

FHSU General Education Committee

Minutes

Meeting Called by

Glen McNeil, Chair

Date:

Thursday March 23, 2023

Time:

3:30-5:00

Location:

Rarick 107 and Zoom

Members

Douglas Drabkin (AHSS)
Marcella Marez (AHSS)
Christina Glenn (BE)
David Schmidt (BE)
Sarah Broman Miller (Ed)
Sohyun Yang (Ed)
Denise Orth (HBS)
Tanya Smith (HBS)
C.D. Clark (STM)
Todd Moore (STM)
Robyn Hartman (Lib)
Justin Greenleaf (Senate)
Emma Day (SGA)
Cheryl Duffy (Goss Engl)

3:32 (3 minutes) All members were present with the exception of Day, Glenn, Miller, Moore, and Orth. Schmidt served as proxy for Miller. Hartman served as chair in McNeil's absence. Determined that a quorum was met.

3:35 (1 minute) The minutes from the March 9 meeting were approved.

3:36 (11 minutes) Chair led the committee in thinking through what sort of guidelines we want to provide for faculty members designing courses to satisfy the three outcome sets clarified last week: Engaged Global Citizens, Personal and Professional Development, and Critical Thinking. We decided that, for each of these sets, we would produce a helpful one-page document that would include information such as: (1) how the outcomes relate to the KBOR framework, (2) a description of the intended "spirit" of the outcome set, (3) definitions of key terms, (4) descriptions of types of courses that might work, and (5) sample assignments or assessments. As the outcome sets vary considerably, and pose different challenges for being brought into focus, the understanding was that each would have its own structure and emphasis. The target audience for each would be faculty members serving in one of two roles: course designer or General Education Committee member.

3:47 (11 minutes) Before turning to these guideline sheets, we decided to do something similar for our recent revision of the natural science mode of inquiry outcomes. Working from a draft prepared by Clark, we

agreed upon a one-page document providing examples of the sorts of questions that could be used to successfully assess the outcomes. See *Appendix I* below.

3:58 (43 minutes) We then turned to the Critical Thinking guidelines. Working from a draft prepared by the members of the philosophy department, we agreed upon a one-page document that (1) indicates where faculty members can go to find out what the subject matter of critical thinking is generally understood to be, (2) identifies some essential skills, and (3) explains how the course is intended to be of general applicability. See *Appendix II* below.

4:41 The meeting ended. Our next meeting is scheduled for Thursday March 30 at 3:30 PM in Rarick 107 (or Zoom at <https://us04web.zoom.us/j/71658352633?pwd=dTk4T1f5YgHNXoi6BUOwTkgfZNVG5v.1>). The plan is to move on to the guidelines for Engaged Global Citizens and Personal and Professional Development.

Submitted by D. Drabkin, Recording Secretary



Appendix I

NATURAL AND PHYSICAL SCIENCES DISCIPLINE AREA ASSESSMENT

The Kansas Board of Regents identifies a Natural and Physical Sciences Discipline Area that must be included in the General Education program of each regent institution. Students are required to take one science theory course and one science laboratory course.

The outcome set used to assess courses in the discipline are:

1. Make appropriate use of models based on well-established scientific reasoning to predict or explain natural phenomena;
2. Evaluate the validity or strength of a truth-claim or scenario using scientific reasoning or methods;
3. Collect, analyze, and interpret observational data using scientific methods and reasoning.

It is expected that most science courses will be able to identify assignments or exam questions that they are already using in the course to assess these outcomes.

Outcomes 1 and 2 are to assess theory courses.

Outcome 1 identifies a common thread among all science courses. Students are taught a scientific theory or framework and are asked to make a prediction or explain an observation. Example questions that could be given as a standalone quiz, or as part of a larger exam:

1. Given a map of tectonic plate boundaries, identify regions where we would expect to find mountain ranges, volcanoes, and other geological features or events.
2. A cannonball is launched from the ledge of a 10 m cliff with a muzzle velocity of 10 m/s parallel to the ground. Determine when the cannon ball would strike the ground below, where it would strike the ground, and how fast it would be traveling when it strikes the ground.
3. If you see the full moon rising in the east, what time of day is it? Explain.

Outcome 2 asks students to use what they have learned about a scientific theory or framework and apply it to some claim or (possibly fictional) scenario. Examples of questions:

1. An electric car company has announced that they have made a breakthrough in battery technology. They have found a way to make smaller batteries more efficient and the result is a light car that can travel a greater distance on one charge. The company claims that they were able to drive their 1000 kg electric car to the top of Pikes peak from its base, and ascent of 4300 m, and only used half the charge of the battery's 50 kWhr battery. Should we buy stock in this company? Explain.
2. It has recently been discovered that the rotation of Earth's inner core has slowed. This is the likely cause of climate change since the Industrial Revolution. Evaluate the strength of this claim.

Outcome 3 is to assess lab courses. Students are expected to learn how to collect observational data and perform some analysis with the data they collected. Collecting data could include collecting physical specimens from the wild, viewing a set of supplied specimens under a microscope and noting various properties, constructing an experiment and taking measurements, or even gathering data from public databases to perform some analysis.

Appendix II

GUIDELINES FOR TEACHING A GENERAL EDUCATION CRITICAL THINKING COURSE

Objective

Students will recognize, analyze, criticize, evaluate, and formulate arguments in ways characterized by intellectual courage and reflective self-criticism.

Outcomes

The student will:

- Systematically evaluate arguments of various kinds.
- Write a formal paper that uses a standard form of reasoning to argue in support of a controversial thesis and then defend this reasoning from a significant objection.

Definitions

"formal paper" -- a researched paper citing credible sources in a discipline-appropriate documentation style

Prerequisite

Students must complete ENG 102: Composition II prior to taking this course.

Guiding Principles

- **Subject Matter:** Critical Thinking is a well-established discipline, with a well-defined subject matter: the identification, construction, and evaluation of arguments of various kinds. Although instructors will presumably employ different pedagogical approaches in teaching the course and may choose to emphasize different aspects of the subject, the topics covered should not deviate widely from those covered in standard Critical Thinking textbooks -- e.g., Lewis Vaughn, *The Power of Critical Thinking* (Oxford), David R. Morrow and Anthony Weston, *A Workbook for Arguments* (Hackett), or Brooke Moore and Richard Parker, *Critical Thinking* (McGraw-Hill).
- **Essential Skills:** Learning to think critically involves acquiring skills through practice. Essential skills include: (1) determining whether a passage contains an argument, (2) identifying the parts of particular arguments, including assumed premises, (3) distinguishing different kinds of deductive and inductive arguments, (4) evaluating the validity of deductive arguments, (5) evaluating the strength of inductive arguments, (6) recognizing and avoiding common fallacies, (7) composing in writing an argument of one's own, (8) identifying and formulating the strongest objection to one's own argument, and (9) replying to that objection.
- **General Applicability:** Any course designed to satisfy these outcomes should provide students with fundamental reasoning skills applicable to any major. Instructors may devote more time to argument types relevant to their

own disciplines, but the primary focus of the course must be the general reasoning skills applicable to the construction and evaluation of arguments in any discipline.

A Sample Course Outline

Week	Topics
1-2	kinds of claims, recognizing arguments, identifying conclusions and premises
3-4	analyzing and evaluating kinds of deductive arguments
5-8	analyzing and evaluating kinds of inductive arguments
9	recognizing common fallacies
10-12	discipline-specific arguments
13-15	the formal paper: constructing, critiquing, and defending an argument