

Term Information

Effective Term Summer 2023

General Information

Course Bulletin Listing/Subject Area Anthropology
Fiscal Unit/Academic Org Anthropology - D0711
College/Academic Group Arts and Sciences
Level/Career Undergraduate
Course Number/Catalog 2210
Course Title Race, Ethnicity, Gender Diversity and Human Biology
Transcript Abbreviation REGD and Hum Bio
Course Description Focuses on the history of pseudoscience in the biological study of race, ethnicity, gender diversity, and human sexuality; evaluates modern scientific studies relating to human biological diversity.
Semester Credit Hours/Units Fixed: 3

Offering Information

Length Of Course 14 Week
Flexibly Scheduled Course Never
Does any section of this course have a distance education component? No
Grading Basis Letter Grade
Repeatable No
Course Components Lecture
Grade Roster Component Lecture
Credit Available by Exam No
Admission Condition Course No
Off Campus Never
Campus of Offering Columbus, Lima, Mansfield, Marion, Newark, Wooster

Prerequisites and Exclusions

Prerequisites/Corequisites
Exclusions
Electronically Enforced No

Cross-Listings

Cross-Listings

Subject/CIP Code

Subject/CIP Code 45.0201
Subsidy Level Baccalaureate Course
Intended Rank Freshman, Sophomore, Junior, Senior

Requirement/Elective Designation

Race, Ethnicity and Gender Diversity

The course is an elective (for this or other units) or is a service course for other units

Course Details

Course goals or learning objectives/outcomes

- Explain the different attributes of pseudoscience, poor science, and science.
- Apply their understanding of differences between pseudoscience, poor science, and science to evaluating studies relating to the biology of race, ethnicity, gender, and sexuality of the past and present.
- Directly connect early biological conceptions of race, ethnicity, gender, and sexuality to how these were used to rationalize slavery, genocide, oppression, and discrimination.
- Identify intersectional effects on people's lived experiences of early biological conceptions of race, ethnicity, gender, and sexuality.
- Articulate principles of modern anthropological, genomic, and/or psychological understandings of race, gender, and sexuality.
- Analyze how social constructs such as race and gender impact health and well-being, and in this sense become embodied biology.
- Analyze the challenges inherent in research on the intersectional effects of social constructs on health and well-being.

Content Topic List

- Science, poor science, and pseudoscience and how to know the difference
 - What do we mean today by Race? Ethnicity? Gender Diversity? Sexual Orientation? Intersectionality?
 - Historical origins of "scientific" racial classification and attributions of biological traits to ethnic groups
 - Early "scientific" understandings of gender diversity and sexuality
 - Connecting early scientific misunderstandings to "scientific" rationalizations for slavery, oppression, and discrimination
 - Introduction to Social Darwinism and Eugenics
 - Case Study: Eugenics in the United States
 - Case Study: Eugenics in Nazi Germany
 - What are the foundational principles of our modern understandings of human biological diversity?
 - When social constructions of race, ethnicity and gender intersect to impact people's health and how to study the impact
 - When modern scientific understandings provide a basis for addressing sexism and discrimination against LGBTQ individuals...and when they don't.
 - The pseudoscience backlash
- No

Sought Concurrence

Attachments

- REGD and Human Biology Syllabus.docx: 2210 Syllabus
(Syllabus. Owner: Healy, Elizabeth Ann)
- ge-foundations-submission_REGD.pdf: GE Proposal
(GEC Model Curriculum Compliance Stmt. Owner: Healy, Elizabeth Ann)

Comments

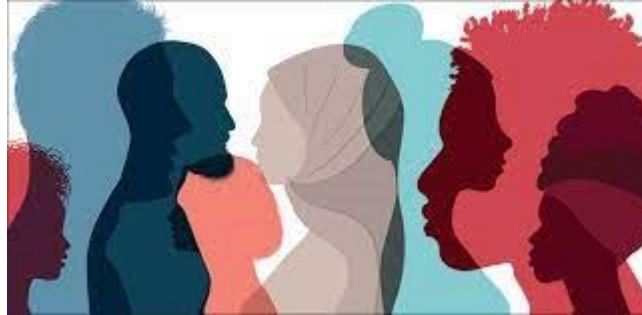
- Hi Bernadette: Our electives courses are all 3xxx or above. So, I don't think this can count as an elective. Thanks, though! *(by Guatelli-Steinberg,Debra on 04/12/2022 04:40 PM)*
- If course can count (even as an elective) in the major, please provide updated curriculum map. *(by Vankeerbergen,Bernadette Chantal on 04/12/2022 02:02 PM)*

Workflow Information

Status	User(s)	Date/Time	Step
Submitted	Healy,Elizabeth Ann	04/05/2022 09:08 AM	Submitted for Approval
Approved	Guatelli-Steinberg,Debra	04/05/2022 09:16 AM	Unit Approval
Revision Requested	Vankeerbergen,Bernadette Chantal	04/12/2022 02:02 PM	College Approval
Submitted	Guatelli-Steinberg,Debra	04/12/2022 04:41 PM	Submitted for Approval
Approved	Guatelli-Steinberg,Debra	04/12/2022 04:41 PM	Unit Approval
Approved	Vankeerbergen,Bernadette Chantal	04/25/2022 11:05 AM	College Approval
Pending Approval	Cody,Emily Kathryn Jenkins,Mary Ellen Bigler Hanlin,Deborah Kay Hilty,Michael Vankeerbergen,Bernadette Chantal Steele,Rachel Lea	04/25/2022 11:05 AM	ASCCAO Approval

Anthropology 2210

REGD and Human Biology



Instructor: Dr. Guatelli-Steinberg; e-mail guatelli-steinbe.1@osu.edu

Office hours: Tue, Thurs. 2-3:30 pm, 4006 Smith Lab

Land Acknowledgment

The Ohio State University occupies ancestral lands called *Ohi:yo* by the *Onodowaga* and many other First Nations, including the *Shaawanwa lenaki*, *Twightwee*, *Lenni Lenape*, and *Wendat*. This is where the *skenq·tq* (Scioto) and Olentangy Rivers have flowed since time immemorial. Treaties in 1768, 1784, 1785, 1795, and 1818, and the 1830 Indian Removal Act, forced First Nations people to cede land and leave their homes. This history of colonization informs our shared future of collaboration and innovation. Ohio State University acknowledges that the land we occupy was theirs.

