

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: ENGC 0960 (C- or better) OR READ 0960 (C- or better) OR High School GPA of 2.60+ OR ACT Sub-Score of 21+ OR ACT Sub-Score of 19+ and High School GPA of 2.50+ OR SAT Read/Write score of 480+ OR SAT Read/Write score of 440+ and High School GPA of 2.50+ OR Accuplacer Reading score of 250+ OR Accuplacer Reading score of 236+ and High School GPA of 2.50+ OR MCA Reading score of 1047+ OR MCA Reading score of 1042-1046 and High School GPA of 2.50+
4. Corequisites: None
5. MnTC Goals: #3 Natural Sciences and #7 Human Diversity

A non-majors general education course without lab. An introduction to the biological concepts underlying human sexuality, reproduction, and development from an evolutionary perspective. Topics include the evolution of sex, sex determination and gender identity, anatomy and physiology of the human reproductive systems, development, and reproductive health.

B. Date last reviewed/updated: January 2023

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 defects 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

D. Course Learning Outcomes:

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

1. Identify the steps of the scientific method; analyze and interpret scientific data; communicate experimental results in writing and verbally; and explain how the biological sciences contribute to the current understanding of human sex and reproduction. (Goal 3c)
2. Identify major unifying themes in biology such as cell theory, inheritance, evolution, and homeostasis and explain how they apply to human reproduction and development, and diversity. (Goal 2a, 3a)
3. Differentiate between biological sex, gender, and sexual orientation. (Goal 7a)
4. Describe the structure and explain the function of the male and female reproductive systems. (Goal 2a, 3a)
5. Explain the main physiological and endocrine processes involved in human reproduction and development. (Goal 2a, 3a)
6. Describe major reproductive health issues and how they are experienced differently by people according to biological sex, gender, sexual orientation, race, and ethnicity. (Goal 3d, 7c, 7d)

7. Identify current societal issues regarding gender identity, sexuality, and reproduction and relate information published in popular media to course topics. (Goal 2a, 2b, 2c, 2d, 3a, 3d, 7a, 7b, 7c, 7e)

E. Methods for Assessing Student Learning:

A variety of evaluation and assessment methods may be used:

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

F. Special Information:

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