

Pima Community College

Downtown Campus

Syllabus for Semester: Spring 2012 **Course name and number:** Phi 123
Philosophical Foundations of Science

Section code (CRN): 22835

Class Meeting Days/Times: Wednesday 7:10 – 9:50pm

Class Location: AH 220

Instructor: Kent Slinker, M.A. Philosophy

Office hours/availability: By arraignment.

Phone/voicemail: 206-7314 (text: 245-1656)

Email address: kslinker@pima.edu

Class website : <http://kslinker.com>

Add deadline date: Jan. 23

Drop/Refund deadline date: Jan. 30

Withdrawal deadline: April 5

Final exam date: n.a.

Last day of class: May 9

Course Description

Introduction to Western philosophical foundations of science. Includes philosophical and scientific methods, classical, medieval, modern and contemporary science and mathematics, and philosophical problems raised by discovery and change.

Course Objectives

Upon successful completion of the course, the student will be able to:

1. Describe the application of philosophical method using logic.
2. Examine the process of scientific method.
3. Explain the classical ideas regarding science, mathematics, and knowledge.
4. Explain medieval ideas regarding science, mathematics, and knowledge.
5. Explain modern ideas regarding science, mathematics, and knowledge.
6. Explain contemporary ideas regarding science, mathematics, and knowledge.
7. Summarize the philosophical problems raised by discovery and change.

Course Outline

- I. Philosophical Method
 - A. Logic
 1. Deductive and inductive reasoning
 2. Formal and informal fallacies
 3. A priori vs. a posteriori

- B. Problem of truth and reality
- II. Scientific Method
 - A. Theory and hypothesis
 - B. Deduction and induction
 - 1. Analytic
 - 2. Synthetic
 - C. Objectivity
 - D. Probability
 - E. Set theory
 - F. Infinite regress
- III. Classical Science and Mathematics
 - A. Thales
 - B. Pythagoras
 - C. Democritus and Leucippus or Lucretius
 - D. Plato
 - E. Aristotle
 - F. Euclid
- IV. Medieval Science and Mathematics
 - A. Roger Bacon
 - B. John Duns Scotus
 - C. William of Ockham
 - D. Nicholas of Cusa
 - E. Arabic number system, decimals
- V. Modern Science and Mathematics
 - A. Copernicus
 - B. Galileo
 - C. Kepler
 - D. Descartes
 - E. Newton
 - F. Leibniz
 - G. Hume
- VI. Contemporary Science and Mathematics
 - A. Darwin and Plank
 - B. Einstein
 - C. Whitehead
 - D. Bohr
 - E. Heisenberg
 - F. Russell
- VII. Philosophical Problems Raised by Discovery and Change
 - A. Objectivity/subjectivity
 - B. Uncertainty principle
 - C. Space, time, and gravity
 - D. Statistics
 - E. Absolutism vs. relativism
 - F. Mechanistic vs. chaotic

Required Text Book(s)

All required reading material will be posted on our class website (<http://kslinker.com>)

Students who do not have access to the web should arrange computer time at any of Pima Community College Campus Library computer labs .

ADA Compliance Statement

Pima Community College provides reasonable academic accommodations to those students who qualify under the Americans with Disability Act (ADA). Appropriate medical documentation will be required to determine eligibility. Please contact the campus Disabled Student Resource (DSR) office at 206-7286 to begin the accommodation request process.

Class Preparation and Policies

Please read all assigned material before the class meets

Please, laptops only for note taking and limit texting to [emergencies](#)

The class is a time of learning and thinking without distraction. Tell friends your schedule so they don't tempt you! There will always be a break half-way through class. If you need to text or contact others, take that time to do so. Academic Integrity must be maintained for Projects. Your typed project must be your original work. If your work violates the academic code concerning academic integrity, you (or your group) will be given a zero for the project. Any violation of the student code of conduct will result in your attendance for that evening canceled and/or you will be asked to leave class or other disciplinary action as required and/or mandated by the Academic code.

Please note the student code of conduct is available here: <http://www.pima.edu/studentserv/studentcode/> Part II of that code is found at the end of this document.