What this course is about and why it is needed

This is a Foundational Course open to all Ohio State undergraduate students and there are no prerequisites. There is no textbook, but there are assigned readings for each week that are posted on Carmen. Although other courses cover such topics as historical biological conceptions of race and their powerful effects on people's lived experiences, this course focuses on differentiating science from pseudoscience in the biological study of race, ethnicity, gender diversity, and human sexuality. We take this perspective --evaluating science critically-- to analyzing scientific understandings of human biological diversity both in the past and present. We emphasize that those understandings have had, and continue to have, intersectional effects on people's lives. We examine several examples of the negative intersectional effects of these views: from the life of Sara Baartman (sadly, more widely known as the Hottentot Venus) to the eugenics movements in the United States and Nazi Germany. We then transition to more recent times— exploring how modern scientific understandings are antithetical to flawed pseudoscientific understandings of human biological diversity that were once used to rationalize slavery, genocide, oppression, and discrimination. We end the course by examining the resurgence of pseudoscience in the study of REGD in modern times and critiquing modern peer-reviewed scientific studies that deal with REGD and biology.

Why anthropology?

Biological anthropology is a subdiscipline of anthropology focusing on understanding human origins, evolution, and modern biological diversity. Historical practitioners of the field were guided by their biases, using “scientific” studies to rationalize oppression of people perceived as “different” from white, European, male standards. That oppression we know included people of diverse races, ethnicities, genders, and sexual orientation. Confusion over “race” and “ethnicity” contributed to that oppression. Biological anthropology as well as cognate sciences today, however, have made certain principles clear, such as: the social construction of race, the fact that racial categories are poor reflections of human biological diversity, the real effects of race and ethnicity on people’s embodied biology (health and well-being), and the overwhelming evidence that gender identity and sexual orientation are not matters of “choice.” These modern understandings, which are diametrically opposed to flawed past conceptions, can provide a basis for exploring human biological diversity in ways that help promote equity and inclusion. For example, by understanding how the social construction of race can impact health disparities, we gain critical knowledge for addressing those disparities through education, programs and policies.

General Education Course Goals and Objectives

This course satisfies the **Race, Ethnicity and Gender Diversity** foundation of the General Education curriculum. The goals and expected learning outcomes of this foundation are:

Goal 1: Successful students will engage in a systematic assessment of how historically and socially constructed categories of race, ethnicity, and gender, and possibly others, shape perceptions, individual outcomes, and broader societal, political, economic, and cultural systems. **Successful Students are able to:**

- (1.1) Describe and evaluate the social positions and representations of categories including race, gender, and ethnicity, and possibly others.
- (1.2) Explain how categories including race, gender, and ethnicity continue to function within complex systems of power to impact individual lived experiences and broader societal issues.
- (1.3) Analyze how the intersection of categories including race, gender, and ethnicity combine to shape lived experiences.
- (1.4) Evaluate social and ethical implications of studying race, gender, and ethnicity.

Goal 2: Successful students will recognize and compare a range of lived experiences of race, gender, and ethnicity.

Students are able to:

- (2.1) Demonstrate critical self-reflection and critique their social positions and identities.
- (2.2) Recognize how perceptions of difference shape one’s own attitudes, beliefs, or behaviors.
- (2.3) Describe how the categories of race, gender, and ethnicity influence the lived experiences of others.

Specific Course Objectives: Successful students will:

1. (a) Explain the different attributes of pseudoscience, poor science, and science; (b) Apply their understanding of differences between pseudoscience, poor science, and science to evaluating studies relating to the biology of race, ethnicity, gender, and sexuality of the past and present.
2. (a) Directly connect early biological conceptions of race, ethnicity, gender, and sexuality to how these were used to rationalize slavery, genocide, oppression, and discrimination. (b) Identify intersectional effects on people's lived experiences of early biological conceptions of race, ethnicity, gender, and sexuality.
3. Articulate principles of modern anthropological, genomic, and/or psychological understandings of race, gender, and sexuality. These include the understanding of race and gender as social constructs as well as the fact that racial categories are poor reflections of human biological diversity.
4. Analyze how social constructs such as race and gender impact health and well-being, and in this sense become embodied biology.
5. Analyze the challenges inherent in research on the intersectional effects of social constructs on health and well-being.

How do course objectives relate to the goals and objectives of the REGD Foundation?

With respect to Goal 1 and Objectives 1.1-1.4: Students will analyze, throughout the course, how early biological conceptions of race, ethnicity, gender, and sexuality and current pseudoscientific manifestations of these ideas relate to (1) intersectional effects on people's lived experiences, health and well-being, and (2) historical and societal effects. Students will also examine how scientific study of these topics today can have social and ethical implications that in some cases help promote social goals equity and inclusion, but in some ways may lead to "othering," and thus be antithetical to those goals. With respect to Goal 2 and Objectives 2.1-2.3, students will discuss, throughout the course, their own conceptions of race, ethnicity, gender, and sexuality and their impact on people's lived experiences. They will be asked on the final exam to compare and contrast their conceptions pre- and post-course of the biology of race, ethnicity, gender and sexuality.

Grades

There are 10 assignments spaced throughout the course, and three exams. Many of the assignments are group assignments: they are summaries of group discussions. In this syllabus, all assignments and exams are listed and emphasized in red font. The point distribution--a total of 400 points-- is as follows:

1. Assignments 1-9 are 20 worth 20 points each for a total of 180 points.
2. Assignment 10 is worth 40 points.
3. Each exam is worth 60 points, for a total of 180 points.

Grades will be assigned by percentages of points earned. There is no extra credit and grades are based on a standardized scale (93-100% = A; 90-92.9% = A-, 87-89.9% = B+, 83-86.9% = B, 80-82.9%=B-, etc.)

Disability Services

The university strives to make all learning experiences as accessible as possible. In light of the current pandemic, students seeking to request accommodations may do so through OSU's [request process](#), managed by Student Life Disability Services (SLDS). If you anticipate or experience academic barriers based on your disability (including mental health, chronic, or temporary medical conditions), please let me know immediately so that we can privately discuss options. To establish reasonable accommodations, register with SLDS then meet with me as soon as possible to discuss your accommodations so that they may be implemented in a timely fashion. Contact SLDS at: slids@osu.edu; 614-292-

3307; slids.osu.edu; 098 Baker Hall, 113 W. 12th Avenue.

Academic Misconduct

All students should become familiar with the rules governing academic misconduct, especially as they pertain to plagiarism and cheating. Ignorance of the rules is not an excuse and all alleged cases of academic misconduct will be reported to the Committee on Academic Misconduct (COAM). It is the responsibility of the Committee on Academic Misconduct to investigate or establish procedures for the investigation of all reported cases of student academic misconduct. The Ohio State University's Code of Student Conduct (Section 3335-23-04) defines academic misconduct as: any activity that tends to compromise the academic integrity of the University or subvert the educational process.

