KANT’S PHILOSOPHY OF SCIENCE

Philosophy 8090: Graduate Seminar in History of Modern Philosophy
Fall Semester 2017
Course Meetings: Wednesdays, 4:00 – 6:30

Professor Bennett McNulty
Office: Heller Hall 805
Office Hours: Wednesdays, 1:00 – 2:00; Mondays, 10:00 – 11:00; and by appointment

DESCRIPTION

Immanuel Kant’s influential Critical philosophy is inextricably tied to developments in various of the sciences in the 17th and 18th century. Although Kant’s views on physics have received a good deal of attention in philosophical scholarship, Kant’s own interests were by no means so limited. In lesser known works, Kant espoused developed theories of various other sciences, including chemistry, psychology, anthropology, geography, history, and biology. Indeed, Kant was especially famous for his foundational work in anthropology, which shaped the discipline in its earliest years.

In this course, we broadly examine Kant’s views on the sciences, with an especial attention toward developing a comprehensive, hierarchical account that unifies and systematizes the various sorts of science. While the individual sciences have each received some isolated treatment by commentators (much of which will receive consideration in the course), contemporary scholarship wants for such an overarching treatment of Kant’s philosophy of science, placing our considerations on the cutting edge of Kant studies.
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In this course, I am especially interested to further my research program, which aims at a comprehensive account of Kant’s views on the inexact sciences, especially chemistry, psychology, anthropology, and biology. Throughout our consideration of Kant’s account of the sciences, we’ll especially think about questions such as the following:

• Is this science mathematizable?
• Does the science have or require a priori metaphysical foundations?
• What is the connection between this science and Kant’s speculative & practical philosophies?
• Are we capable of discovering laws in this science?
• Are experiments in this science possible?
• How responsive was Kant to the historical practice of this science in the context?

These are the questions that most intrigue myself and that fall out of my previous research. If your interest lies elsewhere, that’s great! I encourage you to approach the material from your own perspective and raise your own questions during the course of the seminar.

TEXTS

Required Texts

• Kant, Anthropology from a Pragmatic Point of View, trans. Louden (ISBN: 978-0521671651)

NB: MFNS and Anth are also available in the Cambridge Edition of the Works of Immanuel Kant (the blue books). MFNS is in Theoretical Philosophy after 1781 and Anth is in Anthropology, History and Education (more or less the same translations are in each).

Supplementary Resources

There are a lot of resources on Kant’s philosophy of science. I won’t list them all here. There are a few nice, general resources that I can recommend, but below you will also find resources on each topic in the calendar of topics.

(NB: Most of the following resources focus on the ‘hard’ sciences.)

• Brittan, Gordon. Kant’s Theory of Science.
• Butts, Robert (ed.) Kant’s Philosophy of Physical Science: Metaphysische Anfangsgründe der Naturwissenschaft 1786–1986.
• Friedman, Michael. Kant and the Exact Sciences.
• Friedman, Michael. Kant’s Construction of Nature.
• Watkins, Eric (ed.) Kant and the Sciences.
• Watkins, Eric and Marius Stan. “Kant’s Philosophy of Science.” SEP.
STUDENT LEARNING OUTCOMES

After this course, students will be able to:

1. Describe the essential characteristics of a science, for Kant
2. Explain the fundamental aspects of Kant’s accounts of the sciences
3. Write a clear interpretive summary of a historical philosophical figure
4. Situate precisely one’s own views on a topic in the history of philosophy vis-a-vis other commentators’
5. Guide a seminar discussion on a particular topic in a fruitful, engaging, and illuminating manner
6. Better engage fruitfully and observably in professional, philosophical discussions

Students will achieve these outcomes through in class discussions, completing readings, leading a course meeting, and completing writing assignments.

REQUIREMENTS AND GRADING

1. Questions & Answers — As much as it pains me to say, an important skill of a professional philosopher is her ability to converse verbally about a philosophical topic. That’s not to say that all philosophers are great at this. (I, for one, find philosophical conversations difficult to follow and engage in. I’m more of a writer.) But being able to “talk shop” is beneficial (on the job market, to impress leading figures, to make a name for yourself, etc.). A trick to engaging in such conversations is preparation. If you know what you are going to say, how you are going to answer particular questions you know will be asked, and where to prod a philosophical theory, you are going to be much more able to engage fruitfully in a philosophical discussion. So, in this course, we are going to get you in the habit of preparing. Before each class, on the Monday before class, each student is going to post 3 questions they have about the readings (they may be clarificatory, critical, or tangential). Then, every student is expected to read these questions and reflect upon them, such that, if and when these questions arise in class, everyone will be prepared for the discussion. (I won’t require everyone to write answers to the questions unless I get the vibe that we aren’t reading the questions before class.) (15% of final grade)

