

University of 21 September for Applied & Medical Sciences

Faculty of Clinical Pharmacy

Master Degree in Clinical Pharmacy

Course Specification of Hospital Training-II

Course No. (CPh204)

2021/2022



This template of course specifications was prepared by CAQA, Yemen, 2017.

Prepared by:

Dr. Ali Alyahawi

Reviewed by:

Dr.

Head of the Department:

Quality Assurance head

Dean:



I. Course Identification and General Information:

1	Course Title:	Hospital Training -II			
2	Course Code & Number:	CPh204			
3	Credit Hours:	Credit Hours	Theory Hours		Lab/Training Hours
			Lecture	Exercise	
		2	--	--	2
4	Study Level/ Semester at which this Course is offered:	-			
5	Pre –Requisite (if any):	Hospital Training -I			
6	Co –Requisite (if any):	None			
7	Program (s) in which the Course is Offered:	Master Degree in Clinical Pharmacy			
8	Language of Teaching the Course:	English			
9	Study System:	Semester based System			
10	Mode of Delivery:	Full Time			
11	Location of Teaching the Course:	21 September University			
12	Prepared by:	Dr. Ali Alyahawi			
13	Date of Approval:				

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	<ul style="list-style-type: none"> - database search - Individual supervision - Self-learning 	<ul style="list-style-type: none"> - Presentation for one of the course content topics. - Exam
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(b) Alignment Course Intended Learning Outcomes of Intellectual Skills to Teaching Strategies and Assessment Strategies:		
Course Intended Learning Outcomes	Teaching strategies	Assessment Strategies
b1- Identify drug-related problems through selected cases discussion of respiratory, rheumatology, endocrine, infectious diseases, surgery, pediatrics, gynecology/obstetrics.	<ul style="list-style-type: none"> - Clinical cases studies - Small practical session and discussion - Seminars - Manuals - Use of advanced database search - Individual supervision - Self-learning 	<ul style="list-style-type: none"> - Assignments - Oral case discussions during clinical rounds - Pharmacy practice manual - Formal case presentation - Presentation for one of the course content topics. - Exam
b2- Design the appropriate pharmacotherapy treatment and monitoring plan through selected case discussion of respiratory, rheumatology, endocrine, infectious diseases, surgery, pediatrics, gynecology/obstetrics.	<ul style="list-style-type: none"> - Clinical cases studies - Small practical session and discussion 	<ul style="list-style-type: none"> - Assignments - Oral case discussions during clinical rounds - Pharmacy practice manual

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No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
4	3- ...	- ...			
5	4- ...	- ...			
6	5-				
7	6- ...	- ...			
8	7- ...	- ...			
9	8- ...	- ...			
10	9- ...	- ...			
11	10- ...	- ...			
12	11- Final Theoretical Exam				
Number of Weeks /and Units Per Semester					

B. Case Studies and Practical Aspect:

Order	Units/Topics List	Number of Weeks	Contact Hours	Learning Outcomes
1	Respiratory	Week 1-2	Course Training Period	a 1, b1, b2, c1, d1, d2
2	Rheumatology	Week 3-4	Course Training Period	a 1, b1, b2, c1, d1, d2
3	Endocrine	Week 5-6	Course Training Period	a 1, b1, b2, c1, d1, d2
4	Infectious Diseases	Week 7	Course Training Period	a 1, b1, b2, c1, d1, d2
5	Midterm Exam	Week 8	Course Training Period	a 1, b1, b2, c1, d1
6	Infectious Diseases	Week 9	Course Training Period	a 1, b1, b2, c1, d1, d2

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7	Surgery	Week 10-11	Course Training Period	a 1, b1, b2, c1, d1, d2
8	Pediatrics	Week 12-13	Course Training Period	a 1, b1, b2, c1, d1, d2
9	Gynecology/Obstetrics.	Week 14-15	Course Training Period	a 1, b1, b2, c1, d1, d2
10	Final Exam	Week 16	Course Training Period	a 1, b1, b2, c1, d1
Number of Weeks /and Units Per Semester: 14 Weeks			252 hours	

C. Tutorial Aspect: (ان وجدت)

No.	Tutorial	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
Number of Weeks /and Units Per Semester				

V. Teaching Strategies of the Course:

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- Clinical cases studies
- Small practical session and discussion
- Seminars
- Manuals
- Use of advanced database search
- Individual supervision
- Collecting, interpreting, and integrating available information in disease state
- Self-learning

VI. Assessment Methods of the Course:

Assignments
Oral case discussions during clinical rounds
Pharmacy practice manual
Formal case presentation
Exam

VII. Assignments:

No	Assignments	Aligned CILOs (symbols)	Week Due	Mark
1	Assignment 1: Develop a pharmaceutical care plan for selected case of diabetes type 2 according to appropriate primary literature and updated guidelines.	a 1, b1, b2, c1, d1, d2	Week 3	5
2	Assignment 2: Develop a pharmaceutical care plan for selected case of ischemic heart disease according to appropriate primary literature and updated guidelines.	a 1, b1, b2, c1, d1, d2	Week 6	5
Total				10

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VIII. Schedule of Assessment Tasks for Students During the Semester:

No.	Assessment Method	Week Due	Mark	Proportion of Final Assessment	Aligned Course Learning Outcomes
1	Assignments	Course Training Period	10	10%	a 1, b1, b2, c1, d1, d2
2	Pharmacy practice manual	Course Training Period	10	10%	a 1, b1, b2, c1, d1, d2
3	Midterm Exam	Week 8	20	20%	
4	Formal case presentation	Course Training Period	10	10%	a 1, b1, b2, c1, d1, d2
5	Final exam	Week 16	40	40%	a 1, b1, b2, c1, d1
Total			100	100%	

IX. Learning Resources:

1- Required Textbook(s) (maximum two).

1. Chisholm-Burns et al, 2019 , Pharmacotherapy principles & practice. 5rd edition.
2. Katzung. 2018, Basic & Clinical Pharmacology. 14th edition.

2- Essential References.

1. DiPiro et al, 2020. Pharmacotherapy: A Pathophysiological Approach, 11th edition.
2. Caroline S. Zeind and Michael G. Carvalho, 2018, Applied Therapeutics: The Clinical Use of Drugs, 11th edition.
3. Walker & Whittlesea, 2018. Clinical Pharmacy and Therapeutics, 6 edition.

3- Electronic Materials and Web Sites etc.

- UpToDate
- <http://www.globalrph.com/>
- Updated Clinical Practice Guidelines for selected course disorders

X. Course Policies: (Based on the Uniform Students' By law (2007)

1	Class Attendance: Class Attendance is mandatory. A student is considered absent and shall be banned from taking the final exam if his/her absence exceeds 25% of total classes.
2	Tardiness:

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	A student will be considered late if he/she is not in class after 10 minutes of the start time of class.
3	Exam Attendance/Punctuality: No student shall be allowed to the exam hall after 30 minutes of the start time, and shall not leave the hall before half of the exam time has passed.
4	Assignments & Projects: Assignments and projects must be submitted on time. Students who delay their assignments or projects shall lose the mark allocated for the same.
5	Cheating: Cheating is an act of fraud that results in the cancelation of the student's exam or assignment. If it takes place in a final exam, the penalties stipulated for in the Uniform Students' Bylaw (2007) shall apply.
6	Forgery and Impersonation: Forgery/Impersonation is an act of fraud that results in the cancelation of the student's exam, assignment or project. If it takes place in a final exam, the penalties stipulated for in the Uniform Students' Bylaw (2007) shall apply.
7	Other policies: The University official regulations in force will be strictly observed and students shall comply with all rules and regulations of the examination set by the Department, Faculty and University Administration.

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جامعة ٢١ سبتمبر
للعلوم التطبيقية والطبية
مركز التطوير الأكاديمي وضمان الجودة

University of 21 September for Applied & Medical Sciences

Faculty of Clinical Pharmacy

Master Degree in Clinical Pharmacy

Course Specification of Hospital Training -II

Course No. (CPh204)

2021/2022

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I. Information about Faculty Member Responsible for the Course:

Name of Faculty Member:	Dr. Ali Alyahawi	Office Hours					
Location & Telephone No.:	775957401						
E-mail:	alyahawipharm@yahoo.com	SAT	SUN	MON	TUE	WED	THU

II. Course Identification and General Information:

١	Course Title:	Hospital Training -II			
٢	Course Code & Number:	CPh204			
3	Credit Hours:	Credit Hours	Theory Hours		Lab/Training Hours
			Lecture	Exercise	
		2	--	--	2
٤	Study Level/ Semester at which this Course is offered:	-			
٥	Pre -Requisite (if any):	Hospital Training -I			
٦	Co -Requisite (if any):	None			
7	Program (s) in which the Course is Offered:	Master Degree in Clinical Pharmacy			
٨	Language of Teaching the Course:	English			
٩	Study System:	Semester based System			
١٠	Mode of Delivery:	Full Time			
11	Location of Teaching the Course:	21 September University			
12	Prepared by:	Dr. Ali Alyahawi			
13	Date of Approval:				

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III. Course Description:

This hospital training course aims to integrate the students skills and knowledge of pharmacology, therapeutic and clinical courses in dealing with hospital real cases to identify and resolve different treatment related problems of different sub-specialties practiced over the rotation. Students will participate in medical ward rounds, case seminars & hospital education programs. Available rotations include respiratory, rheumatology, endocrine, infectious diseases, surgery, pediatrics, gynecology/obstetrics.

IV. Course Intended Learning Outcomes (CILOs) :

Upon successful completion of the Course, student will be able to:

A. Knowledge and Understanding:

a1 Understand the role and responsibilities of a clinical pharmacist in identification and resolving different treatment related problems of respiratory, rheumatology, endocrine, infectious diseases, surgery, pediatrics, gynecology/obstetrics.

