

**UN556/ ED 288.01 – Spring 2010
Science for Social Justice**

Instructor: Audrey A. Friedman

Office Location: Campion 118

Office Hours: Monday 12-2:00 or by appt.

I usually respond to email within 24 hours.

Phone: 617-552-1901

e-mail: friedmaa@bc.edu

Teacher Education Themes

The Teacher Education Program at Boston College incorporates six unifying themes. Although no individual course addresses all five themes in depth and each course has goals and objectives beyond these, each course strives to address these themes and link them to classroom practice:

Promoting Social Justice: At Boston College teaching is as an activity with political dimensions, and all educators are responsible for challenging inequities in the social order and working with others to establish a more just society.

Constructing Knowledge: At Boston College teachers and students are active agents in their own learning who draw on prior knowledge and experience in order to construct new knowledge as they interact with texts, materials, and other learners.

Inquiring into Practice: At Boston College curriculum bridges the gap between research, and practice by fostering critical reflection and by treating classrooms and schools as sites for teacher research and other forms of practitioner inquiry.

Affirming Diversity: At Boston College a central challenge of teaching is meeting the needs of all learners, especially as the school population becomes more diverse in race, culture, ethnicity, language background, and ability/disability.

Collaborating with Others: At Boston College teachers develop effective practice by collaborating with all stakeholders in the educational process: teachers, administrators, human services professionals, parents, community members, fellow students, and professors.

Making Decisions Based on Evidence: At Boston College, teachers develop, implement, differentiate and revise curriculum and instruction based on multiple, diverse formative and summative assessments that capture what all students know and can do.

Academic Integrity

The pursuit of knowledge can proceed only when scholars take responsibility and receive credit for their work. Recognition of individual contributions to knowledge and of the intellectual property of others builds trust within the University and encourages the sharing of ideas that is essential to scholarship. Similarly, the educational process requires that individuals present their own ideas and insights for evaluation, critique, and eventual reformulation. Presentation of others' work as one's own is not only intellectual dishonesty, but also undermines the educational process.

Plagiarism, that is, failure to properly acknowledge sources, written or electronic, used for verbatim quotations or ideas, is a violation of academic integrity. Each student is responsible for learning and using proper methods of paraphrasing and footnoting, quotation, and other forms of citation, to ensure that the original author, speaker, illustrator, or source of the material used is clearly acknowledged. See

<http://www.bc.edu/offices/stserv/academic/resources/policy/#integrity> for additional details about Academic Integrity.

Meeting Your Needs

NB: This course provides a safe and supportive academic and emotional environment that respects diversity in all forms. If you have a special learning, medical, or emotional need, or wish to discuss other significant issues please feel free to meet with me so I may accommodate you in the most effective way.

If you have a disability and will be requesting accommodations for this course, please register with Kathy Duggan (Kathleen.duggan@bc.edu) Associate Director, Academic Support Services, the Connors Family Learning Center (learning disabilities and ADHD) or Suzy Conway (suzy.conway@bc.edu), Assistant Dean for Students with Disabilities (all other disabilities). Advance notice and appropriate documentation are required for accommodations.

The Connors Family Learning Center provides academic support services and accommodations to undergraduate and graduate students with **learning disabilities and attention deficit hyperactivity disorder**. For more information, please visit the website at www.bc.edu/libraries/centers/connors If you have a learning disability and will be requesting accommodations please register with **Kathy Duggan** [kathleen.duggan@bc.edu], Associate Director, Academic Support Services, The Connors Family Learning Center (**learning disabilities and ADHD**).

To be considered eligible for services **for all other disabilities** through the Disability Services Office, students must make an appointment to meet with the Assistant Dean for Students with Disabilities in addition to providing documentation of a disability. The documentation serves as the foundation for legitimizing the request for a reasonable accommodation. For more information, please visit the website at <http://www.bc.edu/offices/odsd/services/disabilityservices/> or contact **Suzy Conway** [suzy.conway.1@bc.edu], Assistant Dean for Students with Disabilities.

Course Goals, Objectives, and Themes

- An essential focus of this course is vocational discernment, with the goal of having you reflect deeply on your talents, passions, and commitment to social justice and how to develop these talents and gifts to improve the life chances of others.
- Within the context of vocational discernment, you will review the pathway(s) you have navigated/negotiated to arrive at this specific point in your academic lives, identifying the various ways you have come to develop, justify, and warrant knowledge claims in decision-making about academics, moral-cognitive dilemmas, relationships, and spirituality.
- You will also explore "next steps" as you decide about commitment to self, others, career, society "writ large," and spirituality, with a focus on developing levels of reflective judgment embedded and resulting in action, using Ignatian pedagogy and the Reflective Judgment Model of adult cognitive development as frameworks.
- You will also engage in "field experiences," which will serve as contexts for understanding inequities inherent in vocations related to their disciplines.
- You will explore and discuss in-depth the moral, cognitive, and ethical issues and controversies inherent in your discipline that have immediate, local, far-reaching and global implications for acting for social justice.