Examples of academic misconduct include (but are not limited to) plagiarism, collusion (unauthorized collaboration), copying the work of another student, and possession of unauthorized materials during an examination. Ignorance of the University's Code of Student Conduct is never considered an excuse for academic misconduct. It is important that students review the Code of Student Conduct and, specifically, the sections dealing with academic misconduct <http://studentlife.osu.edu/csc/>. Failure to follow the rules and guidelines established in the University Code of Student Conduct and this syllabus may constitute Academic Misconduct. **Instructors shall report all instances of alleged academic misconduct to the committee.** If the **Committee on Academic Misconduct** determines that a student violated the University's Code of Student Conduct (i.e., committed academic misconduct), the sanctions for the **misconduct could include a failing grade in this course and suspension or dismissal from the University.**

PLEASE TAKE CARE OF YOURSELF (Mental Health Statement):

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 or reduce a student's ability to participate in daily activities. The Ohio State University offers services to assist you with addressing these and other concerns you may be experiencing.

If you or someone you know are suffering from any of the aforementioned conditions, you can learn more about the broad range of confidential mental health services available on campus via the Office of

Student Life's Counseling and Consultation Service (CCS) by visiting ccs.osu.edu or calling 614-292-5766. CCS is located on the 4th Floor of the Younkin Success Center and 10th Floor of Lincoln Tower. You can reach an on call counselor when CCS is closed at 614-292-5766 and 24 hour emergency help is also available through the 24/7 National Suicide Prevention Hotline at 1-800-273-TALK or at <https://suicidepreventionlifeline.org/>

Sexual Misconduct and Relationship Violence

Ohio State University is committed to building and maintaining a community to reflect diversity and to improve opportunities for all. All Buckeyes have the right to be free from harassment, discrimination, and sexual misconduct. Ohio State does not discriminate on the basis of age, ancestry, color, disability, ethnicity, gender, gender identity or expression, genetic information, HIV/AIDS status, military status, national origin, pregnancy (childbirth, false pregnancy, termination of pregnancy, or recovery therefrom), race, religion, sex, sexual orientation, or protected veteran status, or any other bases under the law, in its activities, academic programs, admission, and employment. Members of the university community also have the right to be free from all forms of sexual misconduct: sexual harassment, sexual assault, relationship violence, stalking, and sexual exploitation. To report harassment, discrimination, sexual misconduct, or retaliation and/or seek confidential and non-confidential resources and supportive measures, contact the Office of Institutional Equity: **Online reporting form at equity.osu.edu, Call 614-247-5838 or TTY 614-688-8605, Or Email equity@osu.edu**

Diversity

The Ohio State University affirms the importance and value of diversity in the student body. Our programs and curricula reflect our multicultural society and global economy and seek to provide opportunities for students to learn more about persons who are different from them. We are committed to maintaining a community that recognizes and values the inherent worth and dignity of every person; fosters sensitivity, understanding, and mutual respect among each member of our community; and encourages each individual to strive to reach his or her own potential.

Discrimination against any individual based upon protected status, which is defined as age, color, disability, gender identity or expression, national origin, race, religion, sex, sexual orientation, or veteran status, is prohibited.

Please Note: In case of unexpected instructor absences information will be posted on the web site (below). This site should be consulted during inclement weather to check for class cancellations or delays. Do not call the department, check the web site: <https://anthropology.osu.edu/>

SCHEDULE OF EVENTS, READINGS, ASSIGNMENTS, EXAMS

Week 1. First principles: Science, poor science, and pseudoscience and how to know the difference
(critical thinking: (a) distinguishing fact from fiction and, (b) analyzing the logic of arguments)

- Tues: Lecture: Science, poor science, pseudoscience
- Thurs: Discussion: Analysis of two articles (see below) with respect to pseudoscience and watch and discuss portions of BBC's documentary "Dr. Money and the Boy with no Penis"

• Readings:

1. <https://plato.stanford.edu/entries/pseudo-science/>

2. <https://www.popsci.com/diy/spot-fake-science/>

3. The two articles we will evaluate in our discussion in terms of pseudo-science/problematic/poor science in relation to understanding human biological diversity:

a. Money, 1977: Sex roles and sex coded roles. *Journal of Pediatric Psychology* 1977, Vol 2, No. 3, 108-109

b. Nyenhuis SM, Krishnan JA, Berry A, Calhoun WJ, Chinchilli VM...Ackerman SJ. Race is associated with differences in airway inflammation in patients with asthma. *J Allergy Clin Immunol*. 2017 Jul;140(1):257-265.e11. doi: 10.1016/j.jaci.2016.10.024.

>>>What to turn in? Assignment 1 (20 points) 1-2 page summary of your group's evaluation of the two articles (Money, 1977; Nyenhuis et al., 2017).

Week 2. More first principles: What do we mean today by Race? Ethnicity? Gender Diversity? Sexual Orientation? Intersectionality? (critical thinking: distinguishing among related concepts)

- Tues: Lecture: Race and Ethnicity as Social Constructs: Why racial and ethnic categories are poor reflections of human biological diversity

- Thurs: Lecture: Gender Diversity, Sexual Orientation, and Intersectionality

• Readings:

1. Gannon, M. (2016). Race is a social construct, scientists argue. *Scientific American*, 5, 1-11. (<https://www.scientificamerican.com/article/race-is-a-social-construct-scientists-argue/>)

2. Winker, M. A. (2004). Measuring race and ethnicity: why and how? *Journal of the American Medical Association*, 292(13), 1612-1614.

3. Wood, W., & Eagly, A. H. (2015). Two traditions of research on gender identity. *Sex Roles*, 73(11), 461-473.

4. Hankivsky, O. (2014). Intersectionality 101. *The Institute for Intersectionality Research & Policy, SFU*, 36, 1-34.

Week 3. Historical origins of “scientific” racial classification and attributions of biological traits to ethnic groups – what did scientists in the past think and on what basis did they hold their views?

(critical thinking: analyzing and critiquing methods and arguments of early “scientific” studies).

•Tues: Lecture: Scientific racism: Pre-evolutionary and evolutionary conceptions

•Thurs: Discussion: Mismeasure of Man Chapters 2,3,4 and evaluate the scientific basis of Reading 4.

•Readings:

1. Gould, Stephen J. (1980) *The Mismeasure of Man*. Chapter 2: American Polygyny and Craniometry before Darwin: Blacks and Indians as Separate, Inferior Species.