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D. Transferable Skills:

d1	Search in the medical journal databases by browsing professional medical sites for Evidence-Based Medicine (EBM)	E 2
d2	Communicate effectively with healthcare team and improve student skills of patient counseling.	E 1

V. Course Contents:

A. Theoretical Aspect:

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours
1		... - ... - ... - ...		
2		
3		
4		
5		
6				
7		
8		
9		
10		
11		

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No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours
12	Final Theoretical Exam			
Number of Weeks /and Units Per Semester				

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours
1		... - ... - ... - ...		
2		
3		
4		
5		
6				
7		
8		
9		
10		
11		
12	Final Theoretical Exam			

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No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours
Number of Weeks /and Units Per Semester				

B. Case Studies and Practical Aspect:

C. Tutorial Aspect:

No.	Tutorial	Number of Weeks	Contact Hours
1			
2	12-		
3	13-		
4	14-		
5	15-		
6	16-		
7	17-		

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No.	Tutorial	Number of Weeks	Contact Hours
8	18-		
9	19-		
10	20-		
Number of Weeks /and Units Per Semester			

VI. Teaching Strategies of the Course:

- Clinical cases studies
- Small practical session and discussion
- Seminars
- Manuals
- Use of advanced database search
- Individual supervision
- Collecting, interpreting, and integrating available information in disease state
- Self-learning

VII. Assessment Methods of the Course:

Assignments
Oral case discussions during clinical rounds
Pharmacy practice manual

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Formal case presentation
Exam

VIII. Assignments:

IX. Schedule of Assessment Tasks for Students During the Semester:

X. Learning Resources:

- Written in the following order: (Author - Year of publication - Title - Edition - Place of publication - Publisher).

1- Required Textbook(s) (maximum two).

1. Chisholm-Burns et al, 2019 , Pharmacotherapy principles & practice. 5rd edition.
2. Katzung, 2018, Basic & Clinical Pharmacology. 14th edition.

2- Essential References.

- 1- DiPiro et al, 2020, Pharmacotherapy: A Pathophysiological Approach, 11th edition.
- 2- Caroline S. Zeind and Michael G. Carvalho, 2018, Applied Therapeutics: The Clinical Use of Drugs, 11th edition
- 3- Walker & Whittlesea, 2018. Clinical Pharmacy and Therapeutics. 6 edition.

3- Electronic Materials and Web Sites etc.

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- UpToDate
- <http://www.globalrph.com/>
- Updated Clinical Practice Guidelines for selected course disorders

XI. Course Policies: (Based on the Uniform Students' Bylaw (2007))

1	Class Attendance: Class Attendance is mandatory. A student is considered absent and shall be banned from taking the final exam if his/her absence exceeds 25% of total classes.
2	Tardiness: A student will be considered late if he/she is not in class after 10 minutes of the start time of class.
3	Exam Attendance/Punctuality: No student shall be allowed to the exam hall after 30 minutes of the start time, and shall not leave the hall before half of the exam time has passed.
4	Assignments & Projects: Assignments and projects must be submitted on time. Students who delay their assignments or projects shall lose the mark allocated for the same.
5	Cheating: Cheating is an act of fraud that results in the cancelation of the student's exam or assignment. If it takes place in a final exam, the penalties stipulated for in the Uniform Students' Bylaw (2007) shall apply.
6	Forgery and Impersonation: Forgery/Impersonation is an act of fraud that results in the cancelation of the student's exam, assignment or project. If it takes place in a final exam, the penalties stipulated for in the Uniform Students' Bylaw (2007) shall apply.
7	Other policies: The University official regulations in force will be strictly observed and students shall comply with all rules and regulations of the examination set by the Department, Faculty and University Administration.

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University of 21 September for Applied & Medical Sciences

Faculty of Clinical Pharmacy

Master Degree in Clinical Pharmacy

Course Specification of Hospital Training -I

Course No. (CPh203)

2021/2022

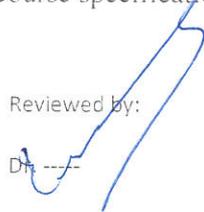


This template of course specifications was prepared by CAQA, Yemen, 2017.

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Head of the Department:

Quality Assurance head

Dean:

I. Course Identification and General Information:

١	Course Title:	Hospital Training -I			
٢	Course Code & Number:	CPh203			
3	Credit Hours:	Credit Hours	Theory Hours		Lab/Training Hours
			Lecture	Exercise	
		2	--	--	16
٤	Study Level/ Semester at which this Course is offered:	Level / Semester			
٥	Pre -Requisite (if any):	Therapeutics I-III			
٦	Co -Requisite (if any):	None			
7	Program (s) in which the Course is Offered:	Master Degree in Clinical Pharmacy			
٨	Language of Teaching the Course:	English			
٩	Study System:	Semester based System			
١٠	Mode of Delivery:	Full Time			
11	Location of Teaching the Course:	21 September University			
12	Prepared by:	Dr. Ali Al-Yahawi			
13	Date of Approval:				

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II. Course Description:

The hospital training course is designed to integrate the student skills and knowledge of pharmacology, therapeutic and clinical courses in practice real cases to identify and resolve different treatment related problems. Students will participate in medical ward rounds, case seminars & hospital education programs. Available rotations include cardiology, oncology/hematology, critical care, neurology, nephrology. Students will be involved in clinical research & assignments, as well as in patient monitoring. The level of student competency will be demonstrated to a panel of clinical teacher-practitioner.

III. Course Intended Learning Outcomes (CILOs) : Upon successful completion of the course, students will be able to:

Referenced PILOs Learning out of program

A. Knowledge and Understanding:

a1 Understand the role and responsibilities of a clinical pharmacist in identifying and resolving different treatment related problems of selected cases of cardiology, oncology/hematology, critical care, neurology, and nephrology.

A1, A2, A3

B. Intellectual Skills:

b1 Design appropriate pharmacotherapy treatment and monitoring plan for selected cases of cardiology, oncology/hematology, critical care, neurology, nephrology.

B1, B2

C. Professional and Practical Skills:

c1 Provide rational pharmacotherapy regimen

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	according to the patient specific condition.	C1, C2, C3
c2	Apply appropriate patient monitoring parameters regarding the selected cases of cardiology, oncology/hematology, critical care, neurology, nephrology.	C1, C2, C3
D. Transferable Skills:		
d1	Share successfully in team-work and improve student skills of patients interview.	D1
d2	Search efficiently in the medical journal databases by browsing the internet professional sites for Evidence-Based Medicine (EBM)	D2

(a) Alignment Course Intended Learning Outcomes of Knowledge and Understanding to Teaching Strategies and Assessment Strategies:		
Course Intended Learning Outcomes	Teaching strategies	Assessment Strategies
a1- Understand the role and responsibilities of a clinical pharmacist in identifying and resolving different treatment related problems of selected cases of cardiology, oncology/hematology, critical care, neurology, and nephrology.	<ul style="list-style-type: none"> - Clinical cases studies - Small practical session and discussion - Seminars - Manuals - Use of advanced database search - Individual supervision 	<ul style="list-style-type: none"> - Assignments - Oral case discussions during clinical rounds - Pharmacy practice manual - Formal case presentation - Presentation for one of the course content topics. - Exam

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	- Self-learning	
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(b) Alignment Course Intended Learning Outcomes of Intellectual Skills to Teaching Strategies and Assessment Strategies:

Course Intended Learning Outcomes	Teaching strategies	Assessment Strategies
b1- Design appropriate pharmacotherapy treatment and monitoring plan for selected cases of cardiology, oncology/hematology, critical care, neurology, and nephrology.	<ul style="list-style-type: none"> - Clinical cases studies - Small practical session and discussion - Seminars - Manuals - Use of advanced database search - Individual supervision - Self-learning 	<ul style="list-style-type: none"> - Assignments - Oral case discussions during clinical rounds - Pharmacy practice manual - Formal case presentation - Presentation for one of the course content topics. - Exam

(c) Alignment Course Intended Learning Outcomes of Professional and Practical Skills to Teaching Strategies and Assessment Strategies:

Course Intended Learning Outcomes	Teaching strategies	Assessment Strategies
C1- Provide rational pharmacotherapy regimen according to the patient specific condition.	<ul style="list-style-type: none"> - Clinical cases studies - Small practical session and discussion 	<ul style="list-style-type: none"> - Assignments - Oral case discussions during clinical rounds - Pharmacy

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	<ul style="list-style-type: none"> - Seminars - Manuals - Use of advanced database search - Individual supervision - Self-learning 	<ul style="list-style-type: none"> practice manual - Formal case presentation - Presentation for one of the course content topics. - Exam
<p>C2- Apply appropriate patient monitoring parameters regarding the selected cases of cardiology, oncology/hematology, critical care, neurology, and nephrology.</p>	<ul style="list-style-type: none"> - Clinical cases studies - Small practical session and discussion - Seminars - Manuals - Use of advanced database search - Individual supervision - Self-learning 	<ul style="list-style-type: none"> - Assignments - Oral case discussions during clinical rounds - Pharmacy practice manual - Formal case presentation - Presentation for one of the course content topics. - Exam

(d) Alignment Course Intended Learning Outcomes of Transferable Skills to Teaching Strategies and Assessment Strategies:

Course Intended Learning Outcomes	Teaching strategies	Assessment Strategies
d1-Share successfully in team-work and improve student skills of patients interview.	<ul style="list-style-type: none"> - Small practical session and discussion 	<ul style="list-style-type: none"> - Oral case discussions during clinical rounds - Formal case

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	- Seminars	presentation - Presentation for one of the course content topics.
d2- Search the medical journal databases by browsing the internet professional sites for Evidence-Based Medicine (EBM)	- Use of advanced database search - Self-learning	- Assignments - Formal case presentation - Presentation for one of the course content topics. - Exam

IV. Course Contents:

A. Theoretical Aspect:

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
1		-			
2		-			
3		-			
4		-			
5		-			
6		-			
7		-			
8		-			
9		-			
10		-			
11		-			

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No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
12					
Number of Weeks /and Units Per Semester					

B. Case Studies and Practical Aspect:				
Order	Unit/ Topics List	Number of Weeks	contact hours	Learning Outcomes
1	Cardiology	Week 1-3	Course Training Period	a 1, b1, b2, c1, d1, d2
2	Oncology/hematology	Week 4-5	Course Training Period	a 1, b1, b2, c1, d1, d2
3	Critical care	Week 6-7	Course Training Period	a 1, b1, b2, c1, d1, d2
4	Midterm Exam	Week 8	Course Training Period	a 1, b1, b2, c1, d1
5	Psychiatric	Week 9-10	Course Training Period	a 1, b1, b2, c1, d1, d2
6	Nephrology	Week 11-13	Course Training Period	a 1, b1, b2, c1, d1, d2
7	GIT	Week 14-15	Course Training Period	a 1, b1, b2, c1, d1, d2
8	Final Exam	Week 16	Course Training Period	a 1, b1, b2, c1, d1
Number of Weeks /and Units Per Semester: 16 weeks			252	

C. Tutorial Aspect: (ان وجدت)

No.	Tutorial	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
1				
2	1-			

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No.	Tutorial	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
3	2-			
4	3-			
5	4-			
6	5-			
7	6-			
8	7-			
9	8-			
10	9-			
Number of Weeks /and Units Per Semester				

V. Teaching Strategies of the Course:

- Clinical cases studies
- Small practical session and discussion
- Seminars
- Manuals
- Use of advanced database search
- Individual supervision
- Collecting, interpreting, and integrating available information in disease state

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- Self-learning

VI. Assessment Methods of the Course:

Assignments
Oral case discussions during clinical rounds
Pharmacy practice manual
Formal case presentation
Exam

VII. Assignments:

No	Assignments	Aligned CILOs(symbols)	Week Due	Mark
1	Assignment 1: Develop a pharmaceutical care plan for selected case in GIT diseases according to appropriate primary literature and updated guidelines.	a 1, b1, c1, c2, d1, d2	Week 3	5
2	Assignment 2: Develop a pharmaceutical care plan for selected case in chronic kidney diseases according to appropriate primary literature and updated guidelines.	a 1, b1, c1, c2, d1, d2	Wee 6	5
Total				10

VIII. Schedule of Assessment Tasks for Students During the Semester:

No.	Assessment Method	Week Due	Mark	Proportion of Final Assessment	Aligned Course Learning Outcomes
1	Assignments	Course Training Period	10	10%	a 1, b1, c1, c2, d1, d2
2	Pharmacy practice manual	Course Training Period	10	10%	a 1, b1, c1, c2, d1, d2

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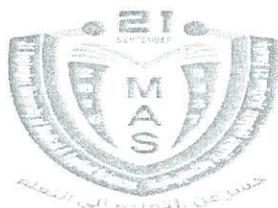
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3	Midterm Exam	Week 8	20	20%	a 1, b1, c1, c2, d2
4	Formal case presentation	Course Training Period	10	10%	a 1, b1, c1, c2, d1, d2
5	Final exam	Week 16	40	40%	a 1, b1, c1, c2, d1, d2
Total			100	100%	

IX. Learning Resources:

• Written in the following order: (Author - Year of publication - Title - Edition - Place of publication - Publisher).

1- Required Textbook(s) (maximum two).

1. Chisholm-Burns et al, 2019 , Pharmacotherapy principles & practice. 5rd edition.
2. Katzung, 2018, Basic & Clinical Pharmacology. 14th edition.

2- Essential References.

1. DiPiro et al, 2020, Pharmacotherapy: A Pathophysiological Approach. 11th edition.
2. Caroline S. Zeind and Michael G. Carvalho, 2018, Applied Therapeutics: The Clinical Use of Drugs. 11th edition.
3. Walker & Whittlesea. 2018. Clinical Pharmacy and Therapeutics. 6 edition.

3- Electronic Materials and Web Sites etc.

- UpToDate
- <http://www.globalrph.com/>
- Updated Clinical Practice Guidelines for selected course disorders

X. Course Policies: (Based on the Uniform Students' By law (2007)

Class Attendance:	
1	Class Attendance is mandatory. A student is considered absent and shall be banned from taking the final exam if his/her absence exceeds 25% of total classes.
Tardiness:	
2	A student will be considered late if he/she is not in class after 10 minutes of the start time of class.
Exam Attendance/Punctuality:	
3	

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Reviewed By

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Dean of Faculty

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	No student shall be allowed to the exam hall after 30 minutes of the start time, and shall not leave the hall before half of the exam time has passed.
4	Assignments & Projects: Assignments and projects must be submitted on time. Students who delay their assignments or projects shall lose the mark allocated for the same.
5	Cheating: Cheating is an act of fraud that results in the cancelation of the student's exam or assignment. If it takes place in a final exam, the penalties stipulated for in the Uniform Students' Bylaw (2007) shall apply.
6	Forgery and Impersonation: Forgery/Impersonation is an act of fraud that results in the cancelation of the student's exam, assignment or project. If it takes place in a final exam, the penalties stipulated for in the Uniform Students' Bylaw (2007) shall apply.
7	Other policies: The University official regulations in force will be strictly observed and students shall comply with all rules and regulations of the examination set by the Department, Faculty and University Administration.

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الجامعة اليمنية
جامعة 21 سبتمبر
للعلوم التطبيقية والطبية
مركز التطوير الأكاديمي وضمان الجودة

University of 21 September for Applied & Medical Sciences

Faculty of Clinical Pharmacy

Master Degree in Clinical Pharmacy

Course Specification of Hospital Training-I

Course No. (CPh203)

2021/2022

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I. Information about Faculty Member Responsible for the Course:

Name of Faculty Member:	Dr. Ali Alyahawi	Office Hours					
Location & Telephone No.:	775957401						
E-mail:	alyahawipharm@yahoo.com	SAT	SUN	MON	TUE	WED	THU

II. Course Identification and General Information:

١	Course Title:	Hospital Training -I			
٢	Course Code & Number:	CPh203			
3	Credit Hours:	Credit Hours	Theory Hours		Lab/Training Hours
			Lecture	Exercise	
		2	--	--	16
٤	Study Level/ Semester at which this Course is offered:	Level / Semester			
٥	Pre -Requisite (if any):	Therapeutics I-III			
٦	Co -Requisite (if any):	None			
7	Program (s) in which the Course is Offered:	Master Degree in Clinical Pharmacy			
٨	Language of Teaching the Course:	English			
٩	Study System:	Semester based System			
١٠	Mode of Delivery:	Full Time			
11	Location of Teaching the Course:	21 September University			
12	Prepared by:	Dr. Ali Al-Yahawi			

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13	Date of Approval:	
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III. Course Description:

The hospital training course is designed to integrate the student skills and knowledge of pharmacology, therapeutic and clinical courses in practice real cases to identify and resolve different treatment related problems. Students will participate in medical ward rounds, case seminars & hospital education programs. Available rotations include cardiology, oncology/hematology, critical care, neurology, nephrology. Students will be involved in clinical research & assignments, as well as in patient monitoring. The level of student competency will be demonstrated to a panel of clinical teacher-practitioner.

IV. Course Intended Learning Outcomes (CILOs) :

Upon successful completion of the Course, student will be able to:

A. Knowledge and Understanding:

a1 Understand the role and responsibilities of a clinical pharmacist in identifying and resolving different treatment related problems of selected cases of cardiology, oncology/hematology, critical care, neurology, and nephrology.

A
1
.
A
2
.
A
3

B. Intellectual Skills:

b1 Design appropriate pharmacotherapy treatment and monitoring plan for selected cases of cardiology, oncology/hematology, critical care, neurology, nephrology.

B
1
.

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		B 2
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C. Professional and Practical Skills:

c1	Provide rational pharmacotherapy regimen according to the patient specific condition.	C 1 . C 2 . C 3
----	---	--------------------------------------

c2	Apply appropriate patient monitoring parameters regarding the selected cases of cardiology, oncology/hematology, critical care, neurology, nephrology.	C 1 . C 2 . C 3
----	--	--------------------------------------

D. Transferable Skills:

d1	Share successfully in team-work and improve student skills of patients interview.	D
----	---	---

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		1
d2	Search efficiently in the medical journal databases by browsing the internet professional sites for Evidence-Based Medicine (EBM)	2

V. Course Contents:

A. Theoretical Aspect:

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
Number of Weeks /and Units Per Semester				

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours
-----	-------------------	-----------------	-----------------	---------------

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No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours
1		-		
2		-		
3		-		
4		-		
5		-		
6				
7		-		
8		-		
9		-		
10		-		
11		-		
12				
Number of Weeks /and Units Per Semester				

B. Case Studies and Practical Aspect:

C. Tutorial Aspect:

No.	Tutorial	Number of Weeks	Contact Hours
1			
2	10-		
3	11-		

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No.	Tutorial	Number of Weeks	Contact Hours
4	12-		
5	13-		
6	14-		
7	15-		
8	16-		
9	17-		
10	18-		
Number of Weeks /and Units Per Semester			

VI. Teaching Strategies of the Course:

- Clinical cases studies
- Small practical session and discussion
- Seminars
- Manuals
- Use of advanced database search
- Individual supervision
- Collecting, interpreting, and integrating available information in disease state
- Self-learning

VII. Assessment Methods of the Course:

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Assignments
Oral case discussions during clinical rounds
Pharmacy practice manual
Formal case presentation
Exam

VIII. Assignments:

IX. Schedule of Assessment Tasks for Students During the Semester:

X. Learning Resources:

- Written in the following order: (Author - Year of publication - Title - Edition - Place of publication - Publisher).

1- Required Textbook(s) (maximum two).

1. Chisholm-Burns et al, 2019 , Pharmacotherapy principles & practice. 5rd edition.
2. Katzung, 2018. Basic & Clinical Pharmacology. 14th edition.

2- Essential References.

1. DiPiro et al, 2020. Pharmacotherapy: A Pathophysiological Approach, 11th edition.
2. Caroline S. Zeind and Michael G. Carvalho, 2018, Applied Therapeutics: The Clinical Use of Drugs, 11th edition.
3. Walker & Whittlesea, 2018. Clinical Pharmacy and Therapeutics, 6 edition.

3- Electronic Materials and Web Sites etc.

- UpToDate
- <http://www.globalrph.com/>
- Updated Clinical Practice Guidelines for selected course disorders

XI. Course Policies: (Based on the Uniform Students' Bylaw (2007))

Class Attendance:

- 1 Class Attendance is mandatory. A student is considered absent and shall be banned from taking the final exam if his/her absence exceeds 25% of total classes.

2 Tardiness:

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	A student will be considered late if he/she is not in class after 10 minutes of the start time of class.
3	Exam Attendance/Punctuality: No student shall be allowed to the exam hall after 30 minutes of the start time, and shall not leave the hall before half of the exam time has passed.
4	Assignments & Projects: Assignments and projects must be submitted on time. Students who delay their assignments or projects shall lose the mark allocated for the same.
5	Cheating: Cheating is an act of fraud that results in the cancelation of the student's exam or assignment. If it takes place in a final exam, the penalties stipulated for in the Uniform Students' Bylaw (2007) shall apply.
6	Forgery and Impersonation: Forgery/Impersonation is an act of fraud that results in the cancelation of the student's exam, assignment or project. If it takes place in a final exam, the penalties stipulated for in the Uniform Students' Bylaw (2007) shall apply.
7	Other policies: The University official regulations in force will be strictly observed and students shall comply with all rules and regulations of the examination set by the Department, Faculty and University Administration.

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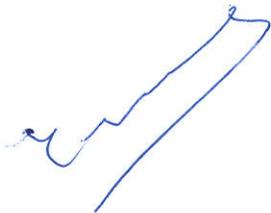
University of 21 September for Applied & Medical Sciences

Faculty of Clinical Pharmacy

Master Degree in Clinical Pharmacy

Course Specification of Master Thesis

Course No. (CPh202)



2021/2022



This template of course specifications was prepared by CAQA, Yemen, 2017.

Prepared by:

Prof. Ali Alkaf

Reviewed by:

Dr. Ali Alyahawi

Head of the Department:

Quality Assurance head

Dean:



I. Course Identification and General Information:

1	Course Title:	Master Thesis			
2	Course Code & Number:	CPh202			
3	Credit Hours:	Credit Hours	Theory Hours		Lab./Practical Hours
			Lecture	Exercise	
		6	Through Research Work Period		
4	Study Level/ Semester at which this Course is offered:	-			
5	Pre -Requisite (if any):	Biostatistics & Research Design			
6	Co -Requisite (if any):	None			
7	Program (s) in which the Course is Offered:	Master Degree in Clinical Pharmacy			
8	Language of Teaching the Course:	English			
9	Study System:	Semester based System			
10	Mode of Delivery:	Full Time			
11	Location of Teaching the Course:	Faculty of Clinical Pharmacy			
12	Prepared by:	Prof. Ali Alkaf			
13	Date of Approval:				

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II. Course Description:

The course content aims to improve students' knowledge and skills in order to use properly and efficiently quantitative and qualitative methods during conducting scientific graduation research work. This course will provide an overview of the important concepts of research design, data collection, statistical and interpretative analysis, and final report presentation.

III. Course Intended Learning Outcomes (CILOs)

Upon successful completion of the course, students will be able to:

Referenced PILOs

Learning out of program

A. Knowledge and Understanding:

- | | | |
|-----|--|----|
| a.1 | Define the types of research designs, their advantages, and drawbacks. | A3 |
| a.2 | Discuss the research tools and methods of data collection | A3 |

B. Intellectual Skills:

- | | | |
|-----|--|--------|
| b.1 | Construct a research question, develop a hypothesis, and select the most appropriate research method, data collection tools for the question of interest, and data entry platform. | B1, B2 |
| b.2 | Analysis evidence-based literature to answer question of interest. | B2 |

C. Professional and Practical Skills:

- | | | |
|-----|--|----|
| c.1 | Use properly the most appropriate knowledge, techniques, and skills in | C3 |
|-----|--|----|

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	preparing a research.	
c.2	Present written research work correctly and using data to make rationale clinical decisions	C3
D. Transferable Skills:		
d.1	Improve students skills of time management and self-learning during performing research works.	D2
d.2	Communicate effectively and ethically with his/her colleagues	D1

(A) Alignment of Course Intended Learning Outcomes (Knowledge and Understanding) to Teaching Strategies and Assessment Methods:

	Course Intended Learning Outcomes	Teaching Strategies	Assessment Strategies
a.1	Define the types of research designs, their advantages, and drawbacks.	- Weekly discussions - Self-reading articles - Textbooks	Assignments
a.2	Discuss the research tools and methods of data collection	- Weekly discussions - Self-reading articles - Textbooks	Assignments

(B) Alignment of Course Intended Learning Outcomes (Intellectual Skills) to Teaching Strategies and Assessment Methods:

	Course Intended Learning Outcomes	Teaching Strategies	Assessment Strategies
b.1	Construct a research question, develop a hypothesis, and select the most appropriate research method, data collection tools for the question of interest, and data	- Weekly discussions - Self-reading articles - Feed-back learning - Textbooks	Assignments and written report

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	entry platform.		
b.2	Analysis evidence-based literature to answer question of interest.	<ul style="list-style-type: none"> - Weekly discussion - Self-reading articles - Textbooks 	Assignments and written report
(C) Alignment of Course Intended Learning Outcomes (Professional and Practical Skills) to Teaching Strategies and Assessment Methods:			
	Course Intended Learning Outcomes	Teaching Strategies	Assessment Strategies
c.1	Use properly the most appropriate knowledge, techniques, and skills in preparing a research.	<ul style="list-style-type: none"> - Weekly discussions - Self-reading articles - Feed-back learning - Textbooks 	Oral presentation and written report
c.2	Present written research work correctly and using data to make rationale clinical decisions	<ul style="list-style-type: none"> - Weekly discussions - Self-reading articles - Feed-back learning 	Oral presentation and written report
(D) Alignment of Course Intended Learning Outcomes (Transferable Skills) to Teaching Strategies and Assessment Methods:			
	Course Intended Learning Outcomes	Teaching Strategies	Assessment Strategies
d.1	Improve students skills of time management and self-learning during performing research works.	<ul style="list-style-type: none"> - Weekly discussions - Self-reading articles - Seminars 	Oral presentation and written report
d.2	Communicate effectively and ethically with his/her colleagues	<ul style="list-style-type: none"> - Weekly discussions - Self-reading articles - Seminar 	Oral presentation

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IV. Topic Outline and Schedule:

This course has general framework and objectives. However, the timetable is both project- and instructor-dependent. The following timetable represents an example:

Order	Units/Topics List	Number of Weeks	Contact hours	Aligned CILOs
1	Introduction: Development of specific research question, literature search	Week 1-3	Week 1-3	a 1, a2
2	Study design and methodologies in clinical research, design of data collection tools	Week 1-3	Week 1-3	b 1, b2
3	Data collection and entry	Month 3-9	Month 3-9	c1, c2
4	Sample statistical analysis	Week 1-3	Week 1-3	b 1, b2
5	Written research project submission	Month 1-3	Month 1-3	a 1, a2, b1, b2, d1
6	Oral presentations	Week 1-3	Week 1-3	d 2

V. Teaching strategies of the course:

- Written research project
- Oral Discussions
- Feed-back learning
- Homework and assignments
- Oral Presentation

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VI. Schedule of Assessment Tasks for Students During the Research Work:

No.	Assessment Method	Week Due	Mark	Proportion of Final Assessment	Aligned Course Learning Outcomes
1	Attitude and attendance	Through the Research Period	5	5 %	a 1, a2, b1, b2, d, d2
2	Weekly discussions	Through the Research Period	5	5 %	a 1, a2, b1, b2, d, d2
3	Final written research project	Through the Research Period	20	20 %	a 1, a2, b1, b2, d1
4	Oral presentation (PPT)	Through the Research Period	20	20 %	d 2
Total (Project supervisor Mark)			50	50 % (of Total)	

Each project will be assessed by a committee of three member as following:

Items	Weight
Project supervisor	50 %
Internal examiner : a member of the department teaching stuff.	25 %
External examiner : a qualified external examiner from another university	25 %
Total	100

Assessment of the Project by the Project Supervisor

Items	Mark
Attitude and attendance	5
Weekly discussions	5
Final written research project	20
Oral presentation	20
Total	50

Assessment of the project by the internal examiner

Items	Mark
Research methodology	5
Research writing	10
Presentation	5
Discussion	5
Total	25

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Assessment of the project by the external examiner	
Items	Mark
Research methodology	5
Research writing	10
Presentation	5
Discussion	5
Total	25

VII. Learning Resources:

- *Written in the following order: (Author - Year of publication - Title - Edition - Place of publication - Publisher).*

1- Required Textbook(s) (maximum two).

Variable

2- Essential References.

1. Hulley S. B., Cummings S. R., Browner W. S., et al. (2013). Designing Clinical Research. 4th Edition. Pennsylvania, USA: Lippincott Williams & Wilkins.
2. Friedman L. M., Furberg C.D., DeMets, D. L., (2010). Fundamentals of Clinical Trials. 4th edition. New York, USA. Springer.

3- Electronic Materials and Web Sites *etc.*

Selected Journal articles depending on the project

VIII. Course Policies:

General Requirements:

- ❖ Each student is assigned to do an practical based research supervised by a supervisor of the department teaching staff or outside the college.

1 ➤ The title of research can be suggested by :

- The supervisor
- Or the students after supervisor evaluation and acceptance

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	<ul style="list-style-type: none">➤ The research subject must be approved by the college and the department of the university then by the setting of practicing research.➤ The research is to be carried out with the period of framework and must be delivered to the department within that period.
2	Course Attendance: Attendance is mandatory.
3	Other policies: The University official regulations in force will be strictly observed and students shall comply with all rules and regulations of preparing the research set by the Department, Faculty and University Administration.

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University of 21 September for Applied & Medical Sciences

Faculty of Clinical Pharmacy

Master of Clinical Pharmacy

Course Specification of Therapeutics-III

Course No. (CPh201)

2021/2022



This template of course specifications was prepared by CAQA, Yemen, 2017.

Prepared by:

Dr. Ali Alyahawi

Reviewed by:

Dr.

Head of the Department:

Quality Assurance head

Dean:



I. Course Identification and General Information:

١	Course Title:	Therapeutics- III			
٢	Course Code & Number:	CPh201			
3	Credit Hours:	Credit Hours	Theory Hours		Lab. Hours
			Lecture	Seminar	
		2	٢	1	--
٤	Study Level/ Semester at which this Course is offered:	-			
٥	Pre –Requisite (if any):	Therapeutics-II			
٦	Co –Requisite (if any):	None			
7	Program (s) in which the Course is Offered:	Master Degree in Clinical Pharmacy			
٨	Language of Teaching the Course:	English			
٩	Study System:	Semester based System			
١٠	Mode of Delivery:	Full Time			
11	Location of Teaching the Course:	Faculty of Clinical Pharmacy			
12	Prepared by:	Dr. Ali Alyahawi			
13	Date of Approval:				

II. Course Description:

The course is designed to understand the clinical manifestations, complications, goals of therapy (clinical uses, pharmacokinetics, clinically significant side effects, drug interactions and contraindications to medications) and patient education of selected neurologic diseases, psychiatric diseases, bones and joints diseases, GIT diseases, and woman conditions. The pharmacotherapy course is supported by pharmaceutical care presentation of cases study.



(a) Alignment Course Intended Learning Outcomes of Knowledge and Understanding to Teaching Strategies and Assessment Strategies:

Course Intended Learning Outcomes	Teaching strategies	Assessment Strategies
a1- Describe the pathophysiology and clinical presentation of selected neurologic diseases, psychiatric diseases, bones and joints diseases, GIT diseases, and woman conditions.	Lecture Instructor – student Interactive Office hour	Exam Assignment
a2- Define the drug therapy and target goals of treatment for selected neurologic diseases, psychiatric diseases, bones and joints diseases, GIT diseases, and woman conditions.	Lecture Instructor – student Interactive Office hour	Exam Assignment

(b) Alignment Course Intended Learning Outcomes of Intellectual Skills to Teaching Strategies and Assessment Strategies:

Course Intended Learning Outcomes	Teaching strategies	Assessment Strategies
b1- Construct rational therapeutic regimens and monitoring plan of selected neurologic diseases, psychiatric diseases, bones and joints diseases, GIT diseases, and woman conditions.	Lecture Instructor – student Interactive Exercises Solving Problem Methods	Problem-Solving Exercises. Assignment

(c) Alignment Course Intended Learning Outcomes of Professional and Practical Skills to Teaching Strategies and Assessment Strategies:

Course Intended Learning Outcomes	Teaching strategies	Assessment Strategies
C1- Apply appropriate drugs regimen and monitoring parameters based on current treatment guidelines to achieve targeted therapeutic outcomes of selected neurologic diseases, psychiatric diseases, bones and joints diseases. GIT diseases, and woman conditions.	Lecture Instructor – student Interactive Self-Learning	Exam Assignment
C2- Provide a correct information to the health care team regarding therapeutic goals and rational drugs selection.	Lecture Instructor – student Interactive Self-Learning	Exam Assignment

(d) Alignment Course Intended Learning Outcomes of Transferable Skills to Teaching Strategies and Assessment Strategies:

Course Intended Learning Outcomes	Teaching strategies	Assessment Strategies



III. Course Intended Learning Outcomes (CILOs): Upon successful completion of the course, students will be able to:		Referenced PILOs Learning out of program
A. Knowledge and Understanding:		
a1	Describe the pathophysiology and clinical presentation of selected neurologic diseases, psychiatric diseases, bones and joints diseases, GIT diseases, and woman conditions.	A1, A2
a2	Define the drug therapy and target goals of treatment for selected neurologic diseases, psychiatric diseases, bones and joints diseases, GIT diseases, and woman conditions.	A1, A2
B. Intellectual Skills:		
b1	Construct rational therapeutic regimens and monitoring plan of selected neurologic diseases, psychiatric diseases, bones and joints diseases, GIT diseases, and woman conditions.	B1, B2
C. Professional and Practical Skills:		
c1	Apply appropriate drugs regimen and monitoring parameters based on current treatment guidelines to achieve targeted therapeutic outcomes of selected neurologic diseases, psychiatric diseases, bones and joints diseases, GIT diseases, and woman conditions.	C1,C2
c2	Provide a correct information to the health care team regarding therapeutic goals and rational drugs selection.	C3
D. Transferable Skills:		
d1	Search efficiently for required medical information in professional medical references and sites.	D2
d2	Communicate effectively and ethically with a healthcare team and patients.	D1



d1- Search efficiently for required medical information in professional medical references and sites.	Self-Learning Seminar Exercises	Presentation Assignment
d2- Communicate effectively and ethically with a healthcare team and patients	Seminar Instructor–student Interactive Exercises	Presentation

Course Content:

A – Theoretical Aspect:

Order	Units/Topics List	Learning Outcomes	Sub Topics List	Number of Weeks	Contact Hours
1	Neurologic Disorders	a 1, a2, b1, c1, c2, d1, d2	- Epilepsy	1	2
2	Psychiatric Disorders	a 1, a2, b1, c1, c2, d1, d2	- Depression	1	2
			- Anxiety & insomnia	1	2
3	Bones and Joints diseases	a 1, a2, b1, c1, c2, d1, d2	- Rheumatoid Arthritis	1	2
			- Osteoarthritis	1	2
			- Osteoporosis	1	2
			- Gout and Hyperuricemia	1	2
4	Midterm Exam	a 1, a2, b1, c1, c2, d1		1	2
5	GIT diseases	a 1, a2, b1, c1, c2, d1, d2	- Viral Hepatitis	2	4
			- Inflammatory bowel disease	1	2
			- Irritable Bowel Syndrome (IBS)	1	2
			- Complications of Cirrhosis	1	2
6	Woman conditions	a 1, a2, b1, c1, c2, d1, d2	- Pregnancy and Lactation: Therapeutic Considerations	1	2
			- Menstruation-Related Disorders	1	2
7	- Parkinson Disease		Self-reading		
8	- Schizophrenia		Self-reading		
9	- Contraception		Self-reading		
10	Final Exam	a 1, a2, b1, c1, c2, d1		1	2
Number of Weeks /and Units Per Semester				16	32



B. Case Studies and Practical Aspect:

No.	Topic of case Presentation	Week Due	Contact Hours	Learning Outcomes (CILOs)
1	- Major Depression	1	1	a 1, a2, b1, c1, c2, d1, d2
2	- Generalized Anxiety Disorder	2	1	a 1, a2, b1, c1, c2, d1, d2
3	- Complex Partial Seizures	3	1	a 1, a2, b1, c1, c2, d1, d2
4	- Status epilepticus	4	1	a 1, a2, b1, c1, c2, d1, d2
5	- Rheumatoid arthritis	5	1	a 1, a2, b1, c1, c2, d1, d2
6	- Ulcerative Colitis	6	1	a 1, a2, b1, c1, c2, d1, d2
7	- Viral Hepatitis B	7	1	a 1, a2, b1, c1, c2, d1, d2
8	- Viral Hepatitis C	8	1	a 1, a2, b1, c1, c2, d1, d2
9	- Menstruation-Related Disorders	9-10	2	a 1, a2, b1, c1, c2, d1, d2
10	- Irritable Bowel Syndrome (IBS)	11	1	a 1, a2, b1, c1, c2, d1, d2
11	- Complications of Cirrhosis	12	1	a 1, a2, b1, c1, c2, d1, d2
12	- Selected Course Seminars	13-14	2	a 1, a2, b1, c1, c2, d1, d2
Number of Weeks /and Units Per Semester		14	14	



C. Tutorial Aspect: (ان وجدت)

No.	Tutorial	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
Number of Weeks /and Units Per Semester				

V. Teaching Strategies of the Course:

Lecture
Instructor – student Interactive
Case Discussion
Office hours
Seminar
Assignment
Self-Learning

VI. Assessment Methods of the Course:

Exam
Assignments
Quiz



VII. Assignments:

No	Assignments	Aligned CILOs(symbols)	Week Due	Mark
1	Assignment 1: Each student presents selected case and or a recent article on updates in GIT diseases and participation in class case discussion.	a 1, a2, b1, c1, c2, d1, d2	Week 3-9	5
2	Assignment 2: Each student presents selected case and or a recent article on updates in endocrine diseases and participation in class case discussion.	a 1, a2, b1, c1, c2, d1, d2	Week 10-13	5
Total				10

VIII. Schedule of Assessment Tasks for Students During the Semester:

No.	Assessment Method	Week Due	Mark	Proportion of Final Assessment	Aligned Course Learning Outcomes
1	Assignments	Week 3-13	10	10%	a 1, a2, b1, c1, c2, d1, d2
2	Quiz 1	Week 6	5	5%	a 1, a2, b1, c1, c2, d1
3	Midterm Exam	Week 8	20	20%	a 1, a2, b1, c1, c2, d1
4	Quiz 2	Week 12	5	5%	a 1, a2, b1, c1, c2, d1
5	Cases Presentation	Week 3-13	20	20%	a 1, a2, b1, c1, c2, d1, d2
6	Final Exam	Week 16	40	40%	a 1, a2, b1, c1, c2, d1
Total			100	100%	

IX. Learning Resources:

• Written in the following order: (Author - Year of publication – Title – Edition – Place of publication – Publisher).

1- Required Textbook(s) (maximum two).

- 1- Chisholm-Burns et al. 2019. Pharmacotherapy principles & practice. ed. , 5th edition
- 2- Katzung, 2018. Basic & Clinical Pharmacology, ed.. 14th edition.

2- Essential References.

- 1- DiPiro et al, 11th edition, 2020. Pharmacotherapy: A Pathophysiological Approach, ed



	edition. 2. Carolin, 2018. Applied Therapeutics: The Clinical Use of Drugs, 11th edition. 3. Walker & Whittlesea, 6th edition, 2018. Clinical Pharmacy and Therapeutics, ed. Wall Whittlesea, 6th edition, 2018.
3- Electronic Materials and Web Sites etc.	
	1 -www.accesspharmacy.com 2 -Disease management guidelines (specified in lecture notes)

X. Course Policies: (Based on the Uniform Students' By law (2007))

	Class Attendance:
1	Class Attendance is mandatory. A student is considered absent and shall be banned from taking the final exam if his/her absence exceeds 25% of total classes.
	Tardiness:
2	A student will be considered late if he/she is not in class after 10 minutes of the start time of class.
	Exam Attendance/Punctuality:
3	No student shall be allowed to the exam hall after 30 minutes of the start time, and shall not leave the hall before half of the exam time has passed.
	Assignments & Projects:
4	Assignments and projects must be submitted on time. Students who delay their assignments or projects shall lose the mark allocated for the same.
	Cheating:
5	Cheating is an act of fraud that results in the cancelation of the student's exam or assignment. If it takes place in a final exam, the penalties stipulated for in the Uniform Students' Bylaw (2007) shall apply.
	Forgery and Impersonation:
6	Forgery/Impersonation is an act of fraud that results in the cancelation of the student's exam, assignment or project. If it takes place in a final exam, the penalties stipulated for in the Uniform Students' Bylaw (2007) shall apply.
	Other policies:
7	The University official regulations in force will be strictly observed and students shall comply with all rules and regulations of the examination set by the Department, Faculty and University Administration.

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21 SEPTEMBER U.M.A.S

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جامعة ٢١ سبتمبر

للعلوم الطبية والتطبيقية

مركز التطوير الأكاديمي وضمان الجودة

University of 21 September for Applied & Medical Sciences

Faculty of Clinical Pharmacy

Program of Master in Clinical Pharmacy

Course Plan (Syllabus) of Therapeutics-III

Course No. (CPh201)

2021/2022



I. Information about Faculty Member Responsible for the Course:

Name of Faculty Member:	Dr. Ali Alyahawi	Office Hours					
Location & Telephone No.:	775957401						
E-mail:	alyahawipharm@yahoo.com	SAT	SUN	MON	TUE	WED	THU

II. Course Identification and General Information:

١	Course Title:	Therapeutics- III			
٢	Course Code & Number:	CPh201			
3	Credit Hours:	Credit Hours	Theory Hours		Lab. Hours
			Lecture	Seminar	
		2	٢	1	--
٤	Study Level/ Semester at which this Course is offered:	-			
٥	Pre -Requisite (if any):	Therapeutics-II			
٦	Co -Requisite (if any):	None			
7	Program (s) in which the Course is Offered:	Master Degree in Clinical Pharmacy			
٨	Language of Teaching the Course:	English			
٩	Study System:	Semester based System			
١٠	Mode of Delivery:	Full Time			
11	Location of Teaching the Course:	Faculty of Clinical Pharmacy			
12	Prepared by:	Dr. Ali Alyahawi			
13	Date of Approval:				



III. Course Description:

The course is designed to understand the clinical manifestations, complications, goals of therapy (clinical uses, pharmacokinetics, clinically significant side effects, drug interactions and contraindications to medications) and patient education of selected neurologic diseases, psychiatric diseases, bones and joints diseases, GIT diseases, and woman conditions. The pharmacotherapy course is supported by pharmaceutical care presentation of cases study.

IV. Course Intended Learning Outcomes (CILOs) :

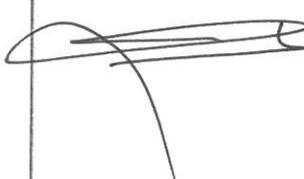
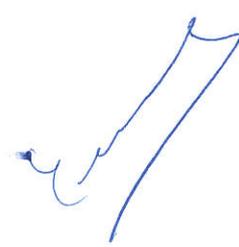
Upon successful completion of the Course, student will be able to:

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		i r g :
a1	Describe the pathophysiology and clinical presentation of selected neurologic diseases, psychiatric diseases, bones and joints diseases, GIT diseases, and woman conditions.	A 1 . A 2
a2	Define the drug therapy and target goals of treatment for selected neurologic diseases, psychiatric diseases, bones and joints diseases, GIT diseases, and woman conditions.	A 1 . A 2
 		B . I n t e l l e c t u a l S k i l l s



		:
b1	Construct rational therapeutic regimens and monitoring plan of selected neurologic diseases, psychiatric diseases, bones and joints diseases, GIT diseases, and woman conditions.	B 1 . B 2
	 	C . P r o f e s s i o n a l a n d P r a c t i c a l S



		k i l l s :
c1	Apply appropriate drugs regimen and monitoring parameters based on current treatment guidelines to achieve targeted therapeutic outcomes of selected neurologic diseases, psychiatric diseases, bones and joints diseases, GIT diseases, and woman conditions.	C 1 . C 2
c2	Provide a correct information to the health care team regarding therapeutic goals and rational drugs selection.	C 3
		D . T r a n s f e r a b l e S k i l l s :
d1	Search efficiently for required medical information in professional medical references and sites.	D



		2
d2	Communicate effectively and ethically with a healthcare team and patients.	1

V. Course Contents:

A. Theoretical Aspect:

Order	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours
1	Neurologic Disorders	- Epilepsy	1	2
2	Psychiatric Disorders	- Depression	1	2
		- Anxiety & insomnia	1	2
3	Bones and Joints diseases	- Rheumatoid Arthritis	1	2
		- Osteoarthritis	1	2
		- Osteoporosis	1	2
		- Gout and Hyperuricemia	1	2
4	Midterm Exam		1	2
5	GIT diseases	- Viral Hepatitis	2	4
		- Inflammatory bowel disease	1	2
		- Irritable Bowel Syndrome (IBS)	1	2
		- Complications of Cirrhosis	1	2
6	Woman conditions	- Pregnancy and Lactation: Therapeutic Considerations	1	2
		- Menstruation-Related Disorders	1	2
7	- Parkinson Disease	Self-reading		
8	- Schizophrenia	Self-reading		
9	- Contraception	Self-reading		
10	Final Exam		1	2
Number of Weeks /and Units Per Semester			16	32

B. Case Studies and Practical Aspect:



No.	Topic of case Presentation	Week Due	Contact Hours
1	- Major Depression	1	1
2	- Generalized Anxiety Disorder	2	1
3	- Complex Partial Seizures	3	1
4	- Status epilepticus	4	1
5	- Rheumatoid arthritis	5	1
6	- Ulcerative Colitis	6	1
7	- Viral Hepatitis B	7	1
8	- Viral Hepatitis C	8	1
9	- Menstruation-Related Disorders	9-10	2
10	- Irritable Bowel Syndrome (IBS)	11	1
11	- Complications of Cirrhosis	12	1
12	- Selected Course Seminars	13-14	2
Number of Weeks /and Units Per Semester		14	14

No.	Topic of case Presentation	Week Due	Contact Hours
1	- Major Depression	1	1
2	- Generalized Anxiety Disorder	2	1
3	- Complex Partial Seizures	3	1
4	- Status epilepticus	4	1
5	- Rheumatoid arthritis	5	1
6	- Ulcerative Colitis	6	1
7	- Viral Hepatitis B	7	1



No.	Topic of case Presentation	Week Due	Contact Hours
8	- Viral Hepatitis C	8	1
9	- Menstruation-Related Disorders	9-10	2
10	- Irritable Bowel Syndrome (IBS)	11	1
11	- Complications of Cirrhosis	12	1
12	- Selected Course Seminars	13-14	2
Number of Weeks /and Units Per Semester		14	14

C. Tutorial Aspect:

No.	Tutorial	Number of Weeks	Contact Hours
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
Number of Weeks /and Units Per Semester			

VI. Teaching Strategies of the Course:

Lecture
Instructor – student Interactive
~~Case Discussion~~
Office hours



Seminar
Assignment
Self-Learning

VII. Assessment Methods of the Course:

Exam
Assignments
Quiz

VIII. Assignments:

IX. Schedule of Assessment Tasks for Students During the Semester:

خطأ! لم يتم العثور على مصدر المرجع.

X. Learning Resources:

خطأ! لم يتم العثور على مصدر المرجع.

- Written in the following order: (Author - Year of publication – Title – Edition – Place of publication – Publisher).

1- Required Textbook(s) (maximum two).

- 1- Chisholm-Burns et al, 2019. Pharmacotherapy principles & practice. ed. , 5th edition
- 2- Katzung. 2018. Basic & Clinical Pharmacology. ed.. 14th edition.

2- Essential References.

- 1 -DiPiro et al, 11th edition, 2020. Pharmacotherapy: A Pathophysiological Approach, ed edition.
2. Carolin, 2018. Applied Therapeutics: The Clinical Use of Drugs, 11th edition.
3. Walker & Whittlesea, 6th edition, 2018. Clinical Pharmacy and Therapeutics, ed. Wall Whittlesea. 6th edition, 2018.

3- Electronic Materials and Web Sites etc.

- 1 -www.accesspharmacy.com
- 2 -Disease management guidelines (specified in lecture notes)

XI. Course Policies: (Based on the Uniform Students' Bylaw (2007))

1- Class Attendance:



	Class Attendance is mandatory. A student is considered absent and shall be banned from taking the final exam if his/her absence exceeds 25% of total classes.
2	Tardiness: A student will be considered late if he/she is not in class after 10 minutes of the start time of class.
3	Exam Attendance/Punctuality: No student shall be allowed to the exam hall after 30 minutes of the start time, and shall not leave the hall before half of the exam time has passed.
4	Assignments & Projects: Assignments and projects must be submitted on time. Students who delay their assignments or projects shall lose the mark allocated for the same.
5	Cheating: Cheating is an act of fraud that results in the cancelation of the student's exam or assignment. If it takes place in a final exam, the penalties stipulated for in the Uniform Students' Bylaw (2007) shall apply.
6	Forgery and Impersonation: Forgery/Impersonation is an act of fraud that results in the cancelation of the student's exam, assignment or project. If it takes place in a final exam, the penalties stipulated for in the Uniform Students' Bylaw (2007) shall apply.
7	Other policies: The University official regulations in force will be strictly observed and students shall comply with all rules and regulations of the examination set by the Department, Faculty and University Administration.

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University of 21 September for Applied & Medical Sciences

Faculty of Clinical Pharmacy

Program of Master in Clinical Pharmacy

Course Specification of Evidence-Based Medicine

Course No. (CPh108)

2021/2022

Prepared By

1

Dr. Ali Al kaf

Reviewed By

Dr. Ali Alyahawi

Dean of Faculty

Dr.



I. Course Identification and General Information:

١	Course Title:	Evidence-Based Medicine				
٢	Course Code & Number:	CPh108				
٣	Credit hours:	C.H				TOTAL
		Th.	Seminar	Pr	Tr.	
		2	-	-	-	2
٤	Study level/ semester at which this course is offered:	-				
5	Pre –requisite (if any):	Research Methodology and Biostatistics				
6	Co –requisite (if any):	None				
7	Program (s) in which the course is offered:	Master in clinical Pharmacy				
8	Language of teaching the course:	English				
9	Study System	Credit Hour System				
10	Mode of delivery:	Regular				
11	Location of teaching the course:	21 September University				
12	Prepared By:	Prof. Dr. Alkaf				
13	Date of Approval					

II. Course Description:

This course will enable students to identify, obtain and utilize published medical literature to be used in patient care, research projects and lifelong learning. This course is designed to provide a balanced approach to the principles of clinical research and statistics for evaluating pharmacy literature to implement evidence-based pharmacotherapy. This requires a comprehensive understanding of the principles and practice of drug literature evaluation with a strong grounding in research design and statistical methods.

Prepared By

2

Dr. Ali Al kaf

Reviewed By

Dr. Ali Alyahawi

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III.	Course Intended learning outcomes (CILOs):	Referenced PILOs
a.1	Describe differences among primary, secondary, and tertiary literature and the role of drug literature evaluation in establishing a good foundation for a pharmacy professional.	A3
a.2	Discuss the basic principles in statistics and different types of clinical trials	A3
b.1	Conduct efficient searches of clinical evidence using the most appropriate terms and other tools	B2
b.2	Correctly use the statistics analyses methods and evaluate results from statistical analyses reported in the medical literature with a focus on common statistical methods.	B1, B2
c.1	Critically appraise the most common types of clinical research papers	C1, C3
c.2	Apply the evidence to individual patients.	C1, C2, C3
d.1	Search for information from appropriate sources of primary literature to verify that patient therapy is based on best scientific evidence available	D1
d.2	Communicate information to healthcare providers, patients and caregivers in a timely and effective manner.	D2

(A) Alignment Course Intended Learning Outcomes of Knowledge and Understanding to Teaching Strategies and Assessment Strategies:		
Course Intended Learning Outcomes	Teaching strategies	Assessment Strategies
a1- Describe differences among primary, secondary, and tertiary literature and the role of drug literature evaluation in establishing a good foundation for a pharmacy professional.	- Lectures - Discussion - Seminar	Exam Assignment
a2- Discuss the basic principles in statistics and different types of clinical trials.	- Lectures - Discussion - Assignments - Seminar	Exam Assignment

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(B) Alignment Course Intended Learning Outcomes of Intellectual Skills to Teaching Strategies and Assessment Strategies:

Course Intended Learning Outcomes	Teaching strategies	Assessment Strategies
b1- Conduct efficient searches of clinical evidence using the most appropriate terms and other tools.	<ul style="list-style-type: none"> - Lectures - Discussion - Assignments - Seminar - Cases presentation 	Exam Assignment
b2- Correctly use the statistics analyses methods and evaluate results from statistical analyses reported in the medical literature with a focus on common statistical methods.	<ul style="list-style-type: none"> - Lectures - Discussion - Assignments - Seminar - Cases presentation 	Exam Assignment

(C) Alignment Course Intended Learning Outcomes of Professional and Practical Skills to Teaching Strategies and Assessment Strategies:

Course Intended Learning Outcomes	Teaching strategies	Assessment Strategies
C1- Critically appraise the most common types of clinical research papers.	<ul style="list-style-type: none"> - Lectures - Discussion - Assignments - Seminar - Cases presentation 	Exam Assignment
C2- Apply the evidence to individual patients.	<ul style="list-style-type: none"> - Seminar - Cases presentation 	Exam Assignment

(D) Alignment Course Intended Learning Outcomes of Transferable Skills to Teaching Strategies and Assessment Strategies:

Course Intended Learning Outcomes	Teaching strategies	Assessment Strategies
d1- Search for information from appropriate sources of	<ul style="list-style-type: none"> - Lectures 	Exam

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4

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Reviewed By

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Dean of Faculty

Dr.

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primary literature to verify that patient therapy is based on best scientific evidence available	- Discussion - Assignments - Seminar - Cases presentation	Assignment
d2-Communicate information to healthcare providers, patients and caregivers in a timely and effective manner.	- Discussion - Seminar - Cases presentation	Presentation

IV. Course Content:

A – Theoretical Aspect:

Order	Units/Topics List	Learning Outcomes	Sub Topics List	Number of Weeks	contact hours
1	The principles of scientific research	a 1, a2, b1, b2, d1	- Overview of Drug Information Resources	1	1
			- Internet Sources of DI		
			- Evaluating DI Resources		
			- Accessing Quality DI Resources		
			- Research Design and Methods		
- Principles of Evidence-Based Medicine (EBM)	1	1			
			- Evaluating Randomized Controlled Trials	2	2
			- Evaluating Clinical Literature: An Overview	1	1
2	Midterm Exam	a 1, a2, b1, b2, d1		1	2
3	Statistical Principles and Data Analysis	a 2, b1, b2, c2	- Basic Statistical Concepts	2	2
			- Bivariate Analysis and Comparing Groups	1	1
			- Logistic Regression and Survival Analysis	1	1
			- Sample Size and Power Analysis	1	1
4	Systematic Review and Meta-Analysis	a 1, a2, b1, b2, c1, c2, d1, d2	- Evaluation of Systematic Review and Meta-Analysis	1	1

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Reviewed By

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Dr. Ali Alyahawi

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5	Applying Drug Literature to Patient Care	a 1, a2, b1, b2, c1, c2, d1, d2	- Application of evidence for selected cases	1	1
6	Final exam	a 1, a2, b1, b2, c1, c2, d1		1	2
Number of Weeks /and Units Per Semester				16	18

B - Practical Aspect: (if any)

Order	Tasks/ Experiments	Number of Weeks	contact hours	Learning Outcomes
1	Nil			
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
Number of Weeks /and Units Per Semester				

V. Teaching strategies of the course:

- Lectures
- Discussion
- Assignments
- Seminar
- Cases presentation

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VI. Assignments:

No	Assignments	Aligned CILOs(symbols)	Week Due	Mark
1	Assignment 1: Describe the types of research designs	a 1, a2	Week 6	5
2	Assignment 1 Apply drug literature for managing selected case of DM type 2.	a 1, a2, b1, b2, c1, c2, d1	Week 14	5
Total				10

VII. Schedule of Assessment Tasks for Students During the Semester:

No.	Assessment Method	Week Due	Mark	Proportion of Final Assessment	Aligned Course Learning Outcomes
1	Assignments and attendance	Week 1-14	20	20%	a 1, a2, b1, b2, c1, c2, d1
2	Midterm Exam	Week 8	20	20%	a 1, a2, b1, b2, d1
3	Final Exam	Week 16	60	60%	a 1, a2, b1, b2, c1, c2, d1
Total			100	100%	

VIII. Learning Resources:

- Written in the following order: (Author - Year of publication - Title - Edition - Place of publication - Publisher).

1- Required Textbook(s) (maximum two).

1. Arlene Fink, 2013. How to Conduct Surveys: A Step-by-Step Guide, 5th, 978-1452203874
2. Beth Dawson, Robert G. Trapp, 2004. Basic & Clinical Biostatistics, 4th, 978-0071410175

2- Essential References.

1. Rajender R. Aparasu and John P. Bentley, 2014. Principles of Research Design And Literature Evaluation, 1st, 978-1284038798
2. Gordon Guyatt; Drummond Rennie; Maureen O. Meade; Deborah J. Cook, 2014. Users' Guides to the Medical Literature: A Manual for Evidence-Based Clinical Practice, 3rd, 978-0071790710
3. Gordon Guyatt; Drummond Rennie; Maureen O. Meade; Deborah J. Cook, 2015. Users' Guide the Medical Literature: Essentials of Evidence-Based Clinical Practice 3rd, 978-007179415
4. Trisha Greenhalgh, 2014. How to Read a Paper: The Basics of Evidence-Based Medicine, 5th

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	1118800966 5. Robert Ed Dicenzo, 2011. Clinical Pharmacist's Guide to Biostatistics and Literature Evaluation 978-1932658781
3- Electronic Materials and Web Sites etc.	
	- Up-to-date - https://druginfo.nlm.nih.gov/drugportal/drugportal.jsp -

I. Course Policies: (Based on the Uniform Students' Bylaw (2007))	
1	Class Attendance: Class Attendance is mandatory. A student is considered absent and shall be banned from taking the final exam if his/her absence exceeds 25% of total classes.
2	Tardiness: A student will be considered late if he/she is not in class after 10 minutes of the start time of class.
3	Exam Attendance/Punctuality: No student shall be allowed to the exam hall after 30 minutes of the start time. and shall not leave the hall before half of the exam time has passed.
4	Assignments & Projects: Assignments and projects must be submitted on time. Students who delay their assignments or projects shall lose the mark allocated for the same.
5	Cheating: Cheating is an act of fraud that results in the cancelation of the student's exam or assignment. If it takes place in a final exam, the penalties stipulated for in the Uniform Students' Bylaw (2007) shall apply.
6	Forgery and Impersonation: Forgery/Impersonation is an act of fraud that results in the cancelation of the student's exam, assignment or project. If it takes place in a final exam, the penalties stipulated for in the Uniform Students' Bylaw (2007) shall apply.
7	Other policies: The University official regulations in force will be strictly observed and students shall comply with all rules and regulations of the examination set by the Department, Faculty and University Administration.

Prepared By

Dr. Ali Al kaf

8

Reviewed By

Dr. Ali Alyahawi

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University of 21 September for Applied & Medical Sciences

Faculty of Clinical Pharmacy

Program of Master in Clinical Pharmacy

Course Specification of Evidence-Based Medicine

Course No (CPh108)

2021/2022

Prepared By

Dr. Ali Al kaf

9

Reviewed By

Dr. Ali Alyahawi

Dean of Faculty

Dr.



II. - Information about Faculty Member Responsible for the Course:

Name of Faculty Member	Dr. Ali Alkaf	Office Hours					
Location & Telephone No.		SAT	SUN	MON	TUE	WED	THU
E-mail	Alialkaf21@gmail.com						

III. Course Identification and General Information:

١	Course Title:	Evidence-Based Medicine				
٢	Course Code & Number:	CPh108				
٣	Credit hours:	C.H				TOTAL
		Th.	Seminar	Pr	Tr.	
		2	--		--	2
٤	Study level/ semester at which this course is offered:	-				
5	Pre-requisite (if any):	Research Methodology and Biostatistics				
6	Co-requisite (if any):	None				
7	Program (s) in which the course is offered:	Master in Clinical Pharmacy				
8	Language of teaching the course:	English				
9	Study System	Credit Hour System				
10	Mode of delivery:	Regular-Full Time				
11	Location of teaching the course:	21 September University				

IV. Course Description:

The course will enable students to identify, obtain and utilize published medical literature to be used in patient care, research projects and lifelong learning. This course is designed to provide a balanced approach to the principles of clinical research and statistics for evaluating pharmacy literature to implement evidence-based pharmacotherapy. This requires a comprehensive understanding of the principles and practice of drug literature evaluation with a strong grounding in research design and statistical methods.

Prepared By

10

Reviewed By

Dean of Faculty

Dr. Ali Al kaf

Dr. Ali Alyahawi

Dr.



V. Course Intended learning outcomes (CILOs)	
Upon completion of this Course, student will be able to:	
a.1	Describe differences among primary, secondary, and tertiary literature and the role of drug literature evaluation in establishing a good foundation for a pharmacy professional.
a.2	Discuss the basic principles in statistics and different types of clinical trials
b.1	Conduct efficient searches of clinical evidence using the most appropriate terms and other tools
b.2	Correctly use the statistics analyses methods and evaluate results from statistical analyses reported in the medical literature with a focus on common statistical methods.
c.1	Critically appraise the most common types of clinical research papers
c.2	Apply the evidence to individual patients.
d.1	Search for information from appropriate sources of primary literature to verify that patient therapy is based on best scientific evidence available
d.2	Communicate information to healthcare providers, patients and caregivers in a timely and effective manner.

VI. Course Content:

A – Theoretical Aspect:

Order	Units/Topics List	Sub Topics List	Week Due	Contact Hours
1	The principles of scientific research	- Overview of Drug Information Resources	1	1
		- Internet Sources of DI		
		- Evaluating DI Resources	2	2
		- Accessing Quality DI Resources		
		- Research Design and Methods		
- Principles of Evidence-Based Medicine (EBM)	1	1		
- Evaluating Randomized Controlled Trials	2	2		
- Evaluating Clinical Literature: An Overview	1	1		
2	Midterm Exam		1	2
		- Basic Statistical Concepts	2	2

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3	Statistical Principles and Data Analysis	- Bivariate Analysis and Comparing Groups	1	1
		- Logistic Regression and Survival Analysis	1	1
		- Sample Size and Power Analysis	1	1
4	Systematic Review and Meta-Analysis	- Evaluation of Systematic Review and Meta-Analysis	1	1
5	Applying Drug Literature to Patient Care	- Application of evidence for selected cases	1	1
6	Final exam		1	2
Number of Weeks /and Units Per Semester			16	18

B - Practical Aspect: (if any)			
Order	Tasks/ Experiments	Week Due	Contact Hours
1	Nil		
2			
3			
4			
5			
6			
7			
8			
Number of Weeks /and Units Per Semester		14	28

VII. Teaching strategies of the course:

- Lectures
- Discussion
- Assignments
- Seminar
- Cases presentation

Prepared By

Dr. Ali Al kaf

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Reviewed By

Dr. Ali Alyahawi

Dean of Faculty

Dr.



VIII. Assignments:

No	Assignments	Week Due	Mark
1	Assignment 1: Describe the types of research designs	Week 6	5
2	Assignment 1 Apply drug literature for managing selected case of DM type 2.	Week 14	5
Total			10

IX. Schedule of Assessment Tasks for Students During the Semester:

No.	Assessment Method	Week Due	Mark	Proportion of Final Assessment
1	Assignments and attendance	Week 1-14	20	20%
2	Midterm Exam	Week 8	20	20%
3	Final Exam	Week 16	60	60%
Total			100	100%

IX. Learning Resources:

- Written in the following order: (Author - Year of publication - Title - Edition - Place of publication - Publisher).

1- Required Textbook(s) (maximum two).

3. Arlene Fink, 2013. How to Conduct Surveys: A Step-by-Step Guide, 5th, 978-1452203874
4. Beth Dawson. Robert G. Trapp. 2004. Basic & Clinical Biostatistics. 4th. 978-0071410175

2- Essential References.

6. Rajender R. Aparasu and John P. Bentley. 2014. Principles of Research Design And Literature Evaluation, 1st. 978-1284038798
7. Gordon Guyatt; Drummond Rennie; Maureen O. Meade; Deborah J. Cook. 2014. Users' Guides to the Medical Literature: A Manual for Evidence-Based Clinical Practice, 3rd, 978-0071790710
8. Gordon Guyatt; Drummond Rennie; Maureen O. Meade; Deborah J. Cook. 2015. Users' Guide the Medical Literature: Essentials of Evidence-Based Clinical Practice 3rd. 978-007179415
9. Trisha Greenhalgh, 2014. How to Read a Paper: The Basics of Evidence-Based Medicine, 5th 1118800966
10. Robert Ed Dicenzo, 2011. Clinical Pharmacist's Guide to Biostatistics and Literature Evaluation 978-1932658781

3- Electronic Materials and Web Sites etc.

- Up-to-date

Prepared By

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- <https://druginfo.nlm.nih.gov/drugportal/drugportal.jsp>

X. Course Policies: (Based on the Uniform Students' Bylaw (2007))

1	Class Attendance: Class Attendance is mandatory. A student is considered absent and shall be banned from taking the final exam if his/her absence exceeds 25% of total classes.
2	Tardiness: A student will be considered late if he/she is not in class after 10 minutes of the start time of class.
3	Exam Attendance/Punctuality: No student shall be allowed to the exam hall after 30 minutes of the start time, and shall not leave the hall before half of the exam time has passed.
4	Assignments & Projects: Assignments and projects must be submitted on time. Students who delay their assignments or projects shall lose the mark allocated for the same.
5	Cheating: Cheating is an act of fraud that results in the cancelation of the student's exam or assignment. If it takes place in a final exam, the penalties stipulated for in the Uniform Students' Bylaw (2007) shall apply.
6	Forgery and Impersonation: Forgery/Impersonation is an act of fraud that results in the cancelation of the student's exam, assignment or project. If it takes place in a final exam, the penalties stipulated for in the Uniform Students' Bylaw (2007) shall apply.
7	Other policies: The University official regulations in force will be strictly observed and students shall comply with all rules and regulations of the examination set by the Department, Faculty and University Administration.

Prepared By

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Dr. Ali Al kaf

Reviewed By

Dr. Ali Alyahawi

Dean of Faculty

Dr.



Total	10
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VIII. Schedule of Assessment Tasks for Students During the Semester:

No.	Assessment Method	Week Due	Mark	Proportion of Final Assessment
1	Assignments	Week 3-12	10	10%
2	Quiz 1	Week 6	5	5%
3	Midterm Exam	Week 8	20	20%
4	Quiz 2	Week 12	5	5%
5	Final Exam	Week 16	60	60%
Total			100	100%

IX. Learning Resources:

- Written in the following order: (Author - Year of publication – Title – Edition – Place of publication – Publisher).

X. Required Textbook(s):

1. Basic Statistics for the Health Sciences: (5th edition) Jan W Kuzma. McGraw-Hill. 2004

2- Essential References.

- 1- Rajender R. Aparasu and John P. Bentley, 2014. Principles of Research Design And Literature Evaluation, 1st. 978-1284038798
- 2- Robert Ed Dicenzo, 2011. Clinical Pharmacist's Guide to Biostatistics and Literature Evaluation 978-1932658781

3- Electronic Materials and Web Sites etc.

- Up-to-date
- <https://druginfo.nlm.nih.gov/drugportal/drugportal.jsp>

XI. Course Policies: (Based on the Uniform Students' By law (2007) تترك كما هي)

Class Attendance:	
1	Class Attendance is mandatory. A student is considered absent and shall be banned from taking the final exam if his/her absence exceeds 25% of total classes.
Tardiness:	
2	A student will be considered late if he/she is not in class after 10 minutes of the start time of



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	class.
3	<p>Exam Attendance/Punctuality:</p> <p>No student shall be allowed to the exam hall after 30 minutes of the start time, and shall not leave the hall before half of the exam time has passed.</p>
4	<p>Assignments & Projects:</p> <p>Assignments and projects must be submitted on time. Students who delay their assignments or projects shall lose the mark allocated for the same.</p>
5	<p>Cheating:</p> <p>Cheating is an act of fraud that results in the cancelation of the student's exam or assignment. If it takes place in a final exam, the penalties stipulated for in the Uniform Students' Bylaw (2007) shall apply.</p>
6	<p>Forgery and Impersonation:</p> <p>Forgery/Impersonation is an act of fraud that results in the cancelation of the student's exam, assignment or project. If it takes place in a final exam, the penalties stipulated for in the Uniform Students' Bylaw (2007) shall apply.</p>
7	<p>Other policies:</p> <p>The University official regulations in force will be strictly observed and students shall comply with all rules and regulations of the examination set by the Department, Faculty and University Administration.</p>

REPUBLIC OF YEMEN

21 SEPTEMBER UMAS

Development Academic Center &
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الجامعة اليمنية

جامعة ٢١ سبتمبر

للعلوم الطبية والتطبيقية

مركز التطوير الأكاديمي وضمان الجودة

University of 21 September for Applied & