Philosophy and Education

Department of Educational Foundations and Leadership

TSOC 5300:901/TSOC 7300:901

Spring 2015

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COURSE DESCRIPTION AND OVERVIEW

The purpose of this course is to explore the philosophical foundations of education with a special focus on science education. Whether they are aware of it or not, all teachers function on the basis of a set of philosophical assumptions and/or beliefs regarding what they teach, how they teach, and to what ends they teach. These assumptions shape their professional practice, and pertain to such basic questions as the nature of knowledge, inquiry, human nature, the good and right, justice, democracy, purpose, etc. Our purpose here is to explore our own assumptions by entering into conversation with others that have also engaged in a deep exploration of the theory and practice of education.

The course is divided into two parts. Part I takes a macro perspective, examining the social purpose of science education in our democracy. Part II takes a micro perspective, examining the logical structure of scientific inquiry and reasoning as the foundation of the educational process in science education and/or in education in a democracy in general.

In Part I we will explore Philosophical Orientations to the Social Purpose of Science Education. The central question explored in Part I is: What should be the driving social purpose for implementing science education for all: development of human capital for economic growth, the actualization of the full potential of each person, and/or the development of the moral and political capability of democratic citizens? We will begin this inquiry by establishing the idea of public reason as the analytic framework from within which this question will be explored. From within the perspective of this
framework the social purpose of science education, as well as education in general, should be justified by appeal to public reason constituted as the core values and principles of a democratic society. In turn, we will explore human capital theory, humanism, and progressivism as core philosophies of education (see Course Schedule below).

In Part II we will explore the logical structure of scientific inquiry as potentially forming the framework within which the educational process, including science education, humanistic education, and democratic education, can be organized. The central question explored in Part II is: In what ways should the logical structure of scientific inquiry shape the teaching of science? Or alternatively, in what ways should the logical structure of scientific inquiry shape the educational processes of humanistic and/or democratic education, including preparation for participation in democratic public reason? In exploring these questions will we appeal to three prominent theories of scientific inquiry within the philosophy of science literature (see Course Schedule below).

STUDENT LEARNING OUTCOMES

Students will be able to:

1. Comprehend the disciplinary content of educational philosophy through the articulation of the main ideas of the philosophies studied in the course.

2. Demonstrate knowledge of principles and theories of the philosophy of education through the articulation and critical analysis of the main ideas and arguments of the philosophies studied in the course.

3. Demonstrate the knowledge and skill necessary for theory application by doing the following:
   a. Select a specific philosophical problem, question, and/or issue and propose an analysis of it in writing, from a relevant theoretical perspective
   b. Conduct the analysis
   c. Articulate conclusions drawn from the analysis
   d. Defend the conclusions drawn from the analysis by relating the conclusions to the theoretical perspective used to conduct the analysis

See Assessment Rubrics below.

TEACHING STRATEGIES

The class is structured by and employs a pedagogy of reflective inquiry. This pedagogy calls upon students to engage in critical reflection and inquiry to formulate and deepen their own understanding and points of view based upon a deep comprehension of the subject matter. To elaborate, the pedagogy includes four dimensions: (1) the acquisition and deepening of background knowledge; (2) the understanding of a broad professional and philosophical vocabulary, including key concepts; (3) deep comprehension; and (4) application, including critical analysis. The following required activities instantiate these pedagogical dimensions:
1. **Readings, Lectures, and Notes:** background knowledge and comprehension will be acquired and deepened through reading the course readings, which constitute a philosophical conversation with leading philosophers, past and present; watching video lectures; and lecture notes. Careful, thoughtful reading of the course materials and attention to lectures and notes is essential to the development of background knowledge and comprehension. In particular, the video lectures that cover each of the topics are essential viewing.

2. **Discussions and Dialogue:** all four of the pedagogical dimensions will be developed through discussion and reflective dialogue. Discussion will occur through the formulation and articulation of questions.

   You are strongly encouraged to post questions on the discussion board. These questions can be clarification or analytic questions. Attempt to ask questions that probe, analyze, interrogate, and/or infer. The discussion board is in part for asking questions, which I presume you will have along the way. In addition, I will be posting at least one question on the topic covered in a particular week—See Course Schedule below. You are required to respond to those questions directly or indirectly (by responding to a classmate’s response). I strongly encourage you to post questions and to follow the discussions, as well as to join in the conversation, as an important learning experience. The main purpose of the discussion board is to engage in discussion that facilitates learning. Both the regularity and intellectual quality of your participation will be evaluated. Good questions and responses probe, analyze, interrogate, infer, offer insight, stimulate, and synthesize.

3. **Essays:** You are required to write two systematic essays in response to the following questions:
   
a. Essay #1: *From within the framework of democratic public reason, what should be the driving social purpose for implementing science education for all: development of human capital for economic growth, the actualization of the full potential of each person, and/or the development of the moral and political capability of democratic citizens?*
   
b. Essay #2: *In what ways should the logical structure of scientific inquiry shape the teaching of science?*  
   
   Or:

   *In what ways should the logical structure of scientific inquiry shape the educational processes of humanistic and/or democratic education, including preparation for participation in democratic public reason?*

**PREREQUISITES AND COREQUISITES**

None
REQUIRED TEXTS
(posted on the web page—see reading schedule below under Course Schedule)


**Recommended**


Freire, P. *Pedagogy of the Oppressed* (New York: Continuum, 2003), Chapters 1 & 2.


**TECHNOLOGY REQUIREMENTS**


**UNIVERSITY POLICIES**

*Policy Statement on Non-Discrimination on the basis of Disability (ADA)*

*The University is an equal opportunity educational institution. Please read The University’s Policy Statement on Nondiscrimination on the Basis of Disability Americans with Disability Act Compliance.*

**ACADEMIC ACCOMMODATIONS**

The University of Toledo is committed to providing equal access to education for all students. If you have a documented disability or you believe you have a disability and would like information regarding academic accommodations/adjustments in this course please contact the **Student Disability Services Office**.

**GRADING**

Your **grade** in the course will be based upon your performance in required activities as follows: **Essays (33% each); Discussion Board Participation (33%).**
Final Essay:

Masters Level Requirements: Each essay should be approximately 10-15 pages, double-spaced, Times New Roman, 12 point font. Masters students are required to demonstrate both comprehension and ability to apply the course material by providing performative understanding of the course material and coherent philosophical analysis and argumentation in support of their paper thesis. Reference to the course materials is required. The essays should be at a level of sophistication, in terms of style, analysis, argumentation, and background knowledge, of a Masters level academic and/or professional.

Masters Essay Evaluation Rubric

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<th>B to C range</th>
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<tr>
<td>Strong Thesis Statement, developed</td>
<td>Develops a valid thesis; answers question in a thoughtful way;</td>
<td>Lacks developed thesis and/or fails to answer the stated question.</td>
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<td>through paper and answering question</td>
<td>argument developed throughout the paper and culminating in</td>
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<td>reasonable conclusions.</td>
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<td>Disciplinary content knowledge</td>
<td>Uses relevant citations from the course material, presented in</td>
<td>Includes inadequate citations and/or lacks meaningful discussion of them.</td>
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<td>demonstrated</td>
<td>such a way as to demonstrate comprehension of them.</td>
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<td>Contextualized in discipline</td>
<td>Places clearly within the appropriate contexts, including</td>
<td>Does not adequately contextualize</td>
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<td>theoretical, political economic, historical, and educational.</td>
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<td>Theoretical development</td>
<td>Creates a clear, supported and developed theoretical framework</td>
<td>Lacks appropriate theoretical framework, and/or theory underdeveloped, and/or</td>
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<td>that is valid in framing the answer, and includes theoretical</td>
<td>lacks theoretical analysis and interpretation</td>
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<td>analysis and interpretation</td>
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<td>Writing</td>
<td>Demonstrates appropriate, systematic, intentional sentence</td>
<td>Demonstrates unacceptable professional writing skills in terms of grammar,</td>
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<td>structure, paragraph structure (with transitions), overall</td>
<td>spelling, sentence structure, punctuation, overall organization, transitions,</td>
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<td>organizational structure; conventional or intentional spelling,</td>
<td>systematic citation, and/or copyediting &amp; proofreading.</td>
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<td>grammatical, and punctuation conventions;</td>
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Doctoral Level Requirements: Each essay should be article length, approximately 15-20 pages, double-spaced, Times New Roman, 12 point font. Doctoral students are required to demonstrate mastery of the course material by providing coherent, compelling and detailed philosophical analysis and argumentation in support of their paper thesis. In addition to references to the required course materials, Doctoral students are required to research and apply outside primary and secondary sources. The essays should be at a level of sophistication, in terms of style, analysis, argumentation, and background knowledge, of a doctoral level academic and/or professional.

