Example Syllabus

Ways of Knowing

FIS 305

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Office: Interdisciplinary B, Room 366
Office Hours: MTWHF 0:00-0:00 or by appointment

Course description:

A core requirement in the B.S. and B.A. in Innovation in Society, this course introduces students to research, beginning with the concept of research itself and its various purposes, highlighting knowledge and how it is created in different disciplinary approaches. Students will be exposed to historical and philosophical underpinnings of how research is conceptualized, presented, and implemented, including what constitutes information, knowledge and evidence. While material that would be in a traditional research design and methodology course will be introduced in this course, the emphasis will uniquely focus on knowledge creation, innovation, the nature of disciplinary knowledge, and its impact on society. The epistemological differences in problem identification and approaches to inquiry will be explored in the disciplinary perspectives of engineering, the sciences, and in the social sciences.

Course objectives:

The overall goals of the course are to provide students with an understanding of research and its place in innovation and social change, understand the historical social and political context of research and knowledge creation, and to gain the skills necessary to evaluate research and design their own inquiries.

- Students will recognize and identify how knowledge is created, presented, and utilized in different eras, cultures, and disciplines.
- Students will be challenged to formulate research questions relevant to the intersection of innovation, society and the future, and consider various methods of inquiry.
- Students will compare methods of inquiry and knowledge creation from diverse disciplines.
- Students will evaluate current research, including central questions of inquiry, methods selected, and analysis of the data, in media accounts and academic publications.

Learning Outcomes:

- Students will analyze and evaluate (C-2) selected research literature, culminating in critical essays (C-1, C-3)) that focus on the questions, methods, and knowledge creation.
- Students will conduct peer reviews orally in class and in written assignments (C-1, C-2, C-3).
• Students will raise their own research questions and design an appropriate research plan for a selected question(s), culminating in a research design paper. (C-1, C-3)

• Students will demonstrate through oral and written expression (C-1, C-3) the ability to critically evaluate (C-2) how research is undertaken, how it impacts policy and innovation, and how research on innovation in society could lead to different futures.

Course Requirements:

Students will be engaged in activities throughout the course to create meaningful connections between the assigned reading and the real world, such as identifying how research is conducted and reported in the media on problems that affect their lives, how one constructs a research design, and how to find and evaluate past research and build on that knowledge.

| Participation in Lecture          | 10% |
| Critical Essays                  | 20%(C-1, C-2, C-3) |
| First Exam                       | 10% |
| Draft of Research Design Paper   | 10% (C-1, C-2, C-4) |
| Final Research Design Paper      | 20%(C-1, C-2, C-3) |
| Peer Reviews                     | 10% (C-2) |
| Research Design Presentation     | 10% |
| Final Exam                       | 10% |
| **Total**                        | **100%** |

Barrett students interested in adding an honors contract to the class should contact the instructor in the first week of classes.

Grading Scale:

- **A-/ A/ A+** 90.0-92.4/ 92.5-97.9/ 98-100 Excellent
- **B- /B/ B+** 80.0-82.4/ 82.5-87.4/ 87.5-89.9 Good
- **C/ C+** 70.0-77.4/ 77.5-79.9 Average
- **D** 60.0-69.9 Passing
- **E** <60 Failure
- **XE** Failure due to Academic Dishonesty

[Note: in order to receive University Distribution requirement, credit you must earn at least a “C.”]

Written Assignments

Critical Essays (C-1, C-2, C-3)

In order to gain an appreciation for how research is conducted and reported in different disciplines, a significant part of the overall grade will come from four analytical written assignments that involve selecting published research (2-3 journal articles) from science, engineering and the social sciences. The first two essays will be a draft and revision of the same paper in order to provide feedback early on in the course to each writer. The essays will be critical analyses which evaluate, for each piece of research literature analyzed, the formulation of the research problem, methodologies used, and the interpretation of results. These papers are to be around 3-5 pages, double-spaced and are due every other week at the beginning of
the course, enabling early assessment of writing and analysis of each student. All citations and lists of sources should be complete, and follow the American Psychological Association (APA) style format.

**Final Research Design Paper: (C-1, C-2, C-3)**

This paper, from 5-10 pages, will be a research proposal based on the student’s research question that involved the intersection of society, technology, and/or science, to include a brief literature review and proposed methods for carrying out the research. An earlier draft will be due in order to provide feedback to allow each student to improve and edit their papers for the final submission. The paper should reflect an awareness of the process and significance of problem identification, and understanding of where to find relevant published research on the problem, and the proposed methods should reflect an understanding of appropriate application of the method used. All citations and lists of sources should be complete, and follow the American Psychological Association (APA) style format.

