



Your University of Choice

COURSE SYLLABUS

Term: 2015-2

Course: Philosophy of Science (PHIL 496A)

Instructor Information:

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| Instructor Name | Michael McGehee |
| Office Number: | Room 517 |
| Phone Number: | (219) 473-4350 |
| Email: | mmcgehee@ccsj.edu |
| Hours Available: | Mondays, 4:00-6:00pm Wednesdays, 5:00-6:00pm Tuesdays/Thursdays, 3:00-6:00pm *All office hours are by appointment |
| Instructor Background: | M.A., Humanities (Concentration in Philosophy), The University of Chicago, 2013 B.A., Philosophy and History, Cornell College, 2009 CCSJ Band Director Advisor to CCSJ Philosophy Club |
| Courses Taught at CCSJ: | Foundations of Western Culture (HUM 110), English Composition (ENG 103), Great Philosophical Ideas (PHIL 200), Business and Professional Ethics (PHIL/BSMT 375), Metaphysics (PHIL 321), Epistemology (PHIL 322), Ethics (PHIL 323), Philosophy of Science (PHIL 496), Musical Ensemble (ARTS 245) |

Course Information:

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| Course Time: | Mondays and Wednesdays, 1:45-3:15pm |
| Classroom: | TBA |
| Prerequisites: | PHIL 200 or Instructor Consent |
| Required Books and Materials: | <ul style="list-style-type: none">• This course makes extensive use of Blackboard, and all texts will be available on Blackboard under Course Textbook.• You will also need two (2) spiral notebooks for taking notes and journal writing.• Finally, though it is optional, you may want to purchase a copy of Paul Boghossian's <i>Fear of Knowledge</i> (ISBN 978-0-19-923041-9) and Thomas Nagel's <i>Mind and Cosmos</i> (ISBN 978-0-19-991975-8), as we will be using them for several weeks of the course. |
| Learning Outcomes/ Competencies: | |

Students will:

- 1) Understand the basic terminology used by contemporary analytic philosophers;
- 2) Analyze philosophical arguments into
- 3) claims and grounds reasoning;
- 4) Understand how science discoveries and produces truth.
- 5) Evaluate the scientific method for logical consistency and practical utility.
- 6) Apply and further develop critical thinking skills, academic writing skills, and oral communication skills.

Course Description:

In this course, students will investigate and reflect upon the nature of scientific inquiry. Through a look at both historical and contemporary sources, students will arrive at well-reasoned answers to the following questions: “how does science discover and produce truth?,” “how does the scientific method function to discover and produce truth?,” “are there things about reality that science cannot explain?,” as well as other questions in the philosophy of science. Student work culminates in the production of an academically and philosophically rigorous final paper that students will defend publically at the end of the course.

Learning Strategies:

Lecture, Group Discussion, Class Discussion, Paper Writing, Journal Writing, Blackboard, Presentations

Experiential Learning Opportunities:

Assessments:

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| Seminar Participation | 20% of Final Grade | |
| Blackboard Posts | 20% of Final Grade | |
| Discussion Starters | 10% of Final Grade | |
| Journal Entries | 10% of Final Grade | |
| Final Paper | 30% of Final Grade | |
| Oral Defense | 10% of Final Grade | |

Explanation of Assignments:

Seminar Participation

Your attendance of class lecture and active engagement in class discussion during seminar is a very significant part of your overall performance in the course. It is essential that you attend class having done the reading in advance and ready to ask well-thought out questions about the reading in class.

Your participation in seminar each week will be graded based on the following (out of 10 points):

1. Demonstrating your understanding of the text through thoughtful questions and comments during seminar. (4 points)
2. Politely listening to your fellow classmates questions and comments and stayed attentive through seminar. This means no checking your phone, no sleeping, no talking to your neighbor, and, in general, no leaving the room. (3 points)
3. Showing up with the text in-hand, annotated and with your quote from your Blackboard post highlighted or marked. (3 points)

Blackboard Posts

Before seminar each week, students will post a quote from the reading, an interpretation of the meaning of that quote, and a question about the quote for the class. Then, you will respond to one of your fellow students' questions.

