

Course Specification

1- Basic Information

| | | | | | |
|--|---|---------|-----|-----|-------|
| Course Title | Pathology I | | | | |
| Course Code | TRMI 205 | | | | |
| Department(s) responsible for course teaching. | Medical Laboratory Technology department | | | | |
| Course hours | Credit hrs. | Contact | | | |
| | | Lec | Tut | Lab | Total |
| | | 1 | | 4 | 3 |
| Course type | Mandatory | | | | |
| Course level | Second-level, first semester | | | | |
| Academic program | Technology of Radiology and Medical Imaging Program | | | | |
| Faculty | High Institute of Applied Health Science Badr | | | | |
| University | Badr Higher Institutes of Science and Technology | | | | |
| Course coordinator | Rania Karas | | | | |
| Course approval date | Click or tap to enter a date. | | | | |
| Decision approving board (attached the decision/minutes of the department council) | | | | | |



2- Course Overview

This course provides students with a comprehensive introduction to the core concepts and mechanisms underlying human disease. It focuses on the causes (etiology), development (pathogenesis), and morphological alterations of pathological conditions at the cellular and tissue levels.

The course begins with an introduction to general pathology and essential terminology, followed by detailed exploration of cell injury, adaptation, apoptosis, and necrosis. It covers the processes of inflammation, healing, and tissue repair, as well as non-neoplastic disorders of growth, radiation injury, and genetic disorders.

Students will also study the basic features of neoplasia, including tumor classification and growth behavior, along with intracellular accumulations and hemodynamic disorders such as edema, thrombosis, and shock. The course concludes with an overview of infectious diseases, including those caused by viruses, bacteria, fungi, and parasites.

The practical component includes the examination of gross pathological specimens, allowing students to recognize and describe visible morphological changes related to different disease processes.

3- Course Learning Outcomes

**Consistency of course learning outcomes with program outcomes
(adopted standards)**

| Course Learning Outcome By the end of this course the student will be able to: | | Program Outcomes/Adopted Academic Reference Standards (PO Target by the course based on matrix) | |
|--|---|---|--|
| Code | Statement | Code | Statement |
| a.1 | Define basic principles and terminology of general pathology. | A.3 | Study human anatomy and pathology to understand the physiological basis of the images. |
| a.2 | Explain mechanisms of cell injury, adaptation, apoptosis, necrosis, and gangrene. | | |
| a.3 | Outline inflammation, healing, and tissue repair. | | |
| a.4 | Distinguish between neoplastic and non-neoplastic growth disorders. | | |

| Course Learning Outcome By the end of this course the student will be able to: | | Program Outcomes/Adopted Academic Reference Standards (PO Target by the course based on matrix) | |
|--|--|---|---|
| Code | Statement | Code | Statement |
| a.5 | Describe radiation injury and genetic disorders. | | |
| a.6 | Identify intracellular accumulations and metabolic alterations. | | |
| a.7 | Explain mechanisms of hemodynamic disorders. | | |
| a.8 | Describe pathological features of infectious diseases. | | |
| a.9 | Recognize neoplasia features and tumor classification. | | |
| b.1 | Analyze relationships between pathological processes and disease outcomes. | | |
| b.2 | Differentiate types of tissue injury and adaptive responses. | | |
| b.3 | Interpret microscopic and gross pathological changes. | | |
| b.4 | Evaluate disease mechanisms in systemic and cellular contexts. | | |
| c.1 | Identify gross pathological specimens. | | |
| c.2 | Use proper terminology to describe lesions and alterations. | | |
| c.3 | Correlate observed specimens with theoretical knowledge. | | |
| c.4 | Demonstrate safe handling and examination of samples. | D.3 | Perform the most common experiments in biological & basic science |
| d.2 | Collaborate effectively in group learning. | D.6 | Participate in teamwork harmoniously and exhibit collaboration with colleagues and other health care professionals. |
| d.3 | Apply critical thinking to assess and interpret disease. | | |
| d.4 | Manage time and resources effectively for learning. | | |

