

BMD 330 and 335: Human Physiology
Chapter 22 Objectives

The Reproductive System

1. Describe the events in meiosis, and explain its significance in gametogenesis and in the promotion of genetic diversity.
2. Describe the role of sex chromosomes and sex hormones in the development of sexual characteristics.
 - a. Describe sex determination.
 - b. Describe sex differentiation.
3. Describe the anatomy of the male reproductive system and explain how the structures contribute to reproduction.
 - a. Describe the role of the external genitalia.
 - b. Describe the pathway of sperm movement through the reproductive tract.
 - c. Name the secretions from the accessory glands, and state their functions.
4. Describe the process of spermatogenesis and its hormonal regulation.
5. Describe the sexual response in males.
6. Describe the anatomy of the female reproductive system and explain how the structures contribute to reproduction.
 - a. Describe the ovaries and oogenesis.
 - b. Describe the organs of the reproductive tract with regards to where fertilization occurs, where the fetus develops, and how the baby is born.
7. Describe the sexual response in females.
8. Explain the cyclic variations in plasma hormone levels that occur during the menstrual cycle, and how these hormones regulate the ovarian and uterine changes that occur during this cycle.
 - a. Describe the two phases of the ovarian cycle.
 - b. Describe the three phases of the uterine cycle.
 - c. Explain the role of LH and FSH in promoting cyclical variations.
 - d. Explain the secretion of estrogen and progesterone during the various phases of the cycle.
9. Describe the events that occur during fertilization.
10. Describe the events that occur during implantation and early embryonic development.
 - a. Define zygote, morula and blastocyst.
 - b. Explain the fate/function of the trophoblast and inner cell mass.
 - c. Describe the role of the decidual response in implantation.
11. Describe fetal development and hormonal changes that occur during late embryonic and fetal development.
 - a. Describe formation of the placenta and umbilical cord.
 - b. Describe the regulation of estrogen and progesterone secretion during pregnancy, and explain how these hormones help maintain pregnancy and prepare the body for parturition.
12. Describe the processes of parturition and lactation.
 - a. Describe the steps leading to labor and parturition.
 - b. Describe the role of prolactin in milk secretion and oxytocin in milk ejection.