Philosophy of Science

UNIVERSITY OF WISCONSIN-MILWAUKEE
HELEN BADER SCHOOL OF SOCIAL WELFARE

SW 901
Philosophy of Science

Semester: Fall 2011
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Office Hrs: Tues. 3:30-5:30pm       Thurs. 12:30-2:30pm
Time/Location: Thurs., 9:30am-12:20pm; Curtin Hall, 181

Course Description
This 3-credit seminar is required for all students in the Social Work Ph.D. program, regardless of area of specialization. It is a core course that critically analyzes the philosophical foundations of science and knowledge building, with a particular emphasis on social and behavioral sciences. The course will focus on major viewpoints and debates concerning the implications of ontology, epistemology, and theory for research and knowledge building in social work and related disciplines.

Pre-requisites
Doctoral student status or permission of instructor. May be taken by doctoral students in other departments.

Course Objectives
The goals of this course are to introduce students to philosophies of science and their implications for scientific practices and other means of generating knowledge. The course will advance students' abilities to critically analyze issues related to the consumption and production of knowledge in the social and behavioral sciences generally and social work specifically.

Toward this end, the course aims to help students:

1. Examine knowledge building processes, different ways of knowing, and major philosophical debates in the sciences;
2. Analyze theories, perspectives, and models currently and historically applied in social work and related disciplines;
3. Assess contextual factors that shape the development of knowledge, theory, and science (e.g., values of a profession or discipline, academia, funding sources, and publication outlets);
4. Examine their own views on the construction and purpose of scientific knowledge in social work and other related disciplines and explore potential applications of course content to their development as scholars.
**Texts/Required Reading Sources**

Required texts (not on bookstore order, as both are inexpensive on-line purchases):


Additional required readings and other materials are accessible through UWM library E-reserve.

**Learning Environment**

Students are expected to attend class every week unless prevented by unavoidable circumstances, in which case they are expected to provide the instructors with as much advance notice as possible. Students are also expected to assume leadership and responsibility for their own learning and to facilitate the learning of other class participants by completing and analyzing the required readings and participating actively and respectfully in class discussions.

Students may utilize the student computer laboratory (10th floor Enderis) while registered for this or any social work course. Information regarding participation by students with disabilities, accommodations for religious observances, academic conduct, complaint procedures, grade appeals procedures, sexual harassment policy, safety policies and other standing policies/procedures is available in the Social Work Student Handbook and at the reception desk for the School of Social Welfare, 11th floor Enderis Hall. Information regarding the policies and procedures that affect the instructor and students in this course may also be obtained at: [http://www.uwm.edu/Dept/SecU/SyllabusLinks.pdf](http://www.uwm.edu/Dept/SecU/SyllabusLinks.pdf)

**Assignments/Grading**

Assignments are due at the beginning of class on the due date specified in the syllabus, unless the student has received an extension in advance from the instructors. Extensions are granted at the instructors’ discretion, but only for extenuating circumstances deemed beyond the student’s control. Otherwise, late assignments will be graded downward one letter grade for every day late.

Course grades will be determined as follows:

- Short papers: 30% (3 papers, 10% each)
- Oral presentation: 20%
- Feedback to other presenters: 10%
- Final paper: 40%
Schedule of Class Activities

September 8—Week 1: Introduction to the philosophy of science

Assignment Due: Student information form completed. (ungraded)

September 15—Week 2: Evolution and revolution in science

Readings:

September 22—Week 3: The nature of science

Readings:

Assignment Due: Critical Analysis (based on readings from weeks 2-3)

September 29—Week 4: Observation, explanation, and causation

Readings:
October 6—Week 5: What is theory and what is it good for?

Readings:

Assignment Due: Critical Analysis (based on readings from weeks 4-5)

October 13—Week 6: Realism & Relativism

Readings:

October 20—Week 7: Quantitative and qualitative research

Readings:

Assignment Due: Critical Analysis (based on readings from weeks 6-7)
October 27—Week 8: Feminist & multicultural perspectives

Readings:

November 3—Week 9: Hierarchy & ethics in science

Readings:

Assignment Due: Critical Analysis (based on readings from weeks 8-9)

November 10—Week 10: Science, pseudoscience, and junk science

Readings:
November 17—Week 11: Evidence-based practice, research & dissemination

Readings:

Assignment Due: Critical Analysis (based on readings from weeks 10-11).

November 24—Week 12: Thanksgiving Break

December 1—Week 13: Class Presentations

Assignment Due: Feedback to presenters due by 12pm on December 3rd

December 8—Week 14: Class Presentations

Assignment Due: Feedback to presenters due by 12pm on December 10th

December 15—Week 15: Exam Period—No Class Scheduled

Assignment Due: FINAL PAPERS ARE DUE BY 12:20pm
Assignments

Critical Analyses (10% each—total 30% of final grade)

Between the 3rd and 12th week of semester you will be required to write three (3) brief papers that critique a set of readings. Your papers should draw from the assigned readings leading up to each due date. For example, paper #1 (due week 3) should critique readings from the second and/or third week of the semester.

Your papers should NOT be basic summaries of the readings or mere accounts of your “reactions” to the readings. They should be critical analyses that reflect dynamic thinking on the subject matter and your capacity to integrate the readings with your own thoughts, experiences, and interests. Please note that, while your work will be evaluated for its depth and insight, your papers should also have a clear, coherent purpose. Avoid making general statements without providing support for those statements. Your analysis should be unambiguous, concise, relevant, and constructive. Papers should be 3-4 pages, double-spaced with 1-inch margins in 12-point Times New Roman font (or 11-point Arial font). Be sure that your title and/or introduction clearly identify the piece(s) about which you are writing.