4- Learning Methods

- Interactive lectures
- Small group discussion / Brainstorming
- Demonstrations
- Self-Directed Learning
- Practical tutorial session

5- Course Timetable

| Week No. | Course Content/Topics | Total Weekly hours | Expected learning hours (contact hours) | | |
|----------|---|--------------------|---|--------|------|
| | | | نظري | تمارين | عملي |
| 1 | Introduction to General Pathology | 3 | 1 | | 4 |
| 2 | Cell injury and adaptation | 3 | 1 | | 4 |
| 3 | Apoptosis | 3 | 1 | | 4 |
| 4 | Necrosis and gangrene | 3 | 1 | | 4 |
| 5 | Inflammation | 3 | 1 | | 4 |
| 6 | Healing and Repair | 3 | 1 | | 4 |
| 7 | Midterm exam | | | | |
| 8 | -Non Neoplastic disorders of growth | 3 | 1 | | 4 |
| 9 | Radiation injury and genetic disorders | 3 | 1 | | 4 |
| 10 | Neoplasia | 3 | 1 | | 4 |
| 11 | Intracellular accumulations | 3 | 1 | | 4 |
| 12 | Hemodynamic disorders 1 | 3 | 1 | | 4 |
| 13 | Hemodynamic disorders 2 | 3 | 1 | | 4 |
| 14 | Infectious diseases (Viral, Bacterial, fungal, and parasitic diseases) | 3 | 1 | | 4 |
| 15 | Presentations and Revision | 3 | 1 | | 4 |
| 16 | Practical exam | | | | |
| 17 | Final exam | | | | |

6- Student Assessment Methods

| No. | Assessment method* | Assessment time (Week No.) | Rating Scores | Percentage of the total course grade |
|-----|----------------------------|----------------------------|---------------|--------------------------------------|
| 1 | Written exam 1 (term work) | 7 th | 20 | 13.3% |
| 2 | Written exam 2 (term work) | | | |
| 3 | Final written exam | | 75 | 50 % |

| | | | | |
|---|---|------------------|----|------|
| | | | | |
| 4 | Final Practical exam | 16 th | 45 | 30% |
| 5 | Final oral exam | | | |
| 6 | Activities / Project / Activity Booklet | 15 th | 10 | 6.7% |
| 7 | Filed training | | | |
| 8 | Other (list) | | | |

* The methods mentioned above are indicative examples, and may add and delete

7- Learning Sources and Facilities

| | | |
|---|-------------------------------------|---|
| Learning resources (books, scientific references, etc.) * | Main Reference | Departmental Course Handbook https://bislms.mans.edu.eg/moodle2025/pluginfile.php/5854/mod_resource/content/1/Badr%20Bo |
| | Other references | Vinay Kamal, Textbook of Pathology, General Pathology and Hematology, 2nd Edition (2025) Harsh Mohan, Textbook of Pathology (9th Edition, July 2023) Dylan V. Miller & Billie S. Fyfe, Diagnostic Pathology: Hospital Autopsy, 2nd Edition (May 2024) |
| | Electronic Resources (Add the link) | Egypt Knowledge Bank (EKB) https://www.ekb.eg/ |
| | Educational Platform (add the link) | https://bislms.mans.edu.eg/moodle2025/pluginfile.php/5854/mod_resource/content/1/Badr%20Bo |
| | Other (List) | |
| Educational support equipment for teaching and learning | Devices | Data show- PC |
| | Supplies | |
| | Software | |
| | Skills Labs/Simulators | |
| | Virtual Labs | |
| | Other (List) | |

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* The mentioned list is indicative examples, and the institution may add and delete depending on the nature of the course.

Course Coordinator

Name: Rania Karas

Signature:



Program Coordinator

Name: Rania Karas

Signature: