



توصيف مساق. Practical Training in Clinical biochemistry  
تدريب ميداني في الكيمياء الحيوية السريرية (0406483)

1. معلومات مدرس المساق (Instructor)

اسم (مدرس / منسق) المساق :	Dr. Amal Hisham Uzrail
الساعات المكتتبية:	د أمل هشام عزريل حد - ثل 12 - 1
رقم المكتب والرقم الفرعي:	
البريد الإلكتروني:	amaluzrail@aabu.edu.jo
مساعد البحث والتدريس/المشرف/الفني (إن وجد):	

2. وصف المساق (Course Description)

The student trains (18) practical hours per week distributed over two days throughout the first semester of the fourth academic year in the medical analysis laboratories approved by Al al-Bayt University for this purpose. The training includes the following basic areas of medical analysis: Clinical Biochemistry. The training score is monitored, and the training is followed up by a supervisor appointed for this purpose.

3. بيانات المساق (Course Title)

رقم المساق: 406483	اسم المساق: تدريب ميداني في الكيمياء الحيوية السريرية	المستوى: الرابع
طبيعة المساق: تدريب	المتطلب السابق 0406251	وقت المحاضرة: 8 - 14
العام الجامعي: 2021 / 2020	الفصل الدراسي: الثاني	عدد الساعات الدراسية: 3

4. أهداف المساق (Course Objectives)

To learn how to apply theoretical and applied skills at hospitals' clinical laboratories (Clinical Biochemistry) using clinical samples

To develop interpersonal skills and to work as part of the health-care team	ب-
To learn how to obtain samples, process samples, analyze samples, and report results	ج-
To develop analytical and diagnostic skills in performing laboratory tests and interpretation of test results	د-
To develop troubleshooting skills and to identify issues relating to performance of laboratory techniques and equipment	ر
To develop skills in application of Quality Assurance and Quality control	ز
To learn how to properly apply safety precautions, utilize personal-protective equipment, and manage laboratory accidents or emergencies	س

**5. مخرجات التعلم (Intended Student Learning Outcomes)**  
(المعرفة والمهارات والكفايات)

يفترض بالطالب بعد دراسته لهذا المساق أن يكون قادرا على:

For the Clinical biochemistry laboratories, the student should understand and be fully aware of the following aspects:

1. The principle of the test including manual and/or automated techniques.
2. The application of the test and its correlation with the diagnosis of related disorders and abnormalities (i.e., why the test is performed).
3. The sample required to perform the test; including any precautions regarding the type of sample, the time of collection, handling, processing, transport, and preservation. Furthermore, patient education (if needed) is a critical part of certain assays.
4. Procedures (how to perform the test): the student should show a level of proficiency in performing the test according to the procedure manual.
5. Interferences and sources of errors should be known and avoided to prevent false positive/negative/elevated/reduced results.
6. Quality control and quality assurance measures are crucial in maintaining the required level of accuracy and precision. Students should be aware of these measures and apply them successfully
7. Results interpretation: The student should be familiar with the normal values of the test and take into consideration any age, gender, or ethnic variation of these values. Furthermore, the student should be able to interpret results and correlate them with known disorders and abnormalities.
8. Student should learn the system of results reporting, in accordance to the policy of the affiliated laboratory.
9. Safety measures should be well understood and applied with the highest level of precaution and care. This ensures not only student safety, but also the safety of colleagues, samples, and patients.

## 6. محتوى المساق (Course Content)

This course is designed as training practical where students work at a hospital or health facility for one semester and are required to train on all aspects of clinical biochemistry laboratory.

## 7. استراتيجيات التعليم والتعلم وطرق التقويم

### (Teaching and learning Strategies and Evaluation Methods)

ت	مخرجات التعلم	استراتيجيات التدريس	أنشطة التعلم	نوع التقويم/القياس (امتحان/عروض صفية/مناقشة/واجبات)
1	To learn how to apply theoretical and applied skills at hospitals' clinical laboratories (Clinical biochemistry) using clinical samples	Brain storming, discussion, Case studies	Training	Continuous assessment
2	To develop interpersonal skills and to work as part of the health-care team	Brain storming, discussion, Case studies	Training	Continuous assessment
3	To learn how to obtain samples, process samples, analyze samples, and report results	Brain storming, discussion, Case studies	Training	Continuous assessment
4	To develop analytical and diagnostic skills in performing laboratory tests and interpretation of test results	Group discussion brain storming, Case studies	Training	Continuous assessment
5	To develop troubleshooting skills and to identify issues relating to performance of laboratory techniques and equipment	Group discussion, brain storming, Case studies	Training	Continuous assessment
6	To develop skills in application of Quality Assurance and Quality control	Group discussion, brain storming, Case studies	Training	Continuous assessment
7	To learn how to properly apply safety precautions, utilize personal-protective equipment, and manage laboratory accidents or emergencies	Group discussion, brain storming, Case studies	Training	Continuous assessment

## Training Content

Clinical biochemistry	
	Topics
1	Specimens collection and handling. Types of specimens for chemical analysis and categories of clinical biochemistry tests.
2	Methods used in clinical biochemical pathology laboratory
3	Analysis of specimens and result release
4	Test result interpretation
5	Quality control assurance for chemical pathology laboratory Precision and accuracy of biochemical tests
6	Laboratory safety and medical biowastes

### 8. تقييم الطلبة (Assessment)

توزيع الدرجات لكل أسلوب	توقيت التقييم	الأساليب المستخدمة
40	خلال الفصل	1- أعمال الفصل: (تقرير، وظائف، حضور، تقييم جهة التدريب)
60	أسبوع الامتحانات النهائية	2- امتحان تحريري نهائي

### 9. الكتاب المقرر (Text Book)

Clinical Biochemistry: An illustrated color textbook	المرجع الرئيس
Michal Murphy, Rajeev Srivastava and Kevin Deans	المؤلف
Elsevier Health Company	الناشر
2019	السنة
6 th Edition	الطبعة
	الموقع الالكتروني للمرجع

### 10. الكتاب (Text Book) الاضافي Theory

Clinical Chemistry: Techniques, Principles, Correlations	المرجع الرئيس
Bishop. ML, Fody., E.P. Schoeff, LE ,	المؤلف
Lippincott Williams & Wilkins	الناشر
2010	السنة
Sixth Edition	الطبعة
ISBN: 978-0781790451	الموقع الالكتروني للمرجع

11. المراجع الإضافية (References) (وتشمل الكتب والبحوث المنشورة في الدوريات او المواقع الالكترونية)

### Power points and handouts