Class Attendance

Class attendance is very important (see grading policy for percentage of total grade)

Class attendance will be checked by a sign-in sheet.

It is the student's responsibility to be aware of how their attendance will affect their total grade (again, see the sample grade calculation below)

Please note, the most common cause for students receiving a low or failing grade is poor attendance.

Assignments-Projects

The major graded material in the class will be one project which will invite the student (or group of students) to explore specific issues in Science/Math and Philosophy.

Projects may be done individually or in a group of up to 3 individuals. More detailed information about projects will be discussed in class and posted on our class website.

Extra Credit Assignments

Extra credit assignments will be made available to all. More details will be given in class.

Grading Procedures and Policy

50% attendance

50% projects

Final grade equation: $(\text{attendance}\%) \times .5 + (\text{project}\%) \times .5 = \text{Final grade}$

Student Withdrawal "W" Grades

Students may withdraw from class without instructor permission through **April 5**. This can be done on-line or by submitting a "Registration Form" at any Pima College Campus. Students who withdraw receive a "W" as a grade. For further information on how withdrawing will affect your academic record or financial aid, please see an advisor or counselor.

It is the student's responsibility to withdraw from the course before the above stated deadline. Failure to do so may result in the student receiving a grade of "F" for the semester.

Incomplete "I" Grades

You may request a grade of "I" only if all of the following conditions are met: you have earned at least 70% of the available points at the time of your request, your request is made in writing to the instructor and is received by the instructor by **April 5**, and the conditions of your request indicate an extraordinary and verifiable condition to which merits special consideration (for example: death of immediate family member or serious illness to you)

"AU" Audit Grades

Auditing a PCC class means that you enroll, attend and do work for the class but do not expect to receive credit or a grade. To audit the class, you need the instructor's permission and signature on an audit request form from any campus admissions office. This form and appropriate payment must be returned to the admissions office for admission. An audit registration cannot be completed until the first day of class. You must complete your audit registration by the end of the add period for the class you wish to audit. The instructor is not required to grade assignments submitted by students who are auditing the class.

Final Grades

For privacy and security reasons, instructors are advised NOT to give grades over the telephone or via email. Please note: I will only email student grades to Pima Community College email addresses assigned to the

student.

Students who wish to check grades may use the grade report which they can access through MyPima.

Class Calendar

See our class website, available by clicking on the appropriate link at <http://kslinker.com>

Caveats

The instructor reserves the right to make changes to the syllabus and will notify students of those changes in class.

Student Code of Conduct Student Discipline Code and Due Process Procedures

II. Student Code of Conduct and Code of Academic Ethics

A. Code of Conduct and Academic Ethics Offenses

Academic Ethics Offenses

A student shall not cheat or engage in any other academic ethics violation. Cheating and academic ethics violations include, but are not limited to, the following:

1. Copying from another student's test paper or knowingly allowing one's own test paper to be copied.
2. Using materials during a test that were not clearly authorized by the person giving the test.
3. Collaborating with another student during a test without permission.
4. Knowingly using, buying, selling, offering, transporting, or soliciting any of the contents of a test.
5. Taking a test for another student or permitting another student to take a test in one's place.
6. Bribing or attempting to bribe another person to obtain a passing grade or a better grade on a test or for a course.
7. Intentionally misconstruing facts or events on an evaluated exercise or assignment in a manner that results in a grade change.
8. Engaging in plagiarism, which includes representing the work of another person as one's own, including information downloaded from the Internet. The use of another person's words, ideas, or information without proper acknowledgement also constitutes plagiarism.
9. Obtaining from or giving to another student unauthorized assistance on any course work.
10. Compromising instructional and test materials by acquiring, using, or providing to others unauthorized instructional and/or testing materials.

Code of Conduct Offenses (Other than Academic Ethics Offenses)

A student shall not engage in a Code of Conduct violation. Code of Conduct offenses include, but are not limited to, the following:

Disruption, Assault and Related Offenses

A student shall not:

11. Disrupt any educational activity or process including, but not limited to, interrupting, impeding, or causing the interruption or impediment of any class, lab, administrative activity, or College event.
12. Disturb the peace of the College by, among other things, fighting, causing excessive noise, or engaging in indecent or obscene behavior.
13. Initiate, cause or contribute to any false warning or false report of a fire, explosion, emergency or crime.
14. Endanger, threaten to cause physical harm to, or cause actual physical harm to (a) another person, (b) College property, or (c) the property of another person. . This section is intended to include (a) a student who threatens to cause harm to himself/herself and (b) all conduct or communications that a reasonable person would interpret as a serious expression of intent to cause physical harm to a person or damage to a person's property.