2. Gould, Stephen J. *The Mismeasure of Man*: Chapter 3: Measuring Heads: Paul Broca and the Heyday of Craniology.

3. Gould, Stephen J. *The Mismeasure of Man*: Chapter 4: Measuring Bodies: Two Case Studies on the Apishness of Undesirables.

4. Down, Langdon H (1866). Observations on an Ethnic Classification of Idiots. In: *London Hospital Reports*, 259-262.

5. <https://www.gravlee.org/boas> (Gravlee on Boas’s landmark Immigrant Study)

>>>What to turn in? Assignment 2 (20 points) 1-2 page summary of your group’s evaluation of Article 4 (Langdon, 1855).

Week 4. Early “scientific” understandings of gender diversity and sexuality – what did scientists in the past think and on what basis did they hold their views?

(critical thinking: analyzing and critiquing methods and arguments of early “scientific” studies).

•Tues: Lecture: Science and sexism, gender diversity, sexuality, and intersections with race; Watch first half of video: “*The Life and Times of Sara Baartman: The Hottentot Venus*”

•Thurs: Discussion: Watch second half of video: “*The Life and Times of Sara Baartman: The Hottentot Venus*” and discuss the scientific assumptions underlying the transformation of Sara Baartman’s life.

•Readings:

1. Carducci, J., Haste, A., Longenberger, B. 2016. "What Am I?": Nineteenth-Century Medical Science, Intersexuality, and Freakification in the Life of Karl Hohmann. *Digital Literature Review*, Ball State University.
2. Magubane, Zine. 2001. Which Bodies Matter? Feminism, Poststructuralism, Race, and the Curious Theoretical Odyssey of the Hottentot Venus. *Gender and Society* 15(6):816-833.
3. Cohen, C. (2010). Darwin on woman. *Comptes rendus biologiques*, 333(2), 157-165.
4. Krafft-Ebing, R. 1886. *Psychopathia Sexualis*: Excerpts.

Week 5. Connecting these early scientific misunderstandings to "scientific" rationalizations for slavery, oppression, and discrimination (critical thinking: linking concepts and actions)

- Tues: Concept Mapping and Discussion: Use readings to connect scientific rationalizations to history of slavery, oppression, and discriminatory practices.

>>>What to turn in? Assignment 3 (20 points) Your group's concept map

•Readings:

1. Hammonds and Herzig, editors (2008) *The nature of difference: sciences of race in the United States from Jefferson to genomics*. Cambridge, Mass: MIT Press.
 Sections: 2.1 Laws (Thomas Jefferson), 2.2 Letter to the Secretary of State (Banneker) and 2.3 Jefferson's reply to Banneker
2. <https://www.nbcnews.com/think/opinion/use-dubious-science-defend-racism-old-founding-fathers-ncna823116>
3. Kenny, K. Irish Immigrant Stereotypes and American Racism.
<https://picturinghistory.gc.cuny.edu/irish-immigrant-stereotypes-and-american-racism/>
4. Staples, B. (2019) How Italians Became White. New York Times.
<https://www.nytimes.com/interactive/2019/10/12/opinion/columbus-day-italian-american-racism.html>
5. Whitcomb, I. (2019) Seven sexist ideas that once plagued science. *Livescience*:
<https://www.livescience.com/sexist-medical-ideas-about-women.html>

- Thurs. Exam 1 (Thurs.) (60 points)

Week 6. Introduction to Social Darwinism and Eugenics (critical thinking: evaluating the scientific arguments at the root of Social Darwinism and Eugenics)

- Tues: Lecture: What was Social Darwinism and what was its relationship to legitimate Darwinian concepts of evolutionary change? What was eugenics and how was it related to social Darwinism?
- Thurs: Discussion: Evaluate the arguments in Readings 4 and 5
- Readings

1. Kavles, D. *In the Name of Darwin*.
<https://www.pbs.org/wgbh/evolution/darwin/nameof/>
2. Claeys, G. 2000. The “Survival of the Fittest” and the Origins of Social Darwinism. *Journal of the History of Ideas* 223-240.
3. Fact Sheet: <https://www.genome.gov/about-genomics/fact-sheets/Eugenics-and-Scientific-Racism>
4. Galton, F. (1904) Eugenics: Its Definition, Scope, and Aims. *The American Journal of Sociology* vol. 10 (1). <https://galton.org/essays/1900-1911/galton-1904-am-journ-soc-eugenics-scope-aims.htm>
5. <https://www.facinghistory.org/resource-library/origins-eugenics>

>>> What to turn in? Assignment 4 (20 points): 1-2 page summary of your group’s evaluation of Galton’s arguments in Articles 4 and 5

Weeks 7 and 8: Case Study: Eugenics in the United States – its biological rationalization and its intersectional effects on lived experiences of people of diverse ethnicities, genders, “races” and sexual orientations. The conflation of race and ethnicity. (critical thinking: evaluating evidence and arguments)

Week 7:

- Tues: Lecture: Introduction to and history of the Eugenics Movement in the United States
- Thurs: Discussion: Evaluating evidence /arguments of mainstream American eugenic scientists and Franz Boas’ critique
- Readings for Weeks 7 and 8

1. <https://www.cshl.edu/good-genes-bad-science/>
2. https://www.wikiwand.com/en/Eugenics_in_the_United_States
3. Davenport, C. B. (1921). Research in eugenics. *Science*, 54(1400), 391-397.
4. Farber, S. A. (2008) US Scientist’s Role in the Eugenics Movement (1907-1939): A Contemporary Biologist’s Perspective

5. Boas, F. (1916). Eugenics. *The Scientific Monthly*, 3(5), 471-478.

>>> What to turn in? Assignment 5 (20 points): 1-2 page summary of your group's answer to this prompt: How did early American eugenic scientists support their views and what were the weaknesses of their evidence and arguments? (Hint: Boas will help you here!)

Week 8:

- Tues and Thurs.: Watch and Discuss the Intersectional Effects of Eugenics based on this (2 hour) video; <https://www.pbs.org/wgbh/americanexperience/films/eugenics-crusade>

Weeks 9 and 10: Case Study: Eugenics in Nazi Germany – its biological rationalization and its intersectional effects on lived experiences of people of different ethnicities, genders, “races” and sexual orientations. The conflation of race and ethnicity. (critical thinking: evaluating evidence and arguments)

Week 9:

- Tues: Lecture: Introduction to and history of the Eugenics Movement in Germany
- Thurs. Discussion: Evaluating evidence /arguments of mainstream German eugenic scientists
- Readings for Weeks 9 and 10

1. Whitman, J. 2017. Why the Nazis Loved America.

2. Slater, E. (1936) German Eugenics in Practice. *The Eugenics Review* 27: 285-295.

3. Weingart, P. (1989) German Eugenics between Science and Politics. Vol. 5, *Science in Germany: The Intersection of Institutional and Intellectual Issues* (1989), pp. 260-282

4. Gould, S.J. (1995) “The Most Unkindest Cut of All”. From the book *Dinosaur in a Haystack*.

>>> What to turn in? Assignment 6 (20 points): 1-2 page summary of your group's answer to this prompt: In what ways was the eugenics movement in Nazi Germany similar to America's eugenics movement? In what ways did it differ?