Readings: Required

Lowry, L. (2002). *The giver*. New York: Random House.

Seethaler, S. (2009). *Lies, damned lies, and science: How to sort through the noise around global warming, the latest health claims, and other scientific controversies*. Upper Saddle River, NJ: Pearson Education, Inc.

Other required readings will be provided.

ED 288/ UN556–Science for Social Justice
Course Schedule

Date	Topics and Themes	Assignments
1/20/10	<ul style="list-style-type: none"> • Introductions • Review syllabus <p>“Entering the Century of the Environment: A New Social Contract for Science” by Jane Lubchenko</p> <p>http://www.sciencemag.org/cgi/content/full/279/5350/491</p> <p>Post-it strategy: Levels of Questions Text-to-self; to-text; to-world; to-author; to-structure</p> <p>Public Health and Social Justice http://phsj.org/?page_id=27</p> <p>Science, Mathematics, and Teaching for Social Justice</p>	<p>DUE 1/27/10 Read Chapter 1 in Seethaler.</p> <p>Journal 1: In a careful reflection:</p> <ol style="list-style-type: none"> 1. Identify the most difficult dilemma you have encountered thus far in your life. 2. Explain the various “horns” of the dilemma (sides). 3. Summarize all the possible solutions you explored. 4. Identify the solution you selected. 5. Provide a rationale for your choice. <p>Complete Steppingstones 1: Dialogue with a Person</p> <p>Read “Seeking Social Justice: A Teacher Education Faculty’s Self-study.</p> <p>Read Campbell: “Can Science Serve Social Justice? The Consequences of Cutting Relevant Social Groups Out of Science and Technology Policy”</p> <p>Download and print out or bring computer to class. General Rules of Debate http://www.saskdebate.com/pdf/2006revisedGeneral%20Rules%20of%20Debate.pdf</p>
1/27/10	<p>DO NOW: How would you define social justice? Elaborate. What do you believe is the most positive relationship that can/could exist between science and social justice?</p> <p>Case Study/Scenario/ Buck vs. Bell Case 1927</p> <p>“Sterilize the Poor, Pay for Babies from College Grads: Eugenics Again?”</p> <p>Chapter 1: Activity</p> <p>Observing Patterns.</p> <p>GATTACA film clip</p>	<p>DUE 2/3/10 Read Seethaler: Chapter 2</p> <p>Read “Eugenics for the Long Run”</p> <p>http://www.ethicsoup.com/2008/10/louisiana-could-sterilize-the-poor-pay-for-babies-from-college-grads-eugenics-again.html</p> <p>Read: Firing up the nature/nurture controversy: bioethics and genetic determinism.</p> <p>Read: What counts as success in genetic counseling?</p> <p>Read: “Up against eugenics: Disabled women's challenge to receive reproductive health services.”</p>
2/03/10	<p>DO NOW: What is your view on eugenics?</p> <ul style="list-style-type: none"> • Risk-Benefit Analysis Activity Eugenics • Silent Conversation <i>The Bluest Eye</i> • In-class “Dry Run Debate” on Eugenics <ul style="list-style-type: none"> • Chapter 2: Activity 	<p>DUE 2/10/10 Read Chapter 3 in Seethaler.</p> <p>Complete Steppingstones 2: Dialogue with Works</p> <p>Create Poster: “5 Top Persons in your Field” See description at end of syllabus.</p>