Offenses Involving False Reports or Presentation of a False Document

A student shall not:

15. Obtain College goods or services by making a false statement or by using or presenting a false or unauthorized document or a false identification card or paper.

Tobacco, Alcohol and Drug Offenses

A student shall not:

16. Smoke or chew tobacco in College buildings or other areas where such conduct is prohibited by law or College [Standard Practice Guide 2303-AA](#).
17. Smoke or chew tobacco at a College event or activity that does not occur on College property when such conduct is not permitted at the event or activity.
18. Consume, transfer, sell, possess or be under the influence of an alcoholic beverage while (a) on College property or (b) at a College event or activity when such conduct is not permitted at the event or activity.
19. Consume, transfer, sell, possess or be under the influence of any controlled substance, illegal drug, or imitation controlled substance or possess legally prohibited drug paraphernalia. Notwithstanding the above, a student is not in violation of this Code provision if the student possesses or uses prescription medication that is prescribed to the student and is used only in conformance with the prescription.
20. Drive on College property while under the influence of alcohol or drugs.

Offenses Involving College IT Systems (Computers, Networks and Telephones)

A student shall not:

21. Circumvent any College IT System security feature including hacking, probing, or attempting to break into other users' accounts.

22. In connection with a College IT System, obtain or use another person's account name, username or password unless specifically authorized to do so by a College administrator.
23. In connection with a College IT System, create, use or transmit a computer virus, worm, spyware or other type of malicious software.
24. In connection with a College IT System, allow another person to use one's account name, username or password unless specifically authorized to do so by a College administrator.
25. Alter, disrupt, or reconfigure any College IT system unless specifically authorized to do so by a College administrator. This prohibition includes (a) the unauthorized introduction of any new hardware, software, network device or telephone on a College IT system; (b) the unauthorized removal or reconfiguration of any College hardware, software, network device, or telephone from a College IT system; and (c) the unauthorized running of a IT server, whether virtual or physical, on any College IT System network.
26. Use a College IT system to access, view, download, create, store, send, or forward sexually inappropriate materials as defined by A.R.S. §38-448(A).
27. In connection with a College IT System, forge email or other electronic information or engage in any other conduct that is inappropriate or degrades the accuracy of student or other College data.
28. Engage in unauthorized access of any College IT system, any student data, or any other College data.
29. Access, view, download, create, store, send, or forward spam, pranks, pornographic or obscene images or words, or harassing, vulgar, threatening or intimidating messages on a College IT System.
30. Illegally download copyrighted material or violate any software license agreement or intellectual property rights in any College-related context.

Discrimination, Harassment, and Sexual Offenses

A student shall not:

31. Engage in discriminatory conduct against a member of the College community on the basis of age, ethnicity, gender, disability, color, national origin, race, religion, sexual orientation or veteran status.
32. Engage in sexual harassment against a member of the College community, including, but not limited to, engaging in unwelcome physical and/or sexual contact or other conduct of a sexual nature that a reasonable person would know is unwelcome. Such conduct could include (a) repeated sexual advances, or propositions; (b) verbal harassment of a sexual nature, including lewd comments and/or sexual jokes or references; and/or (c) demeaning, insulting, intimidating, or sexually suggestive comments about an individual's dress or body. (See [Board Policy BP1503](#)).
33. Engage in harassing conduct that a reasonable person would understand to be unwelcome or offensive, including, but not limited to, stalking or bullying. Stalking means following another person or making repeated contacts with another person in a manner that would cause a reasonable person to fear for the other person's safety or the safety of that person's immediate family members or acquaintances. Bullying means engaging in conduct that involves physical assaults or threats of physical assault, intimidation, and/or harassment where the purpose or effect of the conduct is to exert dominance over another person.