2. Attendance & Participation — I expect students to attend the most of the course meetings (if something comes up, missing one is fine). Seminar participants ought be prepared to engage with other members of the class and the course topics/materials. I don’t expect everyone to participate in the same way or to the same extent. However, as I mentioned above, it’s important to be able to share your own views or to ask questions verbally during the seminar. The Questions & Answers assignment should help you to do so. (15% of final grade)

3. Leading Seminar — Developing one’s ability to lead a group’s consideration of a philosophical topic is an important skill. Regularly, the professional philosopher finds herself at the head of such a group having to direct discussions in a fruitful manner. Moreover, most professional philosophers end up teaching, at some level. No matter where one teaches, it is crucial to be able to facilitate discussions of the topic of concern. By leading the seminar for a portion of time, seminar participants will develop such skills. Students will be asked to lead the seminar for around an hour of a particular day. During
this hour, the seminar leader has fairly free reign regarding how to manage the seminar. She might present her own interpretation of the topic of concern, allowing other participants to engage with her ideas. Alternatively, she could pose a series of questions to the class to promote discussions. The leader may go paragraph by paragraph through the reading to make sure that everyone is on the same page. The hope is that, whatever the leader does, the other seminar participants will be engaged, will further their knowledge of the material, and be able to share their own views. (20% of final grade)

4. **Paper** — Being able to write well about an issue in the history of philosophy is an unequivocally critical philosophical skill. In this seminar, I want to focus on promoting students’ abilities to write clearly and precisely about a historical topic. Kant’s writing and philosophy are extremely complex; papers at this class will aim to provide clear & precise interpretations of Kant’s intricate, detailed system. Moreover, we’ll be reading a lot of the recent secondary literature on issues in Kant’s philosophy of science, so one’s paper ought also engage with this literature and clearly situate the her views with respect to scholarship. There are two paper options. Students may either write three 5-page papers (due on weeks 6, 10, and 15) or one 15-page paper. Each student will be required to regularly meet one-on-one with me to discuss her writing (e.g., after each short paper or to propose her long paper.) (50% of final grade)

**Aside:** When designing undergraduate courses, I generally avoid having single assignments that are worth such a substantial potion of the final grade. I do that here mainly because A. Students must meet with me to get feedback and to work on their writing, and B. Writing well is **the** most critical philosophical skill. A philosopher can be asocial, scatterbrained, shy, and short-tempered and still be successful (indeed, we all could name many individuals that match that description). One thing a successful philosopher cannot be is a bad writer, especially in the current, extremely competitive job market.

**SUPPLEMENTARY RESOURCES**

- This semester in the Early Modern Interest Group of the Minnesota Center for Philosophy of Science we’ll be reading some of Kant’s pre-Critical works on natural philosophy, such as *De Igne*, his dissertation on fire, and *Allgemeine Naturgeschichte*, a work on cosmology in which he first presents his nebular hypothesis of star formation. If you do not already attend but wish to, please let me know and I can arrange for an invitation.

- I will be working through the new Breitenbach-and-Massimi-edited *Kant and the Laws of Nature* volume this semester. I’d be happy to arrange for a reading group on the book, if anyone is interested.

**CALENDAR OF TOPICS**

**Week 1**

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No Class. Professor McNulty will be out of town.

**Week 2**  
**September 13th, 2017**

**Description:** Introduction to the course, Kant’s hierarchy of the sciences, and rational physics

**Readings:** Kant, “Preface” in *MFNS* (AA 4:467–79); van den Berg, *Kant on Proper Science*, ch. 2


**Week 3**  
**September 20th, 2017**

**Description:** Construction of Motion in Physics and the Dynamic Theory of Matter

**Readings:** Kant, “Phoronomy” and “Dynamics” in *MFNS* (AA 4:479–523); Sutherland, “Kant on the Construction and Composition of Motion in the Phoronomy”


