



**A- COURSE TITLE, CODE, ACADEMIC YEAR:**

**Clinical Practice 3 (MLT 465) 1438 – 1439 H**

**B- COURSE INFORMATION:**

Course Code	Course Title	Credit Units			Study Level	Pre-requisites
		Total	Theory	Practical		
MLT 465	Clinical practice 3	2	-	2	7 <sup>th</sup>	MLT-326 MLT-334
Course Coordinator		Extension		Email Address		
Dr. MAHMOUD M. OMAR		-		mmomar@taibahu.edu.sa		

**C- COURSE DESCRIPTION:**

Molecular virology and immunology clinical practice will briefly introduce the undergraduate students to several different molecular, serological and immunological diagnostic methodologies, techniques, procedures, tests and protocols that are currently used in local, regional hospitals and private clinical testing labs to detect and identify several different viral particles infecting human and other human immunological diseases causing several pathological symptoms. A round tour aided with demonstration in the viral and immunological diagnostic lab will enable students to learn and recognize all the up to date and most recent instruments, equipment, devices, tools that are used routinely in the clinical practice. Furthermore, the students will learn, follow and practice lab safety conduct and protocols for handling safely, potentially infectious samples and biohazard samples and follow correct procedures and steps to dispose biohazard material.

**D- COURSE OBJECTIVES:**

1. To learn the hospital safety practice conduct, rules, regulation and proper dispose of the biohazard clinical samples.
2. To review the standard sample handling, processing, manipulation and several different instrument clinical applications and outcome data recognition.
3. To recognize the basic structure and antigens for different human infectious pathogenic viruses.
4. To identify several viral serological diagnostic protocols and their related instruments.
5. To differentiate between several viral molecular diagnostic protocols and their associated equipment.
6. To learn several different immunological diseases diagnosed in clinical hospital.
7. To perceive diverse immunological diagnostic tests detecting immunological diseases and their linked devices and tools.

**E- THEORY TOPICS:**

Week	Clinical Practical Sessions	Contact Hours
1	<b>Lecture 1:</b> Clinical viral diagnostic lab safety	2



2	<b>Lecture 2:</b> Human infectious viruses	2
3	<b>Lecture 3:</b> Viral serological diagnostic detection methods	2
4	<b>Lecture 4:</b> Viral molecular diagnostic detection techniques	2
5	<b>Lecture 5:</b> Immunological diseases	2
6	<b>Lecture 6:</b> Immunological diagnostic tests for immunological diseases	2
7	<b>Clinical practice session 1:</b> Viral serological diagnostic techniques	2
8	<b>Clinical practice session 2:</b> Viral serological diagnostic techniques	2
9	<b>Clinical practice session 3:</b> Viral molecular diagnostic tests	2
10	<b>Clinical practice session 4:</b> Viral molecular diagnostic tests	2
11	<b>Clinical practice session 5:</b> Immunological diagnostic tests procedures	2
12	<b>Clinical practice session 6:</b> Immunological diagnostic tests procedures	2
13	Oral exam	2
14	Final exam	

#### G- ASSESSMENT TASKS:

#	Type of assessment task	Week	Total Grades
1	Clinical lab safety conduct	7-12	10%
2	Midterm	8	20%
3	Assignment	10	20%
4	Oral exam	13	10%
5	Final exam	14	40%

#### H- LEARNING RESOURCES:

##### 1- Required textbook:

- Buckingham, L. (2012). Molecular Diagnostics: Fundamentals, Methods and Clinical Applications. 2ed edition. Philadelphia: Davis company.
- Jawetz, Melnick, & Adelberg (2016). Medical Microbiology. 27e. McGraw-Hill
- Todd, I., Spickett, G., Fairclough, L. (2015). Lecture Notes: Immunology, 7ed. Wiley-Blackwell

##### 2- Essential references:

- Patrinos, G., Ansoorge, W., Danielson, P. (2016). Molecular Diagnostics. 3ed edition. London: Elsevier.

#### Notes:



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- Assignments topics and requirements shall be announced by the end of Week-1, the deadline for submission is 12pm Thursday of Week-10 (each semester).
  - Assignments and written assessment tasks must be verified against plagiarism; the maximum acceptable percentage is determined by the department (according to each level).
  - Continuous assessments may include quizzes, internet searches, home-works, exercises, class activity, scratch cards, presentations, group work, etc.
  - Practical exams may contain hands-on experiments, laboratory work, simulations, or demonstrations.
  - Written exams will include multiple-choice questions (MCQ), short essay questions, and long essay questions.