Week 10:

- Tues: Watch and Discuss Intersectional Effects Video 1: *Hitler's Perfect Children: The Lebensborn* (History Channel Documentary); Video 2: *The twins of Auschwitz* https://www.youtube.com/watch?v=-8_oWrDk4Hs
- Thurs. Exam 2 (Thurs.) (60 points)

Week 11. How and why did the scientific study of human biological diversity change in the middle of the 20th century? What are the foundational principles of our modern understandings of human biological diversity? (critical thinking: analyzing changing scientific paradigms)

- Tues: Lecture: Historical Changes Mid-20th Century in Society and Science
- Thurs: Discussion: Discuss AABA, AAA, and APA Policy statements and changing paradigms
- Readings for Week 11:
 1. UNESCO 1951 Statement on Race
 2. Statement on the Biological Aspects of Race: American Association of Biological Anthropologists <https://physanth.org/about/position-statements/aapa-statement-race-and-racism-2019/>
 3. Statement on Race: American Anthropological Association
<https://www.americananthro.org/ConnectWithAAA/Content.aspx?ItemNumber=2583>
 4. APA Policy Statements on LGBT Concerns
<https://www.apa.org/pi/lgbt/resources/policy>

>>> What to turn in? Assignment 7 (20 points): Your groups 1-2 page answer to this question: "In what ways do these statements on Race and on LGBT concerns reflect changes in science and society?"

Week 12: When social constructions of race, ethnicity and gender intersect to impact people's health and how to study the impact (critical thinking: evaluating difficulties in quantifying health impacts of race, ethnicity, and gender)

- Tues: Lecture: How can race "become" biology? What are the challenges inherent in studying racial and intersectional health disparities?
- Thurs: Discussion: Watch and discuss portions of video testimony on "*Inequities Exposed: How Covid-19 Widened Racial Inequities in Education, Health, and the Workforce*"
<https://www.epi.org/publication/covid-19-inequities-wilson-testimony/>
- Readings for Week 12:
 1. Gravlee, C. C. (2009). How race becomes biology: embodiment of social inequality. *American Journal of Physical Anthropology*, 139(1), 47-57.
 2. How to study racial disparities: <https://www.scientificamerican.com/article/how-to-study-racial-disparities/>
 3. Harari, L., & Lee, C. (2021). Intersectionality in quantitative health disparities research: a systematic review of challenges and limitations in empirical studies. *Social Science & Medicine*, 277, 113876.

Week 13: When modern scientific understandings provide a basis for addressing sexism and discrimination against LGBTQ individuals...and when they don't. (critical thinking: analyzing how the same scientific studies might be used for or against social goals)

- Lecture: What do we now know about the biology of gender diversity and sexual orientation? About sex differences in brain function?

- Discussion: How might modern scientific studies relating to REGD be construed in ways that are counterproductive to the social goals of diversity, equity, and inclusion?

- Reading:

1. Polderman et al., 2018 The Biological Contributions to Gender Identity and Gender Diversity: Bringing Data to the Table. *Behavior Genetics* 45: 95-108.

2. Eliot, L., Ahmed, A., Khan, H., & Patel, J. (2021). Dump the “dimorphism”: Comprehensive synthesis of human brain studies reveals few male-female differences beyond size. *Neuroscience & Biobehavioral Reviews*, 125, 667-697.

3. [Garcia-Sifuentes, Y. and Maney, D. L.](https://elifesciences.org/articles/70817) (2021) Reporting and misreporting of sex differences in the biological sciences. <https://elifesciences.org/articles/70817>

4. Terry, Jennifer. 2000. “Unnatural Acts” in Nature: The Scientific Fascination with Queer Animals. *GLQ* 6(2):151-193.

>>> What to turn in? Assignment 8 (20 points): Your groups 1-2 page answer to this question: “How might modern scientific studies relating to REGD be construed in ways that are counterproductive to the social goals of diversity, equity, and inclusion?”

Week 14: The pseudoscience backlash (critical thinking: making connections between modern pseudoscience and the pseudoscience of the past).

- Tues: Lecture/Discussion/Exploration about pseudoscience, race, and ethnicity: Discuss readings 1-3 and find and critique some internet examples of pseudoscience related to race and ethnicity: Share with the class.

- Thurs: Lecture/Discussion/Exploration about pseudoscience, sexism, gender diversity, and sexuality: Discuss readings 4-6 and find and critique some internet examples of pseudoscience related to sexism, gender diversity, and sexuality: Share with the class.

- Reading:

1. Gasper, P. The return of scientific racism. *International Socialist Review*. <https://isreview.org/issue/110/return-scientific-racism>

2. Saini, A. (2019) <https://blogs.scientificamerican.com/voices/the-internet-is-a-cesspool-of-racist-pseudoscience/>

3. https://www.washingtonpost.com/local/a-brief-history-of-the-enduring-phony-science-that-perpetuates-white-supremacy/2019/04/29/20e6aef0-5aeb-11e9-a00e-050dc7b82693_story.html
4. <https://blogs.scientificamerican.com/cross-check/darwin-was-sexist-and-so-are-many-modern-scientists/>
5. <https://www.hrc.org/resources/the-lies-and-dangers-of-reparative-therapy>
6. <https://www.theatlantic.com/politics/archive/2015/02/using-pseudoscience-to-undermine-same-sex-parents/385604/>

Week 15: Student Presentations: Choose any paper in a peer-reviewed journal that deals with the biology of race, sex differences, or sexuality. Critique the paper in relation to the issues that we have covered in this course. (critical thinking: critiquing peer reviewed science).

Further instructions:

If you are working on a paper that considers race: Evaluate how the researchers frame the question, what methods they use, how “race” is defined by the authors, attention to confounding/complicating factors (social class, gender, etc...) and the validity of the study’s conclusion. You can refer to criteria given in the Scientific American Article: “How to Study Racial Disparities,” and/or to issues raised in Harari, L., & Lee, C. (2021). Intersectionality in quantitative health disparities research: a systematic review of challenges and limitations in empirical studies. *Social Science & Medicine*, 277, 113876.