Doctoral Essay Evaluation Rubric

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<td>Strong Thesis Statement, developed through paper and answering question</td>
<td>Develops a valid and innovative thesis; answers research question in a philosophically sophisticated way; detailed argument developed throughout the paper and culminating in reasonable and insightful conclusions.</td>
<td>Lacks developed thesis and/or fails to answer the stated question.</td>
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<tr>
<td>Disciplinary content knowledge demonstrated</td>
<td>Uses relevant citations to the course materials and outside primary and secondary sources presented in such a way as to demonstrate a significant understanding of them.</td>
<td>Includes inadequate citations and/or lacks significant understanding of them.</td>
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<tr>
<td>Contextualized in discipline</td>
<td>Nuanced contextualization, including theoretical, political economic, historical, and educational.</td>
<td>Does not adequately contextualize</td>
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<td>Theoretical development</td>
<td>Creates a clear, supported and developed theoretical framework that is valid and insightful, and includes detailed and sophisticated theoretical analysis and interpretation</td>
<td>Lacks appropriate theoretical framework, and/or theory underdeveloped, and/or lacks theoretical analysis and interpretation of data</td>
</tr>
<tr>
<td>Writing</td>
<td>Demonstrates strong,</td>
<td>Demonstrates unacceptable</td>
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systematic, intentional sentence structure, paragraph structure (with transitions), overall organizational structure; conventional or intentional spelling, grammatical, and punctuation conventions; approved citation style; copyedited and proofread.

professional writing skills in terms of grammar, spelling, sentence structure, punctuation, overall organization, transitions, systematic citation, and/or copyediting & proofreading.

Essay Evaluation Guidelines
Content: The essay demonstrates understanding of the issues in question. Important terms are defined and used correctly. The essay demonstrates knowledge of the course readings. The argument logically supports the thesis, and claims are backed up by evidence and/or logical argument. The writer provides a clearly articulated and strongly argued position relative to the question.

Style: The essay presents a clear thesis statement and sound organizational structure. Transitions between paragraphs are smooth and logical. The conclusion makes a strong, brief restatement of the argument. There are few if any mechanical errors that distract from the content (e.g., grammar and spelling).

A strong defense entails both an argument in support of your position and refutation of competing positions. Remember to support your opinion through logic and/or evidence rather than merely asserting your opinion. Also a part of defending your opinion is to refute the opinions of others, so be sure to refute the alternative perspectives you do not choose as well as defending your choice. Ask yourself: Is my argument for the perspective I have chosen convincing? (Or is my refutation of competing perspectives compelling?) Reference to the course readings and class notes/discussions is required.

Note on References: If you are referring to the course material, which you should, then you can just note in parentheses the author, publication and page number, e.g., (Dewey, Child and Curriculum, p. 3). If you use outside sources, then provide a complete reference using APA or other accepted system (Chicago, MLA, etc.)

COURSE SCHEDULE
Part I Philosophical Orientations to the Social Purpose of Science Education

Central Question: What should be the driving social purpose for implementing science education for all: development of human capital for economic growth, the actualization of the full potential of each person, and/or the moral and political development of democratic citizens?