**Week 4**  
**September 27th, 2017**

**Description:** The Specific Variety of Matter & the Limits of Kant’s Account

**Readings:** Kant, “General Remark to the Dynamics” in *MFNS*; Friedman, *Kant’s Construction of Nature*, pp. 234–58

**Recommended:** Brittan, “Kant’s Two Grand Hypotheses;” McNulty, “Continuity of Change in Kant’s Dynamics”

**Week 5**  
**October 4th, 2017**

**Description:** Kant’s Conception of Chemistry & its Context

**Readings:** Blomme, “Kant’s Conception of Chemistry in the *Danziger Physik*;” Carrier, “Kant’s Theory of Matter and his Views on Chemistry”

**Recommended:** Kant, *Danziger Physik*; Carrier, “Kants Theorie der Materie und ihre Wirkung auf die zeitgenössische Chemie;” Lequan, *La chimie selon Kant*; McNulty, “What is Chemistry, for Kant?”

**Week 6**  
**October 11th, 2017**

**Description:** Reason, Ideas, and the Possibility of Experimental Sciences


**Recommended:** McNulty, “Rehabilitating the Regulative Use of Reason;” Okruhlik, “Kant on Realism and Methodology”
Week 7

Description: The Details of Kant’s Account of Psychology
Readings: Kant, “Psychology,” Metaphysik L2 (AA 28:875–920); Frierson, Kant’s Empirical Psychology, ch. 2
Recommended: Kant, “Psychology,” Metaphysik L1, “On Psychology,” Metaphysik Mrongovius; Baumgarten, “Psychology,” Metaphysica; Dyck, Kant on Rational Psychology, ch. 2

Week 8

Description: The Impropriety of Psychology, pt. 1: Acategorialism
Recommended: Gouaux, “Kant’s View on the Nature of Empirical Psychology;” Hatfield, “Empirical, Rational, and Transcendental Psychology”

Week 9

Description: The Impropriety of Psychology, pt. 2: Extrospectivism
Readings: Kraus, “Quantifying Inner experience?;” Sturm, “How Not to Study the Mind”
Recommended: Sturm, “Is There a Problem with Mathematical Psychology in the Eighteenth Century?,” “Kant and the Scientific Study of Consciousness,” Kant und die Wissenschaften vom Menschen

Week 10

Description: Kant on Anthropology: Definition, Account of Cognition, and on Characters
Readings: Kant, Anthropology from a Pragmatic Point of View (AA 7:117–230, 283–334)
Recommended: Cohen, “Kant’s Answer to the Question ‘What is Man?’ and its Implications to Anthropology;” Frierson, What is the Human Being?; Jankowiak & Watkins, “Meat on the Bones;” Schmidt, “Kant’s Transcendental, Empirical, Pragmatic, and Moral Anthropology;”

Week 11

Description: On the Scientific Status of Anthropology
Recommended: Cohen, Kant and the Human Sciences: Biology, Anthropology and History; Sturm, “Freedom and the Human Sciences: Hume’s Science of Man versus Kant’s Pragmatic Anthropology”

Week 12

Description: The Kinds of Judgment and the Positive Account of Teleology
Recommended: Zuckert, Kant on Beauty and Biology, ch. 2
Week 13

**Description:** Kant on the Conflict between Teleological and Mechanical Explanations

**Readings:** Kant, “Dialectic of Teleological Judgment” in *CPJ* (AA 5:385–415)

**Recommended:** Zuckert, *Kant on Beauty and Biology*, ch. 3; Watkins, “The Antinomy of Teleological Judgment”

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Week 14

**Description:** Interpretations of Kant on the Conflict between Teleological and Mechanical Explanations

**Readings:** Ginsborg, “Kant on Understanding Organisms as Natural Purposes;” MacLaughlin, “Mechanical Explanation in the ‘Critique of the Teleological Power of Judgment’”

**Recommended:** Breitenbach, “Two Views on Nature: A Solution to Kant’s Antinomy of Mechanism and Teleology;” Ginsborg, “Two Kinds of Mechanical Inexplicability in Kant and Aristotle;” van den Berg, *Kant on Proper Science*, ch. 3

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Week 15

**Description:** Laws in Biology?

**Readings:** Breitenbach, “Laws in Biology and the Unity of Nature;” van den Berg, *Kant on Proper Science*, chs. 4 and 5

**Recommended:** Richards, “Kant and Blumenbach on the Bildungstrieb: A Historical Misunderstanding;” Zammito, “‘This Inscrutable Principle of an Original Organization’: Epigenesis and ‘Looseness of Fit’ in Kant’s Philosophy of Science”
POLICIES

Student Conduct Code

The University seeks an environment that promotes academic achievement and integrity, that is protective of free inquiry, and that serves the educational mission of the University. Similarly, the University seeks a community that is free from violence, threats, and intimidation; that is respectful of the rights, opportunities, and welfare of students, faculty, staff, and guests of the University; and that does not threaten the physical or mental health or safety of members of the University community.

As a student at the University you are expected adhere to Board of Regents Policy: Student Conduct Code. To review the Student Conduct Code, please see: http://regents.umn.edu/sites/regents.umn.edu/files/policies/Student_Conduct_Code.pdf.

Note that the conduct code specifically addresses disruptive classroom conduct, which means “engaging in behavior that substantially or repeatedly interrupts either the instructor’s ability to teach or student learning. The classroom extends to any setting where a student is engaged in work toward academic credit or satisfaction of program-based requirements or related activities.”

Scholastic Dishonesty

You are expected to do your own academic work and cite sources as necessary. Failing to do so is scholastic dishonesty. Scholastic dishonesty means plagiarizing; cheating on assignments or examinations; engaging in unauthorized collaboration on academic work; taking, acquiring, or using test materials without faculty permission; submitting false or incomplete records of academic achievement; acting alone or in cooperation with another to falsify records or to obtain dishonestly grades, honors, awards, or professional endorsement; altering, forging, or misusing a University academic record; or fabricating or falsifying data, research procedures, or data analysis. (Student Conduct Code: http://regents.umn.edu/sites/regents.umn.edu/files/policies/Student_Conduct_Code.pdf)

If it is determined that a student has cheated, he or she may be given an “F” or an “N” for the course, and may face additional sanctions from the University. For additional information, please see: http://policy.umn.edu/education/instructorresp.

The Office for Student Conduct and Academic Integrity has compiled a useful list of Frequently Asked Questions pertaining to scholastic dishonesty: http://www1.umn.edu/oscai/integrity/student/index.html. If you have additional questions, please let me know, either by email or in office hours. I can respond to your specific questions regarding what would constitute scholastic dishonesty in our class. It never hurts to ask.

In this class, academic dishonesty is most common in the written assignments. It is all-too-easy to copy or to mimic a thesis, phrase, or passage (whether accidentally or purposefully), from a secondary source (e.g., Wikipedia, Sparknotes, the Stanford Encyclopedia of Philosophy). This, however, constitutes plagiarism. Make sure that when you are writing for a class assignment, you put away all such materials, so that there is no chance of you doing something in violation of university standards.
Sexual Harassment

“Sexual harassment” means unwelcome sexual advances, requests for sexual favors, and/or other verbal or physical conduct of a sexual nature. Such conduct has the purpose or effect of unreasonably interfering with an individual's work or academic performance or creating an intimidating, hostile, or offensive working or academic environment in any University activity or program. Such behavior is not acceptable in the University setting. For additional information, please consult Board of Regents Policy: http://regents.umn.edu/sites/regents.umn.edu/files/policies/SexHarassment.pdf.

Equity, Diversity, Equal Opportunity, and Affirmative Action

The University provides equal access to and opportunity in its programs and facilities, without regard to race, color, creed, religion, national origin, gender, age, marital status, disability, public assistance status, veteran status, sexual orientation, gender identity, or gender expression. For more information, please consult Board of Regents Policy: http://regents.umn.edu/sites/regents.umn.edu/files/policies/Equity_Diversity_EO_AA.pdf.

Disability Accommodations

The University of Minnesota is committed to providing equitable access to learning opportunities for all students. The Disability Resource Center is the campus office that collaborates with students who have disabilities to provide and/or arrange reasonable accommodations.

If you have, or think you may have, a disability (e.g., mental health, attentional, learning, chronic health, sensory, or physical), please contact Disability Resource Center at 612-626-1333 to arrange a confidential discussion regarding equitable access and reasonable accommodations.

If you are registered with Disability Resource Center and have a current letter requesting reasonable accommodations, please contact your me as early in the semester as possible (either by email or in person during office hours) to discuss how the accommodations will be applied in the course.

For more information, please see the Disability Resource Center website, https://diversity.umn.edu/disability/.

Mental Health and Stress Management

As a student you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance and may reduce your ability to participate in daily activities. University of Minnesota services are available to assist you. You can learn more about the broad range of confidential mental health services available on campus via the Student Mental Health Website: http://www.mentalhealth.umn.edu.