2/10/10	<p>DO NOW: Consider the dilemma: Some researchers believe that embryonic stem cell research has the potential to alter approaches to understanding and treating diseases dramatically and to alleviate suffering. Others believe that embryonic stem cell research has the potential to lead to eugenics and the creation of a designer race. Identify all of the stakeholders in this debate.</p> <p>Poster Presentations Mapping Activity Chapter 3: Activity</p>	<p>DUE 2/17/10 Read Chapter 3 in Seethaler</p> <ul style="list-style-type: none"> • Gather at least 10 credible sources, pro, con, and “middle of the road” about stem cell research as it relates to eugenics. Be knowledgeable about the all the major arguments for each side and be ready to argue any side of the issue in an on-demand debate.
2/17/10	<p>DO NOW:</p> <p>Patterns of Success: Nature/Nurture Is there a balance of nature? In class, on-demand Debate about Eugenics.</p>	<p>2/24/10 Complete Steppingstones 3: Dialogue with Body Read <i>The Giver</i> Read Chapter 3 and 4 in Seethaler Read “Medical Nemesis” Ivan Illych</p> <p>Ten Arguments For Abortion and Against Abortion: Abortion Pros and Cons, and Main Points of the Debate http://womensissues.about.com/od/reproductiverights/a/AbortionArgumen.htm</p> <p>NY Times Abortion and Health Care http://www.nytimes.com/2009/11/24/health/policy/24abortion.html? r=1</p> <p>Pro Choice Arguments https://mail.bc.edu/Redirect/prochoice.com/</p> <p>http://lifestrategies.thingseternal.com/topics/abortion/prochoice-arguments.html</p> <p>http://www.youtube.com/watch?v=U9I9OYDDi1w&NR=1&feature=fvwp</p> <p>Read: Assisted suicide and euthanasia: a natural law ethics approach by Craig Paterson http://books.google.com/books?id=wyMe1y7jc_wC&pg=PA98&lpg=PA98&dq=euthanasia+Martin+Donohoe&source=bl&ots=vIDF3dqRel&sig=-wnDwThxENNfKGZfO2_alRZL6n4&hl=en&ei=SZRQS6-KEY6n8AaDsdmZCw&sa=X&oi=book_result&ct=result&resnum=7&ved=0CBoQ6AEwBg#v=onepage&q=&f=false</p> <p>Read “Perspectives of Physician-Authors on Death.” By M. Donohoe</p>

2/24/10	<p><u>Visualizations:</u></p> <p>“Medicine” by Alice Walker http://victorian.fortunecity.com/cloisters/90/alice/medicine.html</p> <p>“Euthanasia” by Lord Byron http://www.readytogoebbooks.com/LB-Eu52.htm</p> <p>Philosophical Discussion: Knowledge, Elsewhere, and Release</p> <p>What is knowledge? Who has the knowledge? Who should have the knowledge? Should there be a keeper of the knowledge?</p>	<p>DUE 3/10/10 Complete Steppingstones 5 Dialogue with Events</p> <p>Read “Deaths: Leading Causes for 2005” http://www.cdc.gov/nchs/data/nvsr/nvsr58/nvsr58_08.pdf and “Tracking Healthy People, 2010: General Data Issues.” http://www.cdc.gov/nchs/data/hpdata2010/tracking_healthy_people/part_a_consolidated.pdf</p> <p>Social Justice and Health: In a 6-10 page paper:</p> <ul style="list-style-type: none"> -Define “good health” -What variables or factors contribute to or directly impact “good health”? -Identify critical major inferences (supported by data) that demonstrate the relationship between issues of social justice and health. Your analysis should integrate answers to questions such as: <ol style="list-style-type: none"> 1. What is the relationship between race and health? 2. What is the relationship between socioeconomic status and health? 3. What is the relationship between education and health? 4. What is the relationship between access to health care and health? 5. What is the relationship between genetics and health? 6. What is the relationship between age and health? 7. What is the relationship between environment and health? 8. What is the relationship between exercise and health? 9. What is the relationship between gender and health? 10. What is the relationship between where one lives and health? 11. What is the relationship between privilege and health? 12. What is the interrelationship among all of these variables? What patterns have you observed?
3/10/10	<p>Health and Social Justice: Sharing Research and Perspectives: Identifying the most critical variables.</p> <p>“The Mother” Nikki Giovanni (visualization)</p> <p>Identifying the Fuzzy Numbers Abortion Statistics http://www.abortiontv.com/Misc/AbortionStatistics.htm</p> <p>http://en.wikipedia.org/wiki/Abortion_in_the_United_States Class Activity Ch. 5</p>	<p>DUE 3/17/10 Read Chapter 6 in Seethaler Read <i>The Amherst Project: Hiroshima</i> Read <i>Sadako and the Thousand Paper Cranes</i></p>
3/17/10	<p>View film: <u>History of Human Experimentation</u></p> <p>Debate: Using the Atomic Bomb</p> <p><i>My Hiroshima</i>: Visualization</p>	<p>DUE 3/24/10 Complete Steppingstones 6: Dialogue with Inner Wisdom and Spirituality</p> <p>Read Chapter 7 in Seethaler</p>

