


Philadelphia University	 PHILADELPHIA UNIVERSITY <small>THE WAY TO THE FUTURE</small>	Approved Date: 13/10/2021
Faculty: Pharmacy		Issue:
Department: -		Credit Hours: 1
Academic Year: 2021/2022		Course Syllabus

Course Information

Course No.	Course Title	Corequisite	
0510416	Clinical Biochemistry Practical	(0510415) Clinical Biochemistry	
Course Type		Class Time	Room No.
<input type="checkbox"/> University Requirement <input type="checkbox"/> Faculty Requirement <input type="checkbox"/> Major Requirement <input type="checkbox"/> Elective <input checked="" type="checkbox"/> Compulsory		14:15-16:00 Sun, Mon, Tues, Wed	415

Instructure Information

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Course Delivery Method

<input type="checkbox"/> Blended <input type="checkbox"/> Online <input checked="" type="checkbox"/> Physical			
Learning Model			
Percentage	Synchronous	Asynchronous	Physical
	0	0	100%

Course Description

This course discusses via case-study analyses and experimental work the basic principles of quantitative analysis utilized in common clinical laboratory tests. An introduction to interpretation of abnormal clinical laboratory values is presented, and regulatory effects of various hormones are described.

This course is designed to develop the student's skills in certain essential basic biochemical assays and techniques including spectrophotometric assays, gel filtration, electrophoresis, ELISA, immunoinhibition, and enzyme kinetics. Most of these techniques will be correlated and applied in running clinical biochemical tests for disorders of Iron metabolism, liver disease, myocardial infarction, kidney function, carbohydrate and lipid metabolism>

Course Learning Outcomes

Number	Outcome	Corresponding Program Outcomes	Corresponding Competences
Knowledge			
K1	To understand the principle of measuring different clinical parameters	Kp1	C1
K2	To know how to measure using spectrophotometer and ELISA reader	Kp1,Kp2	C1, C2
K3	To understand relation between measured parameter and different disorders related to each parameter	Kp1	C1
K4	To know how to calculate the level of each measured parameter	Kp1	C1
Skills			
S1	To develop good communication skills through team working in groups	Sp6,	C12
S2	To be able to represent, analyse, interpret data of the collected data of measured parameter	Sp2, Sp9	C8,C15
S3	To be able to deal with problems that may occur during practical work and suggest solutions	Sp2, Sp9	C8, C15

Learning Resources

Course Textbook	Manual of practical clinical Biochemistry, prepared by lecturer Hanan Asaad
Supporting References	1- Clinical Chemistry: Principles, Procedures, Correlations by Michael L. Bishop, Edward P. Fody, Larry E. Schoeff Publisher: Lippincott Williams & Wilkins,2005; 5th edition ISBN: 0-7817-4611-6 2- Tietz Textbook of Clinical Chemistry and Molecular Diagnosis by Carl A. Burtis, Edward R. AshwoodDavid Buns Publisher: W.B. Saunders Company; 5th edition (2012) ISBN: 978-1-4160-616-9 3- Electronic data-base of practical courses
Supporting Websites	- http://www.philadelphia.edu.jo/pharmacy/resources.html
Teaching Environment	<input type="checkbox"/> Classroom <input checked="" type="checkbox"/> laboratory <input checked="" type="checkbox"/> Learning Platform <input type="checkbox"/> Other

Meetings and Subjects Time Table

Week	Topic	Learning Method*	Task	Learning Material
1	Vission and Mission of Faculty of Pharmacy	Lecture		Vission and Mission of Faculty of Pharmacy

	Safety rules in Clinical Lab Course Syllabus			Manual Course Syllabus
2	Sampling and using automatic pipet and spectrophotometer	Flip class Problem solving based learning	Report	Video + Lab. manual
3	Albumin determination by Bromocresol method	Flip Learning Problem solving based learning	Report + Quiz	Video + Lab. manual
4	Alkaline phosphate determination by kinetic method using p-Nitrophenol method	Flip class Problem solving based learning	Report	Video + Lab. manual
5	CK-MB determination by immuno-inhibition method	Flip class Problem solving based learning	Report + Quiz	Video + Lab. manual
6	Total and direct bilirubin determination by Diazo method	Flip class Problem solving based learning	Report	Video + Lab. manual
7	Ferritin determination by Sandwisch ELISA	Flip class Problem solving based learning	Report + Quiz	Video + Lab. manual
8	Lab. Section off			
9	Creatinine determination by Jaff method	Flip class Problem solving based learning	Report	Video + Lab. manual
10	HbA1 determination by Cation Exchange method	Flip class Problem solving based learning	Report + Quiz	Video + Lab. manual
11	HDL cholesterol determination by precipitation enzymatic method	Flip class Problem solving based learning	Report	Video + Lab. manual
12	Practical EXam		Report	
13	Final Exam			
13				
14				
15				
16				

*Includes: lecture, flipped Class, project based learning, problem solving based learning, collaboration learning.

