



Course Syllabus of Filed Training in Biochemistry

Faculty: Medicine and Health Sciences
Department: Health Sciences
Program: Bachelor in Medical Laboratory

I. General information about the course instructor:

Name	Dr. Ali Ali Ahmed Alhaj	Office Hours					
Location & phone No.	713465553 / 4114	Sat	Sun	Mon	Tue	Wed	Thu
Email	alhajjj20@yahoo.com	-	1	-	1	-	1

II. General information about the course:

13.	Course Title:	Filed Training in Biochemistry					
14.	Course Code and Number :	BML483					
15.	Credit Hours :	Lecture	Seminar/Tutorial	Practical	Training	Total	
		-	-	2	-	2	
16.	Study Level and Semester:	4th year/ 2nd semesters					
17.	Pre-requisites:	None					
18.	Co-requisites:	None					
19.	Program in which the course is offered	Bachelor in Medical Laboratory					
20.	Teaching Language:	English					
21.	Instruction location:	University of Science and Technology, Sana'a ,Yemen					

III. Course Description:

This course provides medical laboratory students with the field training skills required for the performance of different diagnostic tests in biochemistry department . It equips the students with the essential knowledge and practical skills required for the proper collection, preservation, examination, reporting and interpretation of different clinical specimens in biochemistry. It provides the students with the essential knowledge and practice of quality control within the context of total patient care and quality assurance in medical laboratory technology. The teaching strategies will include practical demonstrations, log book , small group discussion, problem-solving, practical practice, assignment and collaborative learning.. The students will be evaluated through written exam, Log book evaluation practical skills evaluation Assignments evaluation, observation and checklist assessment and personal skills evaluation.

IV. Course Aims: This course is aimed to:

1. Enable the students to understand the principle and technique steps of all equipment of biochemistry department.
2. Enable the student to practice in sample collection and handling.
3. Provide the student the skills in managements and solving problems during practical training.
4. Learn the student how to write and interpret result report.
5. Engage the theoretical part with practical part in routine work.

عميد الكلية:
د. عبد الله المخلافي

رئيس القسم:
د. عبد الحبيب القباطي
١٠ / ٧

المراجع:
د. عبد الحبيب القباطي
د. حمود الحبابي

الموصف:
أ.د علي الحاج

V. Course Intended Learning Outcomes (CILOs):

1. list methods of the collection, preservation and transport of clinical specimens in biochemistry department.
2. Describe the principles of measurement of analytes in the human body.
3. Explain the different causes of metabolic disorders.
4. Integrate the biochemistry lab result with the clinical and other lab results.
5. Use safety precautions, quality control and quality assurance in clinical chemistry laboratory.
6. Practice manual ,semi-automated and full-automated measurements.
7. Use equipment and instruments effectively.
8. Write reports correctly.
9. Work independently or as a team member and effectively communicate with the teaching staff and colleagues to identify, analyze and understand emerging issues.

VI. Course Contents:

Training Aspect:

No.	Course Units	Sub-topics	Week due	Contact Hours
1.	Quality control concepts in Clinical chemistry lab	Training on the concepts of quality control (pre-analysis; analysis; post-analysis).	1 st	4
2.	Patient data collection	- Data collection tools/ instruments - Types of data collection - Filling forms with patient's data	2 nd	4
3.	Sampling and Specimen collection	- Collection and labeling of specimens - Preservation of specimens.	3 rd	4
4.	Measurements of analytes by Manual and semi-automated Spectrophotometer:	1- Measurements of end points tests e.g. glucose, cholesterol,etc	4 th	4
		2- Measurements of fixed time and kinetic tests e.g. Enzymes, S. creatinine,etc	5 th	4
		3- Measurements of kinetic tests (Enzymes) e.g. Liver enzymes, Cardiac enzymes,....etc	6 th	4
5.	Measurements of analytes by Closed (Full Automated) system	e.g. Cobas integra, Cobas C 111, Cobas C 6000 analyzer ...etc.	7 th , 8 th	8
6.	Measurements of electrolytes	Measurements of electrolytes (Na ⁺ , K, Caetc.) by electrolyte analyzer	9 th , 10 th	8
7.	Methods for the determination of hormones and Tumor Markers in the blood	Methods for the determination of hormones and Tumor Markers in blood by open systems e.g. ELIZA and IFA ... etc.	11 th	4
		Methods for the determination of hormones and Tumor Markers in blood by closed (Full Automated) systems e.g. Cobas e 411, Architect analyzers ... etc.	12 th	4
8.	Source of errors	Source of errors in clinical chemistry and body fluid test	13 th	4
9.	Reporting the results	Reporting and interpretation of test results	14 th	4
10.		Final exam	15 th	4
Total number of weeks and hours			15	60

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المراجع :
د. عبد الحبيب القباطي
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