3/24/10	<p>DO NOW:</p> <p>Intra-Act: Nonlethal Weapons</p> <p>Chapter 7 Activity</p> <p>A History of US Human Experimentation (Part 1) http://www.rense.com/general36/history.htm</p> <p>http://video.google.com/videosearch?hl=en&client=firefox-a&channel=s&rls=org.mozilla:en-US:official&q=cancer+causing+additives&revid=2074605018&resnum=0&um=1&ie=UTF-8&ei=At1LS-yBKYuRIaE4l82KDQ&sa=X&oi=video_result_group&ct=title&resnum=4&ved=0CBkQqwQwAw#</p>	<p>DUE 4/08/10</p> <p>Chapter 8 in Seethaler</p> <p>Complete Steppingstones 7: Dialogue with Dreams Past and Present</p> <p>Biological, Chemical, Nuclear Warfare http://images.google.com/images?hl=en&client=firefox-a&channel=s&rls=org.mozilla:en-US:official&q=human+experimentation&um=1&ie=UTF-8&ei=UdtLS9v_F9DGIaEvoK2TDQ&sa=X&oi=image_result_group&ct=title&resnum=4&ved=0CB4QsAQwAw</p> <p>http://www.tuskegee.edu/global/story.asp?s=1207586 http://www.tuskegee.edu/global/story.asp?s=1207598</p> <p>Human experiments CIA http://www.guardian.co.uk/world/2009/sep/02/cia-usa</p>
4/08/10	<p>Activity Chapter 8</p> <p>Risk-Benefit Analysis: Human Experimentation Human Experimentation (Part 2)</p>	<p>DUE 4/15/10</p> <p>Read Chapter 9 in Seethaler</p> <p>Complete Steppingstones 8: Dialogue with Roads Not Taken</p>
4/15/10	<p>Activity: Chapter 9</p> <p>Video on Global Warming Applying Seethaler’s 20 Questions to GW. Facts, Fiction, Fuzzy Numbers, and Questions</p>	<p>DUE: 4/22/10</p> <p>Read Chapter 10 in Seethaler</p> <p>Read at least 10 sources, pro, con, and indifferent to the presence of Global Warming. Be prepared to argue either side in an in-class debate.</p>
4/22/10	<p>In Class Debate: Global Warming</p> <p>Activity Chapter 10</p>	<p>DUE 4/29/10</p> <p>Read Description of “Table Presentation: Science Resources, Schools, and Social Justice.” Bookmark and/or create a list websites and information that you will use to create the table during the next class.</p>
4/29/10	<p>Group Composite: Table: Science Resources, Schools, and Social Justice.</p> <p>DO NOW: Given the data you have shared about science resources, schools, and social justice, what patterns did you observe among the data? How do these patterns relate to other patterns observed in the reading, writing, and films we have viewed this semester?</p> <p>Complete Flow Chart to show patterns</p>	<p>DUE 5/5/10</p> <p>Vocational Discernment: Review all “Dialogues”: Gleaning critical reflections from all Steppingstones Dialogues, develop a final paper that documents the critical events and experiences that have influenced your personal vocational discernment. Identify major patterns among these events. Finally, present the “next steps” you intend to take as you leave this course and Boston College.</p>
5/5/10	<p>Celebration: GATTACA as promised</p>	

REQUIREMENTS for the BEST POSSIBLE EVALUATION, a.k.a. the “A”	
	All assignments must be completed to “Exceeds Standards” if you wish to receive an A for this course. We will negotiate the criteria for this rating at our first class. This includes journal entries. “Meets Standards” does not constitute an “A” for this course.
	All assignments must be typed and submitted in electronic copy when DUE.
	Each assignment lesson must be accompanied by a self-evaluation in which you evaluate your work against the criteria negotiated in class. A format will be provided in class.
	Attendance is mandatory.
	Learning is a process. We are “all works in progress”—a draft that improves as we learn and change. I will help you in any way I can. Please visit.

One REVISION per assignment is permitted. You must submit your revised work on the Wednesday immediately following the day the assignment is returned to you.

Weighting of assessments: 100 points total

1)	Debates	20
2)	Health and Social Justice Paper	15
3)	Final Paper: Vocational Discernment	15
4)	8 Steppingstones Dialogues	15
5)	Poster and other Assessments	25
6)	Class Participation	10

Steppingstones Outlines

There are several journals/dialogues that you will complete during this course. Each dialogue marks particular steppingstone or critical event that relates to a particular focus of vocational discernment. The following is a list of the specific dialogues and the events that should be included in these outlines. Chronologically, you may go as far back as you wish.

