



**Kingdom of Saudi Arabia**  
**Ministry of Higher Education**  
**Shaqa University**  
**Al-Dawadmi College of Applied Medical Sciences**  
**Clinical Laboratory Science Department**

**SYLLABUS IN DESCRIPTIVE HISTOLOGY**

|                             |  |
|-----------------------------|--|
| <b>Code &amp; No:</b>       | <b>CLS 243</b>   |
| <b>Course name:</b>         | <b>DESCRIPTIVE HISTOLOGY</b>   |
| <b>Credit hours:</b>        | <u>2 units lecture and 2 unit laboratory (2 hours lecture and 2 hours laboratory a week)</u> |
| <b>Level (Placement):</b>   | <u>Level 4</u>   |
| <b>Instructor/Lecturer:</b> | <u>Thuraya Abdelah Elhassan</u>  |

**COURSE DESCRIPTION:**

**Descriptive Histology** provides the fundamental concepts, theories and applications of cells and tissues, which comprise the organs of the human body. This course covers the four (4) basic tissues of the human body with emphasis on their functions; and the gross and microscopic appearance of the organs of the cardiovascular, circulatory, digestive, endocrine, excretory, integumentary, lymphatic, muscular, nervous, reproductive, respiratory, and skeletal systems.

**COURSE OBJECTIVES:** After completing the course, at least 95% of the students should be capable to:

1. understand the structure, function, and organization of the cells, tissues, and organs of the human body;
2. describe the distinct characteristics of the four (4) basic tissues of the human body;
3. identify organ systems of the body in terms of their gross and microscopic appearance;
4. Apply the concepts of quality assurance program in histology laboratory.
5. Manifest the medical technologist's personal, social and professional responsibilities in helping restore or maintain the health of men with high moral and ethical standards.

**MAIN TEACHING STRATEGIES:** The instructor will employ the following teaching methodologies:

1. Clinical Case Study
2. Report Back Session
3. Lecture/Discussion
4. Power point/Multimedia Presentation
5. CD viewing
6. Large Group Discussion
7. Experimentation/Laboratory Activities
8. Written Demonstration/Practical test
9. Reading
10. Online assignment
11. Project



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**METHODS OF ASSESSMENT AND GRADING SYSTEM:** The instructor will adopt the preceding evaluative strategies and grading system:

| GRADING   |       |
|---|-------|
| ■ Attendance                                    | 5 %   |
| ■ Quizzes & Related Learning Activities         | 10 %  |
| ■ Online Assignments                            | 5 %   |
| ■ Project                                       | 10 %  |
| ■ Midterm Examination 1 & Practical Examination | 20 %  |
| ■ Midterm Examination 2 & Practical Examination | 20 %  |
| ■ Final Examination                             | 30 %  |
| TOTAL   | 100 % |

**REFERENCES:**

**Books:**

1. Gartner, Leslie P. and James L. Hiatt. **COLOR TEXTBOOK OF HISTOLOGY.**
2. Hameed, Zakaria Abdel. **HISTOLOGY, PART I & II.**
3. Johnson, Kurt E., **HISTOLOGY AND CELL BIOLOGY.** 2<sup>nd</sup> ed., NMS, 1991

**Electronic References:**

1. <http://pathweb.uchc.edu/>
2. <http://www.immunoportat.com/>
3. <http://www-medlib.med.utah.edu/WebPath/general.html>
4. <http://www-medlib.med.utah.edu/WebPath/HISTHTML/HISTOTCH/HISTOTCH.html>