The topic(s) covered in each paper are to be of your own choosing. Some suggestions include:

- How do the concepts and points of view presented in the readings complement or contradict each other? How do they compare with previous or subsequent readings in this course? Are there any notable limitations in the authors’ arguments?
- How does a reading or set of readings challenge your thinking about a particular topic? How might insights gleaned from the readings inform your understanding of the philosophy of science and/or your approach to the practice of science?
- In what ways are the readings relevant to practice, policy, and/or pedagogy in your discipline? How might the readings apply to your research interests (substantive area; theoretical framework; methodological approach)?

Your work will be evaluated on the following criteria:

- **Execution**—Extent to which the paper reflects considerable depth of critical analysis and original thought (75% of grade)
- **Organization & Style**—Extent to which the paper is structured coherently and written in a clear, concise, persuasive, and mechanically sound manner (20% of grade)
- **Formatting**—Extent to which the components of the paper (e.g. title page, text, references) adhere to APA style requirements (5% of grade)

Note: You may also choose to complete an extra critical analysis in addition to the three that are required. In this event, your lowest grade among the four papers will be dropped. Your papers must be turned in using the corresponding Dropbox on D2L. Papers are due by the start of class on the dates listed above. **(Word or Word Perfect files only).**
Final Paper (40% of final grade)

Examine your own area of research and identify a related question that is of interest to you and the field. You should give considerable thought to the scope of your question and the language you use to express it, because these decisions will have significant implications for your approach to the paper. Having stated your question in explicit terms, answer the following:

1. Identify a single phenomenon (i.e. variable/problem identified within a substantive area) in your research question. How is the problem typically defined? Why is it defined this way, and what are alternative ways of defining and conceptualizing the problem?

2. Identify a theory, model, perspective, or key concept that might be applied to investigate your question of interest (Examples: Bioecological systems theory; Program theory/model of change; Strengths perspective; Cultural competence). What are the core epistemological and ontological assumptions of this theory, model, etc.? What ideas or historical trends shaped it? How does it now generate, shape, limit, or prohibit other ideas and knowledge in your area of research?

3. Identify a methodology (e.g. research design; measurement; analysis) that might be applied to address your research question. What are the assumptions of this methodology, and how does its application shape the knowledge produced in this area? What alternative method might be used to conduct research in this area, what are the assumptions of this method, and how do these assumptions produce different types of knowledge?

4. What are the epistemological implications of your problem definition, theoretical framework, and/or methodological approach as it relates to practice research, policy, and/or pedagogy in your discipline?

Your work will be evaluated on the following criteria:

- **Content**—Extent to which all criteria outlined in the assignment have been addressed (20% of grade)
- **Execution**—Extent to which the paper reflects considerable depth of critical analysis & original thought (50% of grade)
- **Organization & Style**—Extent to which the paper is structured coherently and written in a clear, concise, persuasive, and mechanically sound manner (20% of grade)
- **Formatting & References**—Extent to which the paper adheres to APA style and provides a useful bibliography (10% of grade)

Papers should be 15-20 pages long (excluding references & title page), double spaced, and formatted according to APA standards, including 12-point Times New Roman font (or 11-point Arial) and 1” margins. Papers should be preceded by a title page and concluded with a reference list. All papers must be submitted by D2L by 12:20pm on December 15th.
**Oral Presentation** (20% of final grade)

You are asked to deliver a presentation to the class based on your final paper. This assignment allows others to benefit from your learning and labor. It also presents an opportunity to clarify your thinking on the paper before submitting a final draft. You will, therefore, promptly receive constructive, written feedback from members of the class after completing your presentation.

Presentations should be 25-30 minutes in length. It is expected that you will provide some descriptive information at the beginning of your presentation to orient the audience to your question/substantive topic. The major thrust of the presentation, however, should center on how your topic can be better understood by answering questions that are central to the philosophy of science. In particular, you should discuss how these larger questions inform your specific question/substantive topic, theoretical orientation, and methodological approach. Your presentation should also consider the implications (e.g., practice; research; policy; pedagogy) of your problem definition, theory choice, and/or methodological approach. Following each presentation, there will be a brief discussion period (10-15 minutes) facilitated by the presenter.

Presentations will be delivered in class on the 1st and 8th of December. You are expected to prepare a reference list to distribute to all class members prior to your presentation. If you choose to use PowerPoint, you also should distribute handouts of your presentation slides to the audience.

Your work will be evaluated on the following criteria:

- Clarity and coherence of content (35% of grade)
- Depth of critical thought and analysis (35% of grade)
- Organization, style, and adherence to time limits (10% of grade)
- Utility and formatting of reference list (10% of grade)
- Facilitation of discussion (10% of grade)

**Critical Feedback to Other Presenters** (10% of final grade)

You are expected to provide one single-spaced page of constructive feedback in response to your classmates’ presentations. Your comments should focus exclusively on the quality of the content presented (e.g., clarity; depth; comprehensiveness), not on stylistic elements. You do not need to follow conventional rules of formal writing (i.e., complete sentences), but your comments should be well organized and thoughtful. Your feedback is due by 12pm two days after the presentation, and it should be circulated to the presenter and instructors via D2L. Your work will be evaluated on the extent to which it is constructive, detailed, and timely.