34. Engage in any illegal sexual offense, including, but not limited to, sexual assault, public sexual indecency, or indecent exposure.

Offenses Involving Weapons

A student shall not:

35. Use, possess, display, or store any weapon, dangerous instrument, explosive material or device, fireworks, bomb-making materials or dangerous chemical on College property, or at a College activity or event, unless specifically authorized by (a) an Arizona or federal statute governing law enforcement officers; (b) a written document signed by the campus President in situations where the weapon, dangerous instrument, or dangerous material is used for an academic, law enforcement, or other legitimate purpose and the presence of the item does not present an undue risk to the College community; or (c) A.R.S. §12-781, which provides that a person may store or transport a legally possessed firearm inside that person's locked and privately owned motor vehicle or inside a locked compartment on that person's privately owned motorcycle. Such firearm must not be visible from the outside of the motor vehicle or motorcycle.

Property and Related Offenses

A student shall not:

36. Misuse, steal, misappropriate, or use or access without permission, property, data, records, equipment or services belonging to the College or to another person or entity.
37. Possess property one knows or has reason to believe is stolen or misappropriated.
38. Damage, destroy, or deface property, data, records or equipment belonging to the College or to another person or entity, including, but not limited to, taking down or defacing College authorized posters, handbills, or notices posted on College property, and damaging or defacing library materials.
39. Enter or occupy any College building, grounds, vehicle, or facility without proper authorization from a College employee to do so.
40. Block an entry to or exit from College property or a College event or activity without proper authorization from a College employee to do so.
41. Litter on College property or at a College activity or event.
42. Use, distribute, duplicate, modify, or possess any keys or pass cards issued for any building, facility, room, or other College property without authorization from the College to do so.

Offenses Involving the Violation of a Local, State or Federal Law

A student shall not:

43. Violate any local state or federal law.
44. Violate the copyright laws. (See [SPG 2701/AA](#) Copyright Practice and Compliance)

Offenses Involving the Violation of a College Policy, Rule, SPG or Directive

A student shall not:

45. Violate any College policy, regulation, or SPG.
46. Violate any College traffic or parking rule or regulation.
47. Fail to comply with the directions of College officials or agents, including law enforcement or security officers, acting in good faith in the performance of their duties. This includes failing to appear before a College administrator when directed to do so. This section is not intended to prohibit the lawful assertion of an individual's Fifth Amendment right against self-incrimination.

Offenses Related to Disciplinary Sanctions and Proceedings

A student shall not:

48. Violate the terms of any disciplinary sanction or restriction imposed on him/her as a result of a Code violation.
49. Interfere with any College student or employee disciplinary process, including, but not limited to, tampering with physical evidence, providing false testimony at a disciplinary meeting or hearing, or requesting or inducing another person to provide false information or withhold information at a meeting or hearing.

Miscellaneous Offenses

A student shall not:

50. Fail to obtain approval from the Office of Student Life prior to (a) posting or distributing information of any kind on College property or at a College event or activity; (b) engaging in commercial solicitation on College property or at a College event or activity; or (c) selling merchandise on College property or at a College event or activity unless specifically authorized by the College to do so.
51. Fail to reasonably supervise, and provide for the care of, a minor child in the custody or control of the student when the minor child is on College property or at a College event or activity.

Attempted Misconduct and Conspiracy Offenses

A student shall not:

52. Attempt to engage in conduct prohibited by this Code. A student who engages in attempted misconduct can be disciplined to the same extent as if the student completed the prohibited act.
53. Join with others in a conspiracy to engage in conduct prohibited by this Code. A student engages in a conspiracy when the student (a) agrees with others to engage in a plan or scheme that violates the Code and (b) undertakes one or more actions in furtherance of the agreement. A student who conspires with others to engage in conduct prohibited by the Code can be disciplined to the same extent as if the student alone engaged in the prohibited conduct, regardless of whether or not the conspiracy was completed.

B. List of Offenses may be Supplemented by other Rules

In addition to the Code standards set forth above, students enrolled or participating in specific College academic programs and/or extracurricular activities, including athletics, may be subject to additional rules, regulations and/or standards established by the applicable program, club, team, or organization.