

Philadelphia University	 <b>PHILADELPHIA UNIVERSITY</b> THE WAY TO THE FUTURE	Approved Date:
Faculty:Pharmacy		Issue:1
Department:-		Credit Hours:1
Academic Year:2022/2023		<b>Course Syllabus</b>

### Course Information

Course No.	Course Title	Prerequisite
0520302	Microbiology & immunology Practical	0520313
Course Type		Class Time
<input type="checkbox"/> University Requirement <input type="checkbox"/> Faculty Requirement <input type="checkbox"/> Major Requirement <input type="checkbox"/> Elective <input type="checkbox"/> Compulsory		Room No. <b>4407</b>

### Course Delivery Method

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

### Course Description

The course is intended to give student a chance to observe and study microorganisms. Students will learn the factors that influence microbial growth, control of microbial growth by physical and chemical means and identification of microorganisms using various techniques.

## Course Learning Outcomes

Number	Outcome	Corresponding Program Outcomes	Corresponding Competencies
<b>Knowledge</b>			
<b>K1</b>	Student become aware of importance of contamination of pharmaceutical products.	Kp1,Kp6	C1,C6
<b>K2</b>	Learn aseptic techniques, handling of microbial cultures and identification of microorganisms.	Kp1,Kp6	C1,C6
<b>K3</b>	Students develop the ability to make observations, record data and analyze result	Kp1,Kp6	C1,C6
<b>K4</b>	Students will develop the ability for group discussions and critical thinking	Kp1,Kp6	C1,C6
<b>K5</b>	Students will learn the production of sterile pharmaceutical products and prevent microbial spoilage	Kp1,Kp6	C1,C6
<b>Skills</b>			
<b>S1</b>	Practicing aseptic transfer technique.	Sp2,Sp3,Sp6	C8,C9,C12,C13
<b>S2</b>	Handling of microbial cultures	Sp2,Sp3,Sp6	C8,C9,C12,C13
<b>S3</b>	Applying sterilization procedures and preparation of sterile products	Sp2,Sp3,Sp6	C8,C9,C12,C13
<b>S4</b>	Learn how to evaluate antiseptics, disinfectants and chemotherapeutic agents.	Sp2,Sp3,Sp6	C8,C9,C12,C13

## Learning Resources

<b>Course Textbook</b>	Microbiology: A laboratory manual, James G. Cappucino and Natalie Sherman Publisher: Benjamin Cuning ISBN 0805376461 2004
<b>Supporting References</b>	Microbiology lab manual
<b>Supporting Websites</b>	
<b>Teaching Environment</b>	<input type="checkbox"/> Classroom <input checked="" type="checkbox"/> * laboratory <input type="checkbox"/> Learning Platform <input type="checkbox"/> Other

## Meetings and Subjects Time Table

Week	Topic	Learning Method*	Task	Learning Material
1	Vision and Mission of Faculty of Pharmacy Course syllabus	Lecture		Lab manual
2	Introduction, Microscopy and examination of prepared bacterial smears	Practical  Flipped learning	Lab report	Lab manual
3	Aseptic microbial transfer technique	Practical Flipped learning	Lab report	Lab manual
4	Preparations for light microscopic examination-Grame staining technique	Practical Flipped learning	Lab report	Lab manual
5	Endospore staining-Capsule staining	Practical Flipped learning	Lab report	Lab manual
6	Growth of microorganisms, preparation of cultures and culture media	Practical Flipped learning	Lab report	Lab manual
7	Control of microbial growth by physical methods( Autoclaving,Boiling,Dry heat)	Practical Flipped learning	Lab report	Lab manual
8	Control of microbial growth by physical methods( Incineration,Filtration & Radiation)	Practical Flipped learning	Lab report	Lab manual
9	Control of microbial growth by chemical methods. <b>disinfectants and antiseptics</b>	Practical Flipped learning	Lab report	Lab manual
10	Anti-microbial chemotherapeutics and antibiotics, sensitivity testing	Practical Flipped learning	Lab report	Lab manual
11	<b>Final Exam</b>			

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

### Course Contributing to Learner Skill Development

Using Technology
<ul style="list-style-type: none"> <li>-Using power point for preparing presentations.</li> <li>- Using Microsoft Teams.</li> <li>-Using Moodle Application.</li> <li>-Handling microorganisms.</li> <li>- Practicing sterilization methods.</li> <li>- Preparing culture media</li> </ul>
Communication Skills
<ul style="list-style-type: none"> <li>-Report writing</li> <li>-Oral presentation for different topics.</li> </ul>
Application of Concept Learnt
<ul style="list-style-type: none"> <li>- Practical application for Aseptic technique and sterilization methods</li> </ul>

## Assessment Methods and Grade Distribution

Assessment Methods	Grade	Assessment Time (Week No.)	Course Outcomes to be Assessed
Quizzes	% 30	Continous	K1,K2,K3,K4,K5 S1,S2,S3,S4
Lab reports	% 30	Continous	K1,K2,K3,K4,K5 S1,S2,S3,S4
Final Exam	% 40	11 week	K1,K2,K3,K4,K5 S1,S2,S3,S4
<b>Total</b>	<b>%100</b>		

\* 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 Competencies	Learning Method*	Assessment Method**
<b>Knowledge</b>				
<b>K1</b>	Student become aware of importance of contamination of pharmaceutical products	C1,C6	Flipped learning Practical	Quiz Lab report Exam
<b>K2</b>	Learn aseptic techniques, handling of microbial cultures and identification of microorgan	C1,C6	Flipped learning Practical	Quiz Lab report Exam
<b>K3</b>	StudStudents develop the ability to make observations, record data and analyze resultsresults	C1,C6	Flipped learning Practical	Quiz Lab report Exam
<b>K4</b>	StudStudents will develop the ability for groupgroup discussions and critical thinkingking	C1,C6	Flipped learning Practical	Quiz Lab report Exam
<b>K5</b>	Students will learn the production of sterile pharmaceutical products and prevent microbial spoilage	C1,C6	Flipped learning Practical	Quiz Lab report Exam
<b>Skills</b>				
<b>S1</b>	Practicing aseptic transfer technique.	C8,C9, C12,C13	Practical	Quiz Lab report Exam
<b>S2</b>	Handling of microbial cultures	C8,C9,C 12,C13	Practical	Quiz Lab report Exam
<b>S3</b>	Applying sterilization procedures and	C8,C9,C a12,C13	Practical	Quiz Lab report Exam
<b>S4</b>	preparation of sterile products	C8,C9,C 12,C13	Practical	Quiz Lab report 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
<b>Passing Grade</b>	The minimum pass for the course is (50%) and the minimum final mark is (35%).
<b>Missing Exams</b>	<ul style="list-style-type: none"> <li>• 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.</li> <li>• 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.</li> <li>• 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.</li> </ul>
<b>Attendance</b>	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.
<b>Academic Integrity</b>	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.