If you are studying a paper on the biology of sex differences evaluate how the researchers frame the question, what methods they use, attention to confounding/complicating factors and the validity of the study’s conclusion. You can refer to critiques in [Garcia-Sifuentes, Y. and Maney, D. L.\(2021\) Reporting and misreporting of sex differences in the biological sciences.](#) <https://elifesciences.org/articles/70817>

If you are studying a paper on the biology of sexuality evaluate how the researchers frame the question, what methods they use, attention to confounding/complicating factors and the validity of the study’s conclusion. You can refer to critiques in Terry, Jennifer. 2000. “Unnatural Acts” in *Nature: The Scientific Fascination with Queer Animals*. GLQ 6(2):151-193.

>>>What to turn in?

1. Assignment 9 (40 points): 3-5 page article summary and critique. Attach the article to your paper. More instructions to follow.
2. Assignment 10 (20 points): A 2-3 page summary of, and your reactions to, the papers presented by other students in your group. More instructions to follow.

Week 16: Final Exam Week: Exam 3: 60 points

GE Foundation Courses

Overview

Courses that are accepted into the General Education (GE) Foundations provide introductory or foundational coverage of the subject of that category. Additionally, each course must meet a set of Expected Learning Outcomes (ELO). Courses may be accepted into more than one Foundation, but ELOs for each Foundation must be met. It may be helpful to consult your Director of Undergraduate Studies or appropriate support staff person as you develop and submit your course.

This form contains sections outlining the ELOs of each Foundation category. You can navigate between them using the Bookmarks function in Acrobat. Please enter text in the boxes to describe how your class meets the ELOs of the Foundation(s) to which it applies. Because this document will be used in the course review and approval process, you should use language that is clear and concise and that colleagues outside of your discipline will be able to follow. Please be as specific as possible, listing concrete activities, specific theories, names of scholars, titles of textbooks etc. Your answers will be evaluated in conjunction with the syllabus submitted for the course.

Accessibility

If you have a disability and have trouble accessing this document or need to receive the document in another format, please reach out to Meg Daly at daly.66@osu.edu or call 614-247-8412.

GE Rationale: Foundations: Race, Ethnicity, and Gender Diversity (3 credits)

Requesting a GE category for a course implies that the course fulfills **all** the expected learning outcomes (ELOs) of that GE category. To help the reviewing panel evaluate the appropriateness of your course for the Foundations: Race, Ethnicity, and Gender Diversity, please answer the following questions for each ELO.

A. Foundations

Please explain in 50-500 words why or how this course is introductory or foundational for the study of Race, Ethnicity and Gender Diversity.

Course Subject & Number: _____

B. Specific Goals of Race, Ethnicity, and Gender Diversity

GOAL 1: Successful students will engage in a systematic assessment of how historically and socially constructed categories of race, ethnicity, and gender, and possibly others, shape perceptions, individual outcomes, and broader societal, political, economic, and cultural systems.

Expected Learning Outcome 1.1: Successful students are able to describe and evaluate the social positions and representations of categories including race, gender, and ethnicity, and possibly others. Please link this ELO to the course goals and topics and indicate *specific* activities/assignments through which it will be met. (50-700 words)

Expected Learning Outcome 1.2: Successful students are able to explain how categories including race, gender, and ethnicity continue to function within complex systems of power to impact individual lived experiences and broader societal issues. Please link this ELO to the course goals and topics and indicate *specific* activities/assignments through which it will be met. (50-700 words)

Course Subject & Number: _____

Expected Learning Outcome 1.3: Successful students are able to analyze how the intersection of categories including race, gender, and ethnicity combine to shape lived experiences. Please link this ELO to the course goals and topics and indicate *specific* activities/assignments through which it will be met. (50-700 words)

Expected Learning Outcome 1.4: Successful students are able to evaluate social and ethical implications of studying race, gender, and ethnicity. Please link this ELO to the course goals and topics and indicate *specific* activities/assignments through which it will be met. (50-700 words)

Course Subject & Number: _____

GOAL 2: Successful students will recognize and compare a range of lived experiences of race, gender, and ethnicity.

Expected Learning Outcome 2.1: Successful students are able to demonstrate critical self- reflection and critique of their social positions and identities. Please link this ELO to the course goals and topics and indicate *specific* activities/assignments through which it will be met. (50-700 words)

Expected Learning Outcome 2.2: Successful students are able to recognize how perceptions of difference shape one’s own attitudes, beliefs, or behaviors. Please link this ELO to the course goals and topics and indicate *specific* activities/assignments through which it will be met. (50-700 words)

Course Subject & Number: _____

Expected Learning Outcome 2.3: Successful students are able to describe how the categories of race, gender, and ethnicity influence the lived experiences of others. Please link this ELO to the course goals and topics and indicate *specific* activities/assignments through which it will be met.

GE Rationale: Foundations: Social and Behavioral Sciences (3 credits)

Requesting a GE category for a course implies that the course **all** expected learning outcomes (ELOs) of that GE category. To help the reviewing panel evaluate the appropriateness of your course for the Foundations: Social and Behavioral Sciences, please answer the following questions for each ELO.

A. Foundations

Please explain in 50-500 words why or how this course is introductory or foundational in the study of Social and Behavioral Sciences.

Course Subject & Number: _____

B. Specific Goals of Social and Behavioral Sciences

GOAL 1: Successful students will critically analyze and apply theoretical and empirical approaches within the social and behavioral sciences, including modern principles, theories, methods, and modes of inquiry.

Expected Learning Outcome 1.1: Successful students are able to explain basic facts, principles, theories and methods of social and behavioral science. Please link this ELO to the course goals and topics and indicate *specific* activities/assignments through which it will be met. (50-700 words)

Expected Learning Outcome 1.2: Successful students are able to explain and evaluate differences, similarities, and disparities among institutions, organizations, cultures, societies, and/or individuals using social and behavioral science. Please link this ELO to the course goals and topics and indicate *specific* activities/assignments through which it will be met. (50-700 words)

Course Subject & Number: _____

GOAL 2: Successful students will recognize the implications of social and behavioral scientific findings and their potential impacts.