Steppingstones 1: Dialogue with Person

What were/are the significant events or relationships with persons who have impacted your vocational discernment? Not only focus on the dramatic relationships and abrupt changes in your life but also examine the everyday relationships that have marked your journey.

Steppingstones 2: Dialogue with Works

What were/are the external activities that became a focus for you or held inner meaning for you during this period of vocational discernment? These may be projects or works that were completed, begun but not completed or planned but never actually started.

Steppingstones Outline 3: Dialogue with the Body

What were/were are the occurrences or situations that were especially related to the physical aspects of your life? These may include illness, health programs, athletics, sexuality, drugs, indulgences or addictions of any kind.

Steppingstones 4: Dialogue with Society

During this period did you deepen or diminish your relation to groups or institutions that have a fundamental connection to your existence? Were/are you reconsidering allegiances to political party, country or religion? Were/are you redefining your identification with race, family or social group? Were there events that posed serious questions to personal commitment? During this time did you become deeply involved in literary, scientific or art works that forced a profound consideration of human existence?

Steppingstones 5: Dialogue with Events

During this period what unexpected or unexplained events occurred in your life? Describe the situations when you felt that life was testing you with pain, physical accidents, pleasure, or unusual good fortune. What were the difficult or challenging, inner or outer pressures that forced you to grapple with problems of human existence?

Steppingstones 6: Dialogue with Inner Wisdom and Spirituality

What experiences do you recall in which you recognized a profound truth of human existence that was new to you at the time? You may not have reached an ultimate answer, but question persists in your thoughts. What persons played a critical role in deepening or challenging your thoughts and feelings? Were there persons

with whom you had direct contact or works that challenged your beliefs, values, and understanding? Or were there persons whose reality is beyond history in the symbolism of religion or philosophy?

Steppingstones 7: Dialogue with Dreams Past and Present

Do you remember dreams that impacted you in a strong way, dreams that you could not forget? In retrospect did these dreams have any prophetic value? Did they make you change behavior in any way?

Steppingstones 8: Dialogue with Roads Not Taken

During this period, did you come to crossroads of decision that impacted the course of future events in a fundamental way? Were these decisions that you made or actions that you failed to take? Were there decisions that were forced upon you rather than within your discretion? In either case, the fact that you took one road meant that another was not pursued. Has this untaken road remained a possibility of life that has not been lived?

Poster: 5 Top Persons in Your Field

1. **Select whom you would consider the 10 top persons in your field or content area. You may choose from the deceased and living.**
2. **Answer the following questions about each person:**
 - a. **Describe the person's most outstanding accomplishment; include date, social/historical context; how accomplishment has impacted the world.**
 - b. **Date of birth, gender, race, language, etc.**
 - c. **Describe family (parents' occupations, socioeconomic status, etc)**
 - d. **Describe education of person: schools attended, degrees, research, etc.**

Social Justice and Health: In a 6-10 page paper:

-Define "good health"

-What variables or factors contribute to or directly impact "good health"?

-Identify critical major inferences (supported by data) that demonstrate the relationship between issues of social justice and health. Your analysis should integrate answers to questions such as:

1. What is the relationship between race and health?
2. What is the relationship between socioeconomic status and health?
3. What is the relationship between education and health?
4. What is the relationship between access to health care and health?
5. What is the relationship between genetics and health?
6. What is the relationship between age and health?
7. What is the relationship between environment and health?
8. What is the relationship between exercise and health?
9. What is the relationship between gender and health?
10. What is the relationship between where one lives and health?
11. What is the relationship between privilege and health?
12. What is the interrelationship among all of these variables? What patterns have you observed?

Table: Science Resources, Schools, and Social Justice

Use the Internet, consult public, private, and parochial urban, suburban, and rural school websites, and incorporate other resources you think are valuable to prepare the following table. You will work in pairs to gather these data and then as a class we will collaboratively generate Table of Science Resources, Schools, and Social Justice to share with colleagues.

1. **I will assign each pair a district.**
2. **Identify the demographics of race, gender, socioeconomic status, language diversity, graduation rate, college acceptance rate, percentage of students on free and reduced lunch, scores on SAT and/or ACT, and state tests of the schools, average GPA of college bound students, number of**

teachers licensed in the science content area, the average amount per capita, the school spends on each student, number of National Merit Scholars, and any other information you think might be important.

- 3. Identify the name and number of science courses each school offers.**
- 4. Identify the name and number of AP science courses each school offers.**
- 5. Identify the type and quality of the science resources each school has.**
- 6. Based on the data you have gathered, which school in your region of the country is the best school for preparing students for careers in science? Why?**
- 7. Which school is most like the school you attended?**