killing off species?
- Treatment for HIV in modifying genomes of a young child— does this cross an ethical boundary? At what point does discovery/treatment triumph morality?

#### Topic 5: Scientific Ethics in the Modern World

- Neuralink and its use in animal species– is an ethical line being crossed? Should humans have these?
- The ethical dilemma of self-driving cars: computer programming, and who decides the choices of a car? Who is responsible if a car accidentally hits someone?
  - People vs. Pets (link: <https://www.psychologytoday.com/us/blog/animals-and-us/201903/should-self-driving-cars-spare-people-over-pets>)