

CdS Reproductive Biotechnologies

Remedial Course Cytology and histology

This course aims to provide understanding of basics of biological structure. The student will be able to identify the basic structure of cells and tissues. The main objectives of this course are to acquire a basic background in histology and to understand the properties of cells and their interactions with one another as components of tissues and organs.

This will be accomplished through lecture material and lab work.

Cytology

Shape and dimension of the eukaryotic cell.

Organization and function of a model eukaryotic cell: cell membrane, polyribosomes, endoplasmic reticulum, Golgi complex, lysosomes, peroxisomes, mitochondria, centrioles, cytoskeleton (microtubules, microfilaments, intermediate filaments), hyaloplasm (cytosol), cytoplasmic deposits, nucleus (nuclear envelope, chromatin, nucleofilament nuclear matrix, nucleolus), cell apical complex (cilia, microvilli, flagella).

Histology

Epithelial tissues; connective tissues, including blood, cartilage, and bone; muscle tissues and nerve tissues. Their interactions with one another as components of organs.

Final exam: multiple choice test

Texts

- Orchard G., Nation B., **Cell Structure & Function**, Oxford University Press
- Kuehnel W., **Color Atlas of Cytology, Histology, and Microscopic Anatomy**, Thieme Publishing Group, 2003 4th edition, revised and enlarged
- Pawlina W, Ross MH, **Histology: A Text and Atlas with correlated cell and molecular biology**. Wolters Kluwer/Lippincott, Williams & Wilkins, 2015

Any owned cytology/histology books