A. Democratic Public Reason as a Normative Framework of Analysis and Justification –
**Week of January 12:** Read Snauwaert (2012); Rawls
Video lectures: Democracy and Public Reason
https://www.dropbox.com/sh/3ab424y5zncyq4p/YfoDxfRZ1c

**Week of January 19:** Read Dahl; Gutmann; Snauwaert (1992)
Video lecture: Democratic Values and Principles—Snauwaert
https://www.dropbox.com/sh/3ab424y5zncyq4p/YfoDxfRZ1c

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**B. Human capital theory and the social purposes of science education**

**Week of January 26:** Read Reich; Spence;
Video lecture on human capital theory: Snauwaert (link on webpage);
Video Lectures:
Reich, http://www.youtube.com/watch?v=CGJZngEwO3w
Reich http://www.youtube.com/watch?v=WXybvm0BKvY
Freidman world is flat https://www.youtube.com/watch?v=53vLQnuV9FY

**Week of February 2:** Read Hanushek, et al.; National Science Board
Video lecture on human capital theory: Snauwaert (link on webpage);
Video Lectures:
McREL Summit for Innovative Education - Dr. Eric Hanushek - The Economic Imperative... https://www.youtube.com/watch?v=qJptZ4_6PGw

President Obama Stresses Importance of Science and Technology to the Nation's Future https://www.youtube.com/watch?v=lATa1bdU3Ec

Wealth Inequality in America http://mashable.com/2013/03/02/wealth-inequality/
Restoring the American Dream: Innovation

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**C. Humanism, democracy, and the social purposes of science education**

**Week of February 9:** Read Nussbaum
Video lectures: Liberal Humanism, Conservative Humanism and Progressivism (Snauwaert--links on webpage);
Martha Nussbaum on "Humanistic Education & Global Justice"
http://www.youtube.com/watch?v=A_IR1C3D3Ns
Week of February 16: Read Oakeshott; Scheffler (1973)
Video lectures: Conservative Humanism (Snauwaert--links on webpage);

Week of February 23: Read Dewey (1916), Chapters 1-9
Video lectures: Progressivism (Snauwaert--links on webpage);

RSA Changing Education Paradigms – Ken Robinson
http://www.youtube.com/watch?v=zDZFcDGpL4U

Week of March 9: Spring Break

Week of March 16: Write Essay #1 –Due on March 23

Part II  Philosophy of Science and the Logical Structure of the Educational Process

Central Question: In what ways should the logical structure of scientific inquiry shape the teaching of science? Or alternatively, in what ways should the logical structure of scientific inquiry shape the educational processes of humanistic and/or democratic education, including preparation for participation in public reason?

A. Curriculum and the Logical Structure of Disciplinary Knowledge

Week of March 23: Read Bruner; Scheffler (1992)

Video Lecture:
50th Anniversary of Jerome Bruner's 'The Process of Education'
https://www.youtube.com/watch?v=zIMQ6c1ssno

B. The Inductive Logic of Scientific Inquiry and the Problem of Induction

Week of March 30: Read Hume; Pierce

Video Lectures:
The Problem of Induction
http://www.youtube.com/watch?v=ET9oRKEwESA&sns=em

Difference between inductive and deductive reasoning

**Week of April 6:** Read Carnap; Reichenbach; Strawson

**C. The Deductive Logic of Scientific Inquiry**

**Week of April 13:** Read Popper, Chapters 1-3

Video Lectures:

Falsifiability: One Key to Critical Thinking
https://www.youtube.com/watch?v=zPR_5TOsh-Y

Karl Popper http://www.youtube.com/watch?v=AsFdH0Q7RSs&sns=em

Popper's "Science as Falsification"
http://www.youtube.com/watch?v=ztmvKLru7I&sns=em

**Week of April 20:** Read Popper, Chapters 4-6

**D. The Structure of Scientific Revolutions**

**Week of April 27:** Read Kuhn; Lakatos

Video Lectures:
Structure of Scientific Revolutions Pt 1
https://www.youtube.com/watch?v=T5m9x-Sjugo
Structure of Scientific Revolutions Pt 2
https://www.youtube.com/watch?v=HYm58BTrHcQ
Structure of Scientific Revolutions Pt 3
https://www.youtube.com/watch?v=EjWkQoBZEGY

**Week of May 4:** Write Essay #2 – due on May 8.