So, each week you will be responsible for and graded on the following (out of 10 points):

1. Reading the assigned text at least twice (for understanding) before seminar.
2. Finding, posting, and interpreting a quote from the text online. (4 points for your interpretation, 2 points for the quote)
3. End your post with a question that you had about the reading for the class to try to answer. (2 points)
4. Responding to *at least one* fellow student's post with a thoughtful comment or question. (2 points)
5. Coming to seminar with the text printed out and with your quote highlighted.

Journal Entries

During the first fifteen minutes of every lecture class, students will write two or more paragraphs in response to a prompt, typically concerning the previous night's reading. Students will turn these entries in near the end of the course, and are responsible for keeping track of them and making them up on their own. These journal entries are a low-stakes way to start thinking through the issues we will discuss in class. Students should refer to their journal entries to remember what they are interested in discussing and writing about for their final paper.

Discussion Starters

Once or twice during the semester, students will be responsible for starting off seminar discussion with a 5-15 minute presentation on the section of text being discussed that day. Students will be evaluated on their comprehension of the text, their public speaking ability, and their ability to explain and discuss the text in question in a clear and earnest manner. These assignments function as both practice for your oral defense of your final paper, as well as a way to make class discussion of the text more natural.

Final Paper

The final paper will be 8-12 pages, double spaced, on a topic in the philosophy of science, utilizing at least one primary text from the course. More on this assignment as the semester progresses, but you should note that, between the paper itself and the defense of the paper, it's worth 40% of your total grade.

Note: You cannot pass the course without turning in a final paper that follows the prompt, is discipline appropriate, and is your own work, and then successfully defending that paper.

Oral Defense

You will defend a thesis in an oral presentation of your final paper, in front of the class. You will be asked to present the thesis of your paper clearly, and explain how you the parts of your paper support that thesis, as well as answer some possible objections. I will also ask you questions for clarity and to check for understanding.

You should dress as you would for an interview, that is, formally. You will also be graded on your public speaking ability; you will get good practice at this during seminar, so don't sweat it. By the time you defend, you'll be ready, as long as you've done good work on your paper and regularly participated in seminar, class discussion, and blackboard. As per Philosophy and Religious Studies program standards, this presentation will be recorded, both to act as a formal record and so that the videos will be assessed.

Course Schedule:

*** All texts should be downloaded and printed out from Blackboard unless otherwise noted.**

*** You will post on Blackboard and be responsible for participating in Seminar every week.**

| DATE | CLASS TOPIC/TEXT FOR SEMINAR | ASSIGNMENTS DUE |
|-------------|---|-----------------------------|
| 01/11/15 | Introduction to the Course What is Science? | |
| 01/13/15 | Natural Philosophy | |
| 01/18/15 | NO CLASS – Martin Luther King Day | |
| 01/20/15 | Seminar: The Pre-Socratic Philosophers | Discussion Starter _____ |
| 01/25/15 | What is the Philosophy of Science? | |
| 01/27/15 | Seminar: Aristotle's Physics and On The Heavens | Discussion Starter _____ |
| 02/01/15 | Space and Time | |
| 02/03/15 | Seminar: Hume's An Enquiry Concerning Human Understanding | Discussion Starter _____ |
| 02/08/15 | Causation (and Intention) | |
| 02/10/15 | Seminar: Kuhn's The Structure of Scientific Revolutions | Discussion Starter _____ |
| 02/15/15 | The Scientific Method | |
| 02/17/15 | Seminar: Boghossian's Fear of Knowledge | Discussion Starter _____ |
| 02/22/15 | Seminar: Boghossian's Fear of Knowledge | Discussion Starter _____ |
| 02/24/15 | Seminar: Boghossian's Fear of Knowledge | Discussion Starter _____ |
| 02/29/15 | NO CLASS – Spring Break | |
| 03/02/15 | NO CLASS – Spring Break | |