**Peer Reviews: (C-2)**

Peer reviews will be conducted with online written and in class oral reviews of each student’s research design as it develops, particularly in the problem development phase. The written online reviews will facilitate the process of providing constructive feedback between students, culminating in an oral review at the end of the course. A peer review is to be a constructive evaluation of the ideas presented, and the clarity of those ideas.

**Course Calendar and Assigned Reading:**

**Texts:**


(Assigned readings will also include published research on topics engaging for the students, from different disciplines, and timely media reporting on a wide variety of research.)

**Weekly Topics:**

1. **What is research and its purposes?**
   - Reading: Repko

2. **Epistemology and methodology: knowledge, evidence, etc.**
   - Reading: Moses & Torbjorn
   - Critical Essay 1 – First Draft (C-4) due

3. **History of research and research methods, focus on statistics**
   - Reading: Moses & Torbjorn

4. **Scientific inquiry - history, Kuhn, application to social sciences**
   - Reading: Brown and Repko, plus supplemental reading
• Critical Essay 1 – Final Draft (C-4) revised due

5. Engineering inquiry and innovation
• Reading: supplemental reading

6. Social Science approaches
• Readings: Brown and Repko
• Critical Essay 2 (C-4) due

7. Quantitative research—power of statistics
• Readings Moses & Torbjorn

8. Qualitative research – social science disciplinary approaches
• Readings Moses & Torbjorn, Brown, and Repko
• Critical Essay 3 (C-4) due

9. First Exam

10. Transdisciplinary Research
• Readings: Repko and Brown
• Draft of Final Research Design Paper (C-4) due

11. Formulating questions about innovation in society
• Readings: Brown
• Peer Reviews due

12. Evaluating methodologies and methods
• Reading Moses & Torbjorn, selected research articles

13. Final research design presentations and discussions

14. Final Research Design Paper Due

Final Exam to be held during Finals Week

This syllabus is subject to change. It is your responsibility to read e-mail updates from the instructor and TAs as well as check the blackboard site for alterations made as events occur.

Incomplete: A mark of "I" (incomplete) can be given by the instructor when you are otherwise doing acceptable work but are unable to complete the course because of illness or other conditions beyond your control. You are required to arrange with the instructor for the completion of the course requirements. The arrangement must be recorded using the form at http://students.asu.edu/forms/incomplete-grade-request. Students should be proactive and discuss this with their instructor and TA before the end of the semester. Students who do not complete this form before the end of the semester cannot be given an incomplete and will be awarded a grade based on the work they have completed.

Late Assignments: Late assignments will have 1/3rd of a letter grade deducted each day they are late. Advanced written or e-mailed notice that you will miss a class or have to turn in an assignment late could help your cause.
Grade Appeals: ASU has formal and informal channels to appeal a grade. If you wish to appeal any grading decisions, please see: http://catalog.asu.edu/appeal

Student Standards: Students are required to read and act in accordance with university and Arizona Board of Regents policies, including: The ABOR Code of Conduct: Arizona Board of Regents Policies 5-301 through 5-308: http://www.azregents.edu/policymanual/default.aspx

Professionalism in the Classroom: While learning happens throughout ASU, the classroom is a particularly important focal point. Students are asked to contribute to a collegial atmosphere where ideas can be exchanged, discussed, and debated freely by avoiding disruptions through their own behavior and the distractions of their technology. Disruptive, threatening or violent behavior will be dealt with according to the policies in the Student Services Manual, SSM 104–02. Students wishing to record lectures electronically must first get permission from the instructor.

It is impossible to learn from your fellow students when you or they are not there. As such attendance is required in this course. Should you have to miss a class, contact your instructor as far in advance as possible. Depending on the nature of the absence the instructor may elect to deduct points from your overall grade. Absences can be excused for religious observances or practices that are in accord with ACD 304–04 or university sanctioned events/activities that are in accord with ACD 304–02.

Academic Integrity: Academic honesty is expected of all students in all examinations, papers, laboratory work, academic transactions and records. The possible sanctions include, but are not limited to, appropriate grade penalties, course failure (indicated on the transcript as a grade of E), course failure due to academic dishonesty (indicated on the transcript as a grade of XE), loss of registration privileges, disqualification and dismissal. For more information, see http://provost.asu.edu/academicintegrity.

