

Course Outline for: BIOL 1125 Sex and Human Diversity**A. Course Description:**

1. Number of credits: 3
2. Lecture hours per week: 3
3. Prerequisites: ENG 0960 (C/P or higher); or placement into Writing College Level; or placement into READ 1106 and ENG 1101
4. Corequisites: None
5. MnTC Goals: Goal #3 - Natural Sciences
Goal #7 - Human Diversity, Race, Power, and Justice in the United States

Unlock a deeper understanding of human health, reproduction, and social issues through an exploration of sex and diversity. Throughout the semester, you will learn how to apply the scientific method to analyze concepts of heredity and reproduction, and examine how biology interacts with societal dynamics, such as health disparities and group identities (e.g., sex, race, and gender). This course emphasizes critical thinking and communication skills, equipping you to engage in both personal and societal challenges.

B. Date last reviewed/updated: February 2025**C. Outline of Major Content Areas:**

Subtopics listed under each main topic may vary due to recent developments in the field and current events.

1. The Process of Science
 - a. Scientific method
 - b. Scientific study of human reproduction
2. Evolution of Sex
 - a. Biological evolution and natural selection
 - b. Asexual versus sexual reproduction
 - c. Evolution of sex differences
 - d. Sexual selection and mate choice
3. Biological Basis of Sex Differences
 - a. Cells and cell theory
 - b. DNA and the central dogma
 - c. Genes and chromosomes

- d. Cell division and gametogenesis
- e. Chromosomal and genetic sex determination
- f. Sex differentiation spectrum
- g. Gender identity
- h. Sexual orientation
- 4. Reproductive Anatomy
 - a. Organs and organ systems
 - b. Analogous and homologous organs
 - c. Female reproductive organs
 - d. Male reproductive organs
- 5. Reproductive Physiology
 - a. Endocrine glands, hormones, and receptors
 - b. Female reproductive cycle
 - c. Male reproduction.
 - d. Contraception
 - e. Physiology of sexual intercourse
 - f. Pregnancy and birth
 - g. Pregnancy loss and termination
 - h. Lactation
- 6. Human Development
 - a. Human gametes and fertilization
 - b. Cloning and stem cells
 - c. Embryonic and fetal development
 - d. Birth anomalies and prenatal diagnosis
 - e. Puberty
 - f. Menopause and andropause
- 7. Reproductive Health
 - a. Infertility and fertility treatments
 - b. Immune defenses and sexually transmitted diseases
 - c. Biology of cancer and cancer of the reproductive systems
 - d. Environmental factors and reproduction
 - e. Sex differences with respect to diseases and mortality
 - f. Inequalities in health care access and research

D. Course Learning Outcomes:

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

1. Communicate scientific research findings in ways that promote understanding and collaboration across diverse groups orally and in writing. (Goal 3c, 7Ae)
2. Apply unifying biological themes (e.g., cell theory, inheritance, evolution,

- homeostasis) to human reproduction, development, and diversity. (Goal 2a, 3a)
3. Identify how group identities related to human characteristics (e.g., anatomy, biological sex, gender, sexual orientation, race) have changed over time. (Goal 2b, 7Aa)
 4. Apply knowledge of human reproductive and hormonal systems (e.g., structure, function, variation) to assumptions and biases involved in defining biological sex and other demographic classifications. (Goal 2a, 3a)
 5. Evaluate how reproductive health issues are experienced differently across individual or demographic characteristics, considering both personal and scientific perspectives. (Goal 2c, 3d, 7Ac)
 6. Develop communication skills needed to engage effectively in a society with diverse characteristics (e.g., race, gender identity, sexuality, etc.). (Goal 7Ae)

E. Methods for Assessing Student Learning:

Methods for assessment may include, but are not limited to, the following:

1. Written examinations which include multiple choice, true-false, fill-in-the-blank, matching, short answer, and essay questions
2. Written assignments
3. Presentation of data
4. Quizzes
5. Oral presentations
6. Collaborative learning exercises
7. Discussions
8. A final comprehensive exam

F. Special Information:

Instructors will include the most recent version of the Departmental Expectations document in their course syllabus.