Expected Learning Outcome 2.1: Successful students are able to analyze how political, economic, individual, or social factors and values impact social structures, policies, and/or decisions. Please link this ELO to the course goals and topics and indicate *specific* activities/assignments through which it will be met. (50-700 words)

Expected Learning Outcome 2.2: Successful students are able to evaluate social and ethical implications of social scientific and behavioral research. Please link this ELO to the course goals and topics and indicate *specific* activities/assignments through which it will be met. (50-700 words)

Course Subject & Number: _____

Expected Learning Outcome 2.3: Successful students are able to critically evaluate and responsibly use information from the social and behavioral sciences. Please link this ELO to the course goals and topics and indicate *specific* activities/assignments through which it will be met. (50-700 words)

GE Rationale: Foundations: Historical or Cultural Studies (3 credits)

Requesting a GE category for a course implies that the course fulfills the expected learning outcomes (ELOs) of that GE category. To help the reviewing panel evaluate the appropriateness of your course for the Foundations: Historical and Cultural Studies, please answer the following questions for each ELO. Note that for this Foundation, a course need satisfy either the ELOs for Historical Studies or the ELOs for Cultural Studies.

A. Foundations

Please explain in 50-500 words why or how this course is introductory or foundational in the study of History **or** Cultures.

Course Subject & Number: _____

B. Specific Goals of Historical *or* Cultural Studies

Historical Studies (A) Goal: Successful students will critically investigate and analyze historical ideas, events, persons, material culture and artifacts to understand how they shape society and people.

Expected Learning Outcome 1.1A: Successful students are able to identify, differentiate, and analyze primary and secondary sources related to historical events, periods, or ideas. Please link this ELO to the course goals and topics and indicate *specific* activities/assignments through which it will be met. (50-700 words)

Expected Learning Outcome 1.2A: Successful students are able to use methods and theories of historical inquiry to describe and analyze the origin of at least one selected contemporary issue. Please link this ELO to the course goals and topics and indicate *specific* activities/assignments through which it will be met. (50-700 words)

Course Subject & Number: _____

Expected Learning Outcome 1.3A: Successful students are able to use historical sources and methods to construct an integrated perspective on at least one historical period, event or idea that influences human perceptions, beliefs, and behaviors. Please link this ELO to the course goals and topics and indicate *specific* activities/assignments through which it will be met. (50-700 words)

Expected Learning Outcome 1.4A: Successful students are able to evaluate social and ethical implications in historical studies. Please link this ELO to the course goals and topics and indicate *specific* activities/assignments through which it will be met. (50-700 words)

Course Subject & Number: _____

Cultural Studies (B) Goal: Successful students will evaluate significant cultural phenomena and ideas to develop capacities for aesthetic and cultural response, judgment, interpretation, and evaluation.

Expected Learning Outcome 1.1B: Successful students are able to analyze and interpret selected major forms of human thought, culture, ideas or expression. Please link this ELO to the course goals and topics and identify the *specific* activities/assignments through which it will be met. (50-700 words)

Expected Learning Outcome 1.2B: Successful students are able to describe and analyze selected cultural phenomena and ideas across time using a diverse range of primary and secondary sources and an explicit focus on different theories and methodologies. Please link this ELO to the course goals and topics and indicate *specific* activities/assignments through which it will be met. (50-700 words)

Course Subject & Number: _____

Expected Learning Outcome 1.3B: Successful students are able to use appropriate sources and methods to construct an integrated and comparative perspective of cultural periods, events or ideas that influence human perceptions, beliefs, and behaviors. Please link this ELO to the course goals and topics and indicate *specific* activities/assignments through which it will be met. (50-700 words)

Expected Learning Outcome 1.4B: Successful students are able to evaluate social and ethical implications in cultural studies. Please link this ELO to the course goals and topics and indicate *specific* activities/assignments through which it will be met.

GE Rationale: Foundations: Writing and Information Literacy (3 credits)

Requesting a GE category for a course implies that the course fulfills **all** expected learning outcomes (ELOs) of that GE category. To help the reviewing panel evaluate the appropriateness of your course for the Foundations: Writing and Information Literacy, please answer the following questions for each ELO.

Course Subject & Number: _____

A. Foundations

Please explain in 50-500 words why or how this course is introductory or foundational in the study of Writing and Information Literacy.

B. Specific Goals of Writing and Information Literacy

GOAL 1: Successful students will demonstrate skills in effective reading, and writing, as well as oral, digital, and/or visual communication for a range of purposes, audiences, and context.

Expected Learning Outcome 1.1: Successful students are able to compose and interpret across a wide range of purposes and audiences using writing, as well as oral, visual, digital and/or other methods appropriate to the context. Please link this ELO to the course goals and topics and indicate *specific* activities/assignments through which it will be met. Explain how the course includes opportunities for feedback on writing and revision. Furthermore, please describe how you plan to insure sufficiently low instructor-student ratio to provide efficient instruction and feedback. (50-700 words)

Course Subject & Number: _____

Expected Learning Outcome 1.2: Successful students are able to use textual conventions, including proper attribution of ideas and/or source, as appropriate to the communication situation. Please link this ELO to the course goals and topics and indicate *specific* activities/assignments through which it will be met. Is an appropriate text, writing manual, or other resource about the pedagogy of effective communication being used in the course? (50-700 words)

Expected Learning Outcome 1.3: Successful students are able to generate ideas and informed responses incorporating diverse perspectives and information from a range of sources, as appropriate to the communication situation. Please link this ELO to the course goals and topics and indicate *specific* activities/assignments through which it will be met. (50-700 words)

Course Subject & Number: _____

Expected Learning Outcome 1.4: Successful students are able to evaluate social and ethical implications in writing and information literacy practices. Please link this ELO to the course goals and topics and indicate *specific* activities/assignments through which it will be met. (50-700 words)

GOAL 2: Successful students will develop the knowledge, skills, and habits of mind needed for information literacy.

Expected Learning Outcome 2.1: Successful students are able to demonstrate responsible, civil, and ethical practices when accessing, using, sharing, or creating information. Please link this ELO to the course goals and topics and indicate *specific* activities/assignments through which it will be met. (50-700 words)

Course Subject & Number: _____

Expected Learning Outcome 2.2: Successful students are able to locate, identify and use information through context appropriate search strategies. Please link this ELO to the course goals and topics and indicate *specific* activities/assignments through which it will be met. (50-700 words)

Expected Learning Outcome 2.3: Successful students are able to employ reflective and critical strategies to evaluate and select credible and relevant information sources. Please link this ELO to the course goals and topics and indicate *specific* activities/assignments through which it will be met. (50-700 words)

Course Subject & Number: _____

GE Rationale: Foundations: Literary, Visual, or Performing Arts (3 credits)

Requesting a GE category for a course implies that the course fulfills **all** expected learning outcomes (ELOs) of that GE category. To help the reviewing panel evaluate the appropriateness of your course for the Foundations: Literary, Visual, and Performing Arts, please answer the following questions for each ELO.