If you fail to meet the standards of academic integrity in any of the criteria listed on the university policy website, sanctions will be imposed by the instructor, school, and/or dean. Academic dishonesty includes borrowing ideas without proper citation, copying others’ work (including information posted on the internet), and failing to turn in your own work for group projects. Please be aware that if you follow an argument closely, even if it is not directly quoted, you must provide a citation to the publication, including the author, date, and page number. If you directly quote a source, you must use quotation marks and provide the same sort of citation for each quoted sentence or phrase. You may discuss assignments with other students, however, all writing that you turn in must be done independently. If you have any doubt about whether the form of cooperation you contemplate is acceptable, ask the TA or the instructor in advance of turning in an assignment. Please be aware that the work of all students submitted electronically can be scanned using SafeAssignment, which compares them against everything posted on the internet, online article/paper databases, newspapers and magazines, and papers submitted by other students. Turning in an assignment (all or in part) that you completed for a previous class is considered self-plagiarism and falls under these guidelines. Any infractions of self-plagiarism are subject to the same penalties as copying someone else’s work without proper citations. Students who have taken this class previously and would like to use the work from previous assignments should contact the instructor for permission to do so.

Prohibition of Commercial Note Taking Services: In accordance with ACD 304-06 Commercial Note Taking Services, written permission must be secured from the official instructor of the class in order to sell the instructor's oral communication in the form of notes. Notes must have the note taker’s name as well as the instructor’s name, the course number, and the date.
Student Support and Disability Accommodations: In compliance with the Rehabilitation Act of 1973, Section 504, and the Americans with Disabilities Act of 1990, professional disability specialists and support staff at the Disability Resource Center (DRC) facilitate a comprehensive range of academic support services and accommodations for qualified students with disabilities. Qualified students with disabilities may be eligible to receive academic support services and accommodations. Eligibility is based on qualifying disability documentation and assessment of individual need. Students who believe they have a current and essential need for disability accommodations are responsible for requesting accommodations and providing qualifying documentation to the DRC. Every effort is made to provide reasonable accommodations for qualified students with disabilities. Qualified students who wish to request an accommodation for a disability should contact their campus DRC at: http://www.asu.edu/studentaffairs/ed/drc/ If you are a student in need of special arrangements we will do all we can to help, based on the recommendations of these services. For the sake of equity for all students, we cannot make any accommodations without formal guidance from these services.

Sexual Violence and Harassment: Title IX is a federal law that provides that no person be excluded on the basis of sex from participation in, be denied benefits of, or be subjected to discrimination under any education program or activity. Both Title IX and university policy make clear that sexual violence and harassment based on sex is prohibited. An individual who believes they have been subjected to sexual violence or harassed on the basis of sex can seek support, including counseling and academic support, from the university. If you or someone you know has been harassed on the basis of sex or sexually assaulted, you can find information and resources at http://sexualviolenceprevention.asu.edu/faqs/students.

Drop and Add Dates/Withdrawals: Please refer to the academic calendar on the deadlines to drop/withdraw from this course. Consult with your advisor and notify your instructor if you are going to drop/withdraw this course. If you are considering a withdrawal, review the following policies: Withdrawal from Classes, Medical/Compassionate Withdrawal.

Email Communications
All email communication for this class will be done through your ASU email account and the blackboard site. You should be in the habit of checking your ASU email regularly as you will not only receive important information about your class(es), but other important university updates and information. You are solely responsible for reading and responding if necessary to any information communicated via email. For help with your email go to: http://help.asu.edu/sims/selfhelp/SelfHelpHome.seam?dept_pk=822 and file a help desk ticket by clicking on “My Help Center.”

Campus Resources: As an ASU student you have access to many resources on campus. This includes tutoring, academic success coaching, counseling services, financial aid, disability resources, career and internship help and many opportunities to get involved in student clubs and organizations.
  Tutoring: https://tutoring.asu.edu/tutoring
  Counseling Services: http://students.asu.edu/counseling
  Financial Aid: http://students.asu.edu/financialaid
  Major/Career Exploration: https://cls.asu.edu/majorexploration
  Career Services: http://students.asu.edu/career
  Student Organizations: http://www.asu.edu/studentaffairs/mu/clubs/