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**COURSE OUTLINE: LECTURE**

| WEEK            | TOPIC  |
|-----------------|--|
| 1               | ▣ <b>Orientation with students.</b>  |
| 2<br>(4 hours)  | ▣ Introduction, Micro-techniques, and Staining<br>▣ <b>Cytology:</b> Cell membrane<br>▣ <b>Cytology:</b> Cell organelles, cytoskeleton, cell inclusions<br>▣ <b>Nucleus</b> (DNA, chromatin, chromosomes, chromosomal abnormality) |
| 3<br>(4 hours)  | ▣ <b>Epithelium</b> (surface epithelium, glandular epithelium, cell junctions)<br>▣ <b>Connective tissue</b> (CT): General Characteristics<br>▣ CT fibers  |
| 4<br>(4 hours)  | ▣ Connective tissue cells, CT proper<br>▣ <b>Cartilage:</b> Cartilage cells, types of cartilage  |
| <b>5</b>        | <b>MIDTERM EXAMINATION 1</b>   |
| 6<br>(4 hours)  | ▣ <b>Bone:</b> bone cells, types of bone, bone healing   |
| 7<br>(4 hours)  | ▣ <b>Muscular tissue:</b> structure of muscle cell fibers, types of muscles (skeletal muscles, cardiac muscles, smooth muscles)  |
| 8<br>(4 hours)  | ▣ <b>Nervous tissue:</b> brain, spinal cord, structure and types of nerve cells, types of nerve fibers, nerve ganglion, injury and healing of nerve cells)   |
| 9<br>(4 hours)  | ▣ <b>Blood:</b> blood plasma, blood cells, bone marrow, hematopoiesis  |
| <b>10</b>       | <b>MIDTERM EXAMINATION 2</b>   |
| 11<br>(4 hours) | ▣ <b>Vascular system:</b> arteries, veins, blood capillaries, blood sinusoids<br>▣ <b>Lymphatic system:</b> immunity, lymph nodes, spleen, thymus gland  |
| 12<br>(4 hours) | ▣ <b>Skin</b><br>▣ <b>Respiratory system:</b> nasal cavity, trachea, bronchial tree, lung  |
| 13<br>(4 hours) | ▣ <b>Digestive system:</b> oral cavity, gastro-intestinal tube, liver, pancreas  |
| 14<br>(4 hours) | ▣ <b>Urinary system:</b> kidney, urinary tract<br>▣ <b>Reproductive system:</b> male and female reproductive organs such as testis, ovary, uterus  |
| <b>15</b>       | <b>FINAL EXAMINATION</b>   |
| <b>16</b>       | ▣ <b>Remedials, Revisions and Consultations</b>  |



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**PRACTICAL SCHEDULE: LABORATORY**

| WEEK      | TOPIC   |
|-----------|---|
| 1         | ▣Orientation with students.   |
| 2         | ▣Introduction to <b>microscopy</b> , micro-techniques, and staining<br>▣Electron microscopic pictures for cell ultra-structure  |
| 3         | ▣Microscopic slides of different types of <b>surface epithelium</b> and <b>glandular epithelium</b> .   |
| 4         | ▣Microscopic Slides of different types of <b>connective tissue</b> cells, CT proper<br>▣Microscopic slides of different types of <b>Cartilage</b>   |
| <b>5</b>  | <b>MIDTERM PRACTICAL EXAMINATION 1</b>  |
| 6         | ▣Microscopic slides of different types of <b>Bone</b>   |
| 7         | ▣Microscopic slides of different types of <b>muscular tissue</b> (skeletal muscles, cardiac muscles, and smooth muscles).   |
| 8         | ▣Microscopic slides of <b>Nervous tissue</b> : brain, spinal cord, types of nerve cells, nerve ganglion   |
| 9         | ▣Microscopic slides of blood film showing different types of <b>Blood cell</b>  |
| <b>10</b> | <b>MIDTERM PRACTICAL EXAMINATION 2</b>  |
| 11        | ▣Microscopic slides of different types of <b>vascular system</b> : arteries, veins, blood capillaries, blood sinusoids<br>▣Microscopic slides of the <b>Lymphatic system</b> : lymph nodes, spleen, thymus gland  |
| 12        | ▣Microscopic slides of different types of <b>skin</b><br>▣Microscopic slides for the <b>Respiratory system</b> : trachea, lung  |
| 13        | ▣Microscopic slides of the <b>endocrine glands</b> : pituitary, thyroid, parathyroid, and suprarenal glands<br>▣Microscopic slides for the <b>digestive system</b> : tongue, gastro-intestinal tube, liver, pancreas                                      |
| 14        | ▣Microscopic slides of different parts of the <b>urinary system</b> : kidney, urinary tract<br>▣Microscopic slides of different parts of the <b>reproductive system</b> : male and female reproductive organs such as testis, prostate, ovary, and uterus |
| <b>15</b> | <b>FINAL PRACTICAL EXAMINATION</b>  |
| 16        | ▣Remedials, Revisions and Consultations   |