Module (Course Syllabus) Catalogue

2021-2022

College/ Institute	**Koya Technical Institute**	
Department	**Medical Laboratory Technology**	
Module Name	**Laboratory Technology**	
Module Code	**LAT 205**	
Degree	**Technical Diploma** [*] **Bachler** [ ] **High Diploma** [ ] **Master** [ ] **PhD** [ ]	
Semester	**2nd semester**	
Qualification		
Scientific Title	**Lecturer**	
ECTS (Credits)	**7 ECTS**	
Module type	**Prerequisite** [ ] **Core** [*] **Assist.** [ ]	
Weekly hours	**4 Hrs**	
Weekly hours (Theory)	**(2)hr Class**	**(3)Total hrs Workload**
Weekly hours (Practical)	**(2)hr Class**	**(1)Total hrs Workload**
Number of Weeks	**15**	
Lecturer (Theory)	**Rezhna Adil Rasheed**	
E-Mail & Mobile NO.	**Rezhna.rashid@epu.edu.iq**	
Lecturer (Practical)	**Rezhna Adil Rasheed**	
E-Mail & Mobile NO.	**Rezhna.rashid@epu.edu.iq**	
Websites		

Course Book

<table>
<tr><td>Course Description</td><td>This course aims to provide a comprehensive theoretical knowledge of medical microbiology diagnosis technique and medical physiology disorder, diagnosis of disease disorder of human system and advanced practical training in this diverse field.</td></tr>
<tr><td>Course objectives</td><td>Course objectives
- Demonstrate and understanding of basic laboratory technique on the medical microbiology examination of disease.
- Demonstrate an understanding of basic concepts of medical physiology disorder, diagnosis of disease disorder of human system and advanced practical training in this diverse field.
Have advanced skills on processing blood and physiological analysis and disease diagnosis.</td></tr>
<tr><td>Student's obligation</td><td>- Student's obligation
1-The student attention in all theoretical and practical lectures in academic year.
2-Completion of all tests.
3-Attendance in exams.
4-Write or prepare reports.</td></tr>
<tr><td>Required Learning Materials</td><td>Required Learning Materials include:
lecture halls with data show equipment for lecture presentations, white board, overhead projector, posters</td></tr>
<tr><td>Evaluation</td><td>
<table>
<tr><th colspan="2">Task</th><th>Weight (Marks)</th><th>Due Week</th><th>Relevant Learning Outcome</th></tr>
<tr><td colspan="2">Paper Review</td><td></td><td></td><td></td></tr>
<tr><td rowspan="6">Assignments</td><td>Homework</td><td>5%</td><td></td><td></td></tr>
<tr><td>Lab.Report</td><td>10%</td><td></td><td></td></tr>
<tr><td>Class Activity</td><td>2%</td><td></td><td></td></tr>
<tr><td>Report&Seminar</td><td>10%</td><td></td><td></td></tr>
<tr><td>Essay</td><td>-</td><td></td><td></td></tr>
<tr><td>Project</td><td>-</td><td></td><td></td></tr>
<tr><td colspan="2">Quiz</td><td>8%</td><td></td><td></td></tr>
<tr><td colspan="2">Lab.</td><td></td><td></td><td></td></tr>
<tr><td colspan="2">Midterm Exam</td><td>25%</td><td></td><td></td></tr>
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	Final Exam	40%		
	Total	100%		
Specific learning outcome:	- **Specific learning outcome:** On successful completion of this program, graduates will be able to identify, evaluate and apply major theoretical traditions in medical microbiology and medical physiology studies, also understanding how the human body work. And personal save. - Demonstrate the ability to think critically and solve problems in a laboratory setting - Ability to apply knowledge in practice - Ability to search for process and analyse information from a variety of sources			
Course References:	- **Course Reading List and References:** 1-Manual of medical Laboratory Techniques S Ramakrishnan and KN Sulochana. JAYPEE. 2012 2- Text book of medical physiology, 11 th edition, C. Guyton, M.D. 3- Diagnostic Microbiology. Bailey and Scott's. 13 edition 2014			

Course topics (Theory)	Week	Learning Outcome
Sterilization methods& disinfection with difference physical and chemical methods	1	Student be able to know the methods of sterilization and the differences between sterilization and disinfection
Examination of Urine samples	2	Be able to know the methods of urine analysis in laboratory
Culture media , types , and methods of culturing media	3	Be able to know every types of culture media and the types of culturing
Examination of stool samples	4	Be able to know every methods in stool examination in laboratory
Examination of throat , ear , swabs, burns and wound	5	Be able how to take sample from patients need these types of examination
Examination of sputum or respiratory secretion	6	Be able how to take sample sputum and how to analysis
Examination of semen samples	7	Be able how to take sample semen and how to analysis
Examination of cerebrospinal fluid (CSF)	8	Be able how to take sample CSF and how to analysis
How to identification bacteria, Vitek2 complement system	9	Be able to knowing about the vitek2 complement system structure and functions
Serology test (reaction) antigen –antibody interaction	10	Be able to know about serological methods in diagnosing disease
Immunoassay sorbent (ELIZA)	11	Be able to know on this apparatus ELIZA
Complete blood count	12	Be able to knowing on how counting blood component by colter apparatus

Practical Topics		Learning Outcome
Sterilization methods& disinfection with difference physical and chemical methods	1	Student be able to know the methods of sterilization and the differences between sterilization and disinfection
Examination of Urine samples	2	Be able to know the methods of urine analysis in laboratory
Culture media , types , and methods of culturing media	3	Be able to know every types of culture media and the types of culturing
Examination of stool samples	4	Be able to know every methods in stool examination in laboratory
Examination of throat , ear , swabs, burns and wound	5	Be able how to take sample from patients need these types of examination
Examination of sputum or respiratory secretion	6	Be able how to take sample sputum and how to analysis
Examination of semen samples	7	Be able how to take sample semen and how to analysis
Examination of cerebrospinal fluid (CSF)	8	Be able how to take sample CSF and how to analysis
How to identification bacteria, VItek2 compact system	9	Be able to knowing about the vitek2 compact system
Serology test (reaction) antigen –antibody interaction	10	Be able to know about serological methods in diagnosing disease
Immunoassay sorbent (ELIZA)	11	Be able to know on this apparatus ELIZA
Complete blood count	12	Be able to knowing on how counting blood component by colter apparatus

Questions Example Design

1. Compositional

What are the steps for collection swabs from infected throat

2.True or false type of exams:

1- anaerobic bacteria mean that the bacteria do not need oxygen for their growth

3. Multiple choices:

1- for taking sample from otitis media without discharge it must be done by:

a- swab b- aspiration c- saliva

Extra notes:

External Evaluator

- **External Evaluator**

  The outcome of course book evaluation is commonly more explicit and follows the principles and rules in general.

Proff. Dr. Ismail Salih Kakey