

Philadelphia University	 PHILADELPHIA UNIVERSITY THE WAY TO THE FUTURE	Approved Date: 10/2023
Faculty: Pharmacy		Issue: 1
Department:		Credit Hours: 1
Academic Year:2022/2023		Course Syllabus

Course Information

Course No.	Course Title	Prerequisite
0510327	Practical Pharmaceutical Medicinal Chemistry	0510320
Course Type		Class Time
<input type="checkbox"/> University Requirement <input type="checkbox"/> Faculty Requirement <input type="checkbox"/> Major Requirement <input type="checkbox"/> Elective <input checked="" type="checkbox"/> Compulsory		Room No.

Instructor Information

Name	Office No.	Phone No.	Office Hours	E-mail

Course Delivery Method

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

Course Description

This practical course provides the Knowledge & skills relating to drugs assay & synthesis. The first part includes the assay of marketed drugs (castor oil, Ibuprofen, povidone iodine, ammonium chloride and Rifampicin) by using different analytical methods such as UV, and titration, to measure the actual drug quantities in a given dosage form and compare that with British and US Pharmacopoeia standards. The second part includes the synthetic procedures where students chemically prepare and purify some of the drugs (such as Aspirin, Benzocaine and Sulfasalazine) by using different purification techniques such as re-crystallization and extraction.

Course Learning Outcomes

Number	Outcome	Corresponding Program Outcomes	Competencies
Knowledge			
K1	Gain Knowledge of drugs which are used in the lab about its chemical structure, its uses, dosage forms availability, side effect, adverse effect, synthesis & purification, and physiochemical properties.	K_{p1}	C1
K2	Explain, discuss, and describe the steps & observations in procedure.	K_{p6}	C6
K3	Identify name of instruments which is used in the experiment & gain knowledge of its use, its principle of working, its parts name and use of each.	K_{p1} , K_{p6}	C1, C6
Skills			
S1	Practice writing objectives & ability to represent the observations, data collected & results in a report sheet as team work.	S_{p3}, S_{p6}	C9,C12
S2	Perform analysis & manipulation of data collected calculations (% yield) & interpretation of data scientifically.	S_{p2}, S_{p9}	C8
S3	Apply the steps of procedure (qualitative & quantitative tests/ synthesizing & purification of drugs) practically, scientifically & effectively as.	S_{p2}, S_{p9}	C8, C15
S4	Practise using equipments & operating instruments safely & scientifically & efficiently.	S_{p2}	C8

Learning Resources

Course Textbook	Pharmaceutical Medicinal Chemistry Lab Manual
Supporting References	1. Experimental pharmaceutical chemistry, by Dr. Anees A. Siddiqui, CBS publishers & distributors PVT.LTD. Third edition, 2013. ISBN: 978-81-239-2259-1 2. Official pharmacopeias available in library.

	<ul style="list-style-type: none"> British pharmacopoeia, 2022. ISBN: 877-3230-011-978 United States Pharmacopeia, Rockville, MD: The United States Pharmacopeia Convention, 2006. ISBN:1-889788-39-2 <p>3. Electronic data base of practical courses.</p>
Supporting Websites	https://www.pdfdrive.com/ http://www.freebookcentre.net For each experiment, the supporting websites will be provided at that time.
Teaching Environment	<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 & Mission of Faculty of Pharmacy Course Syllabus-Course outlines -Safety rules & Lab orientation	Lecture Problem solving based learning	Report	Vision & Mission of Faculty of Pharmacy Course Syllabus
2	Measuring saponification value of Castor oil	Flipped class Problem Solving based learning	Report	Lab Manual Exp 1
3	The Identification & Assay of Ammonium Chloride	Flipped class Problem Solving based learning	Report	Lab Manual Exp 2
4	Assay test of Ibuprofen Tablets	Flipped class Problem Solving based learning	Report	Lab Manual Exp 3
5	Assay test of Povidone Iodine solution	Flipped class Problem Solving based learning	Report	Lab Manual Exp 4
6	Assay test of Rifampicin capsules	Flipped class Problem Solving based learning	Report	Lab Manual Exp 5
7	Lab off			
8	Synthesis and purification of Aspirin	Flipped class Problem Solving based learning	Report	Lab Manual Exp 6
9	Analysis of Aspirin	Flipped class Problem Solving based learning	Report	Lab Manual Exp 7
10	Synthesis and purification of	Flipped class	Report	Lab Manual

	Acetaminophen	Problem Solving based learning		Exp 8
11	Synthesis of Benzocaine	Flipped class Problem Solving based learning	Report	Lab Manual Exp 8
12	Practical Exam	Practical Exam	Report Exam	
13	Final Exam	Exam	Exam	

*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"> • Operating instruments • Using equipments
Communication Skills
<ul style="list-style-type: none"> - Capability of report writing. - Ability for group discussions and critical thinking. - working as a team in groups.
Application of Concept Learnt
Practical application of drugs synthesis, purification & assay.

Assessment Methods and Grade Distribution

Assessment Methods	Grade	Assessment Time (Week No.)	Course Outcomes to be Assessed
Reports	% 30	From 1-11 continuous	K1, S1, S2, S4
Quizzes	%20	3,4,5 and 6	K1, K2, K3, S1, S2
Practical Exam	% 10	12	S1, S2, S3, S4
Final Exam	% 40	13	K1, K2, K3 S1, S2, S3, S4
Total	%100		

* 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**
Knowledge				
K1	Gain Knowledge of drugs which are used in the lab about its chemical structure, its uses, dosage forms availability, side effect, adverse effect, synthesis & purification, and physiochemical properties.	C1	Flipped learning Problem solving based learning	Quiz Exam Reports
K2	Explain, discuss, describe the steps & observations in procedure.	C6	Flipped class Problem solving based learning	Quiz Exam Reports
K3	Identify name of instruments which is used in the experiment & gain knowledge of its use, its principle of working, its parts name and use of each.	C1,C6	Flipped class Problem solving based learning	Quiz Exam Reports
Flipped learning				
S1	Practice writing objectives & ability to represent the observations, data collected & results in a report sheet as team work.	C9, C12	Flipped class Problem solving based learning	Quiz Exam Reports
S2	Perform analysis & manipulation of data collected, calculations, & interpretation of data	C8	Flipped class Problem solving based learning	Quiz Exam Reports
S3	Apply the steps of procedure (qualitative & quantitative tests/ synthesizing & purification of drugs) practically, scientifically & effectively.	C12	Flipped class Problem solving based learning	Quiz Exam Reports
S4	Practise using equipments & operating instruments safely, scientifically & efficiently.	C8	Flipped class Problem solving based learning	Quiz Exam questions

*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

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