A. Foundations

Please explain in 50-500 words why or how this course is introductory or foundational in the study of Literary, Visual, or Performing Arts.

B. Specific Goals

Goal 1: Successful students will analyze, interpret, and evaluate major forms of human thought, cultures, and expression; and demonstrate capacities for aesthetic and culturally informed understanding.

Expected Learning Outcome 1.1: Successful students are able to analyze and interpret significant works of design or visual, spatial, literary or performing arts. Please link this ELO to the course goals and topics and indicate *specific* activities/assignments through which it will be met. (50-700 words)

Course Subject & Number: _____

Expected Learning Outcome 1.2: Successful students are able to describe and explain how cultures identify, evaluate, shape, and value works of literature, visual and performing art, and design. Please link this ELO to the course goals and topics and indicate *specific* activities/assignments through which it will be met. (50-700 words)

Expected Learning Outcome 1.3: Successful students are able to evaluate how artistic ideas influence and shape human beliefs and the interactions between the arts and human perceptions and behavior. Please link this ELO to the course goals and topics and indicate *specific* activities/assignments through which it will be met. (50-700 words)

Course Subject & Number: _____

Expected Learning Outcome 1.4: Successful students are able to evaluate social and ethical implications in literature, visual and performing arts, and design. Please link this ELO to the course goals and topics and indicate *specific* activities/assignments through which it will be met. (50-700 words)

Goal 2: Successful students will experience the arts and reflect on that experience critically and creatively.

Expected Learning Outcome 2.1: Successful students are able to engage in informed observation and/or active participation within the visual, spatial, literary, or performing arts and design. Please link this ELO to the course goals and topics and indicate *specific* activities/assignments through which it will be met. (50-700 words)

Course Subject & Number: _____

Expected Learning Outcome 2.2: Successful students are able to critically reflect on and share their own experience of observing or engaging in the visual, spatial, literary, or performing arts and design.

Please link this ELO to the course goals and topics and indicate *specific* activities/assignments through which it will be met. (50-700 words)

GE Rationale: Foundations: Natural Science (4 credits)

Requesting a GE category for a course implies that the course fulfills **all** expected learning outcomes (ELOs) of that GE category. To help the reviewing panel evaluate the appropriateness of your course for the Foundations: Natural Sciences, please answer the following questions for each ELO.

A. Foundations

Please explain in 50-500 words why or how this course is introductory or foundational in the study of Natural Science.

Course Subject & Number: _____

B. Specific Goals for Natural Sciences

GOAL 1: Successful students will engage in theoretical and empirical study within the natural sciences, gaining an appreciation of the modern principles, theories, methods, and modes of inquiry used generally across the natural sciences.

Expected Learning Outcome 1.1: Successful students are able to explain basic facts, principles, theories and methods of modern natural sciences; describe and analyze the process of scientific inquiry. Please link this ELO to the course goals and topics and indicate *specific* activities/assignments through which it will be met. (50-700 words)

Expected Learning Outcome 1.2: Successful students are able to identify how key events in the development of science contribute to the ongoing and changing nature of scientific knowledge and methods. Please link this ELO to the course goals and topics and indicate specific activities/assignments through which it will be met. (50-700 words)

Course Subject & Number: _____

Expected Learning Outcome 1.3: Successful students are able to employ the processes of science through exploration, discovery, and collaboration to interact directly with the natural world when feasible, using appropriate tools, models, and analysis of data. Please explain the 1-credit hour equivalent experiential component included in the course: e.g., traditional lab, course-based research experiences, directed observations, or simulations. Please note that students are expected to analyze data and report on outcomes as part of this experiential component. *(50-1000 words)*

Course Subject & Number: _____

GOAL 2: Successful students will discern the relationship between the theoretical and applied sciences, while appreciating the implications of scientific discoveries and the potential impacts of science and technology.

Expected Learning Outcome 2.1: Successful students are able to analyze the inter-dependence and potential impacts of scientific and technological developments. Please link this ELO to the course goals and topics and indicate *specific* activities/assignments through which it will be met. (50-700 words)

Expected Learning Outcome 2.2: Successful students are able to evaluate social and ethical implications of natural scientific discoveries. Please link this ELO to the course goals and topics and indicate *specific* activities/assignments through which it will be met. (50-700 words)

Course Subject & Number: _____

Expected Learning Outcome 2.3: Successful students are able to critically evaluate and responsibly use information from the natural sciences. Please link this ELO to the course goals and topics and indicate *specific* activities/ assignments through which it will be met. (50-700 words)

Course Subject & Number: _____

GE Rationale: Foundations: Mathematical and Quantitative Reasoning (or Data Analysis) (3 credits)

Requesting a GE category for a course implies that the course fulfills **all** expected learning outcomes (ELOs) of that GE category. To help the reviewing panel evaluate the appropriateness of your course for the Foundations: Mathematical and Quantitative Reasoning (or Data Analysis), please answer the following questions for each ELO.

A. Foundations

Please explain in 50-500 words why or how this course is introductory or foundational in the study of Mathematical & Quantitative Reasoning (or Data Analysis).

B. Specific Goals for Mathematical & Quantitative Reasoning/Data Analysis

Goal: Successful students will be able to apply quantitative or logical reasoning and/or mathematical/statistical analysis methodologies to understand and solve problems and to communicate results.

Expected Learning Outcome 1.1: Successful students are able to use logical, mathematical and/or statistical concepts and methods to represent real-world situations. Please link this ELO to the course goals and topics and indicate *specific* activities/ assignments through which it will be met. (50-700 words)

Course Subject & Number: _____

Expected Learning Outcome 1.2: Successful students are able to use diverse logical, mathematical and/or statistical approaches, technologies, and tools to communicate about data symbolically, visually, numerically, and verbally. Please link this ELO to the course goals and topics and indicate *specific* activities/assignments through which it will be met. (50-700 words)

Expected Learning Outcome 1.3: Successful students are able to draw appropriate inferences from data based on quantitative analysis and/or logical reasoning. Please link this ELO to the course goals and topics and indicate *specific* activities/assignments through which it will be met. (50-700 words)

Course Subject & Number: _____

Expected Learning Outcome 1.4: Successful students are able to make and evaluate important assumptions in estimation, modeling, logical argumentation, and/or data analysis. Please link this ELO to the course goals and topics and indicate *specific* activities/assignments through which it will be met. (50-700 words)

Expected Learning Outcome 1.5: Successful students are able to evaluate social and ethical implications in mathematical and quantitative reasoning. Please link this ELO to the course goals and topics and indicate *specific* activities/assignments through which it will be met. (50-700 words)