Course Contributing to Learner Skill Development

Using Technology
Operating spectrophotometer and ELISA reader
Communication Skills
Report writing Oral discussion on problem solving
Application of Concept Learnt
Reading Lab report and interpretate results in report

Assessment Methods and Grade Distribution

Assessment Methods	Grade	Assessment Time (Week No.)	Course Outcomes to be Assessed
Reports	30%	2-7 & 9-11	K2, K3, S2
Quizzes	20%	3, 5, 7,9	K1, K2, K3, K4
Practical Exam	10%	11	K2, K3, S2, S3
Final Exam	40%	12	K1, K2,K3

* Include: quizzes, in-class and out of class assignment, presentations, reports, videotaped assignment, group or individual project.

Alignment of Course Outcomes with Learning and Assessment Methods

Number	Learning Outcomes	Corresponding Competences	Learning Method*	Assessment Method**
Knowledge				
K1	To understand the principle of measuring different clinical parameters	C1	Flip class Problem solving based learning	Quiz + final Exam
K2	To gain knowledge to operate instruments and techniques	C1,C2	Flip class Problem solving based learning	Quiz + Practical and Final exam +
K3	To understand relation between measured parameter and different disorders related to each parameter	C1	Flip class Problem solving based learning	Quiz + Practical and Final exam
K4	To know how to calculate the level of each measured parameter	C1	Flip class Problem solving based learning	Quiz + Practical and Final exam
Skills				
S1	To develop good communication skills through working in groups	C12	Team working in groups	Evaluation
S2	To perform the measurement and interpretate data of the measured parameter	C8, C15	Flip class Problem solving based learning	Report + Quiz + Practical and final exam
S3	To be able to deal with problems that may occur during practical work and suggest solutions	C8, C15	Flip class Problem solving based learning	Final exam

*Include: lecture, flipped class, project based learning, problem solving based learning, collaboration learning.

** Include: quizzes, in-class and out of class assignments, presentations, reports, videotaped assignments, group or individual projects.

Course Polices

Policy	Policy Requirements
Passing Grade	The minimum pass for the course is (50%) and the minimum final mark is (35%).
Missing Exams	<ul style="list-style-type: none"> • Anyone absent from a declared semester exam without a sick or compulsive excuse accepted by the dean of the college that proposes the course, a zero mark shall be placed on that exam and calculated in his final mark. • Anyone absent from a declared semester exam with a sick or compulsive excuse accepted by the dean of the college that proposes the course must submit proof of his excuse within a week from the date of the excuse's disappearance, and in this case, the subject teacher must hold a compensation exam for the student. • Anyone absent from a final exam with a sick excuse or a compulsive excuse accepted by the dean of the college that proposes the material must submit proof of his excuse within three days from the date of holding that exam.
Attendance	The student is not allowed to be absent more than (15%) of the total hours prescribed for the course, which equates to six lecture days (n t) and seven lectures (days). If the student misses more than (15%) of the total hours prescribed for the course without a satisfactory or compulsive excuse accepted by the dean of the faculty, he is prohibited from taking the final exam and his result in that subject is considered (zero), but if the absence is due to illness or a compulsive excuse accepted by the dean of the college that The article is introduced, it is considered withdrawn from that article, and the provisions of withdrawal shall apply to it.
Academic Integrity	Philadelphia University pays special attention to the issue of academic integrity, and the penalties stipulated in the university's instructions are applied to those who are proven to have committed an act that violates academic integrity, such as cheating, plagiarism (academic theft), collusion, intellectual property rights.

Program Learning Outcomes to be Assessed in this Course

Number	Learning Outcome	Course Title	Assessment Method	Targeted Performance level

Description of Program learning Outcomes Assessment Method

Number	Detailed Description of Assessment

Assessment Rubric of the Program Learning Outcomes