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| 03/07/15 | The Human Perspective Natural Selection Rational Self Interest vs Species Proliferation | |
| 03/09/15 | Seminar: Darwin's On The Origin of Species | Discussion Starter _____ |
| 03/14/15 | Stem Cell Research, Cloning, and Human Nature | |
| 03/16/15 | Seminar: Singer's A Darwinian Left | Discussion Starter _____ |
| 03/21/15 | Climate Change | |
| 03/23/15 | Seminar: Nagel's What is it Like to be a Bat? | Discussion Starter _____ |
| 03/28/15 | Cosmogenies – The Cosmological Argument and the Big Bang | |
| 03/30/15 | Seminar: Nagel's Mind and Cosmos | Discussion Starter _____ |
| 04/04/15 | Seminar: Nagel's Mind and Cosmos | Discussion Starter _____ |
| 04/06/15 | Seminar: Nagel's Mind and Cosmos | Discussion Starter _____ |
| 04/11/15 | A.I. and Human Intelligence | |
| 04/13/15 | Seminar: Searle's Minds, Brains, and Programs | Discussion Starter _____ |
| 04/18/15 | What is Science? (Revisited) | |
| 04/20/15 | TBA | |
| 04/25/15- 04/27/15 | EXAM WEEK – FINAL DEFENSES | Final Paper Due |

Schedule is subject to change at the instructor's discretion to suit the needs of the course.

| Responsibilities | |
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| Attending Class | <p>Class is divided into alternating lecture and seminar days.</p> <p>On lecture days, students are responsible for taking notes, being respectful, and responding to questions from the instructor and comments of their fellow students, as well as writing journal entries, bringing any required texts to class, and completing all in-class activities.</p> <p>On seminar days, students are responsible for bringing the required text for the day printed out (with their quote from their blackboard</p> |

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| | <p>post highlighted), participating in class discussion of the text, being respectful, and taking notes.</p> <p>In order to receive credit, students must attend class on time and stay for the full duration (unless instructor permission is sought to leave class early or arrive late). Students may use the restroom as they need to during lecture days, but during seminar days, students should only leave when they would not interrupt anyone speaking.</p> |
| Turning In Your Work | <p>You cannot succeed in this class if you do not turn in all your work on the day it is due. Except in rare circumstances, late work will not be accepted.</p> <p>All assignments should be turned in via Blackboard unless otherwise noted.</p> |
| Using Electronic Devices | <p>Turn off all cell phones and other electric devices for the full duration of each class. The usage of cell phones, laptops, tablets, and e-readers is allowed for the sole purpose of taking notes. If there is an important reason why you must have your phone or other electronic device turned on (for example, an illness at home or a work emergency), speak to me about it before class.</p> |
| Participating in Class | <p>Many of the issues we will discuss in class are controversial. Therefore, it is essential that this class is a safe environment for the exchange of ideas. Please be respectful of your fellow students and myself. This means, in the first place, refrain from the use of hate speech, insults, interrupting someone when he or she is speaking, or any other harmful behavior. Class should be a fun and interesting place to be, so if at any time you feel uncomfortable with the way a student or anyone else has made you feel in the classroom, please let me know as soon as possible. Students who cannot show consideration to others <i>will</i> be kicked out of class.</p> |
| Doing Your Own Work | <p>If you turn in work that is not your own, you are subject to judicial review, and these procedures can be found in the College Catalog and the Student Planner. The maximum penalty for any form of academic dishonesty is dismissal from the College.</p> <p>Using standard citation guidelines, such as MLA or APA format, to document sources avoids plagiarism. The Library has reference copies of each of these manuals, and there are brief checklists in your Student Handbook and Planner.</p> <p>PLEASE NOTE: All papers may be electronically checked for plagiarism.</p> |
| Withdrawing from Class | <p>After the last day established for class changes has passed (see the College calendar), you may withdraw from a course by following the policy outlined in the CCSJ Course Catalog.</p> |

| Resources | |
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| Student Success Center: | The Student Success Center provides faculty tutors at all levels to help you master specific subjects and develop effective learning skills. It is open to all students at no charge. You can contact the Student Success Center at 219 473-4287 or stop by the Library. |
| Disability Services: | Disability Services strives to meet the needs of all students by providing academic services in accordance with Americans with Disabilities Act (ADA) guidelines. If you believe that you need a “reasonable accommodation” because of a disability, contact the Disability Services Coordinator at 219-473-4349. |
| CCSJ Alerts: | <p>Calumet College of St. Joseph’s emergency communications system will tell you about emergencies, weather-related closings, or other incidents via text, email, or voice messages. Please sign up for this important service annually on the College’s website at: http://www.ccsj.edu/alerts/index.html.</p> <p>In addition, you can check other media for important information, such as school closings:</p> <p>Internet: http://www.ccsj.edu Radio: WAKE – 1500 AM, WGN – 720 AM, WIJE – 105.5 FM, WLS – 890 AM, WZVN – 107.1 FM, WBBM NEWS RADIO 78 TV Channels: 2, 5, 7, 9, 32</p> |

Emergency Procedures

MEDICAL EMERGENCY

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| EMERGENCY ACTION |
| <ol style="list-style-type: none"> 1. Call 911 and report incident. 2. Do not move the patient unless safety dictates. 3. Have someone direct emergency personnel to patient. 4. If trained: Use pressure to stop bleeding. 5. Provide basic life support as needed. |

FIRE

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| EMERGENCY ACTION |
| <ol style="list-style-type: none"> 1. Pull alarm (located by EXIT doors). 2. Leave the building. 3. Call 911 from a safe distance, and give the following information: <ul style="list-style-type: none"> • Location of the fire within the building. • A description of the fire and how it started (if known) |

BUILDING EVACUATION

1. All building evacuations will occur when an alarm sounds and/or upon notification by security/safety personnel. **DO NOT ACTIVATE ALARM IN THE EVENT OF A BOMB THREAT.**
2. If necessary or if directed to do so by a designated emergency official, activate the building alarm.
3. When the building evacuation alarm is activated during an emergency, leave by the nearest marked exit and alert others to do the same.
4. Assist the disabled in exiting the building! Remember that the elevators are reserved for persons who are disabled. **DO NOT USE THE ELEVATORS IN CASE OF FIRE. DO NOT PANIC.**
5. Once outside, proceed to a clear area that is at least 500 feet away from the building. Keep streets, fire lanes, hydrant areas and walkways clear for emergency vehicles and personnel. The assembly point is the sidewalk in front of the college on New York Avenue.
6. **DO NOT RETURN** to the evacuated building unless told to do so by College official or emergency responders.

IF YOU HAVE A DISABILITY AND ARE UNABLE TO EVACUATE:

Stay calm, and take steps to protect yourself. If there is a working telephone, call 911 and tell the emergency dispatcher where you are **or** where you will be moving. If you must move,

1. Move to an exterior enclosed stairwell.
2. Request persons exiting by way of the stairway to notify the Fire Department of your location.
3. As soon as practical, move onto the stairway and await emergency personnel.
4. Prepare for emergencies by learning the locations of exit corridors and enclosed stairwells. Inform professors, and/or classmates of best methods of assistance during an emergency.

HAZARDOUS MATERIAL SPILL/RELEASE

EMERGENCY ACTION

1. Call 911 and report incident.
2. Secure the area.
3. Assist the injured.
4. Evacuate if necessary.

TORNADO

EMERGENCY ACTION

1. Avoid automobiles and open areas.
2. Move to a basement or corridor.
3. Stay away from windows.
4. Do not call 911 unless you require emergency assistance.

SHELTER IN PLACE

EMERGENCY ACTION

1. Stay inside a building.
2. Seek inside shelter if outside.
3. Seal off openings to your room if possible.

4. Remain in place until you are told that it is safe to leave.

BOMB THREATS

EMERGENCY ACTION

1. Call 911 and report incident.
2. If a suspicious object is observed (e.g. a bag or package left unattended):
 - Don't touch it!
 - Evacuate the area.

TERRORISM AND ACTIVE SHOOTER SITUATIONS

EMERGENCY ACTION

1. Call 911 and report intruder.

RUN, HIDE OR FIGHT TIPS:

1. **Prepare** – frequent training drills to prepare the most effectively.
2. **Run and take others with you** – learn to stay in groups if possible.
3. **Leave the cellphone.**
4. **Can't run? Hide** – lock the door and lock or block the door to prevent the shooter from coming inside the room.
5. **Silence your cellphone** -- use landline phone line.
6. **Why the landline?** It allows emergency responders to know your physical location.
7. **Fight** – learn to “fight for your life” by utilizing everything you can use as a weapon.
8. **Forget about getting shot – fight!** You want to buy time to distract the shooter to allow time for emergency responders to arrive.
9. **Aim high** – attack the shooter in the upper half of the body: the face, hands, shoulder, neck.
10. **Fight as a group** – the more people come together, the better the chance to take down the shooter.
11. **Whatever you do, do something** – “react immediately” is the better option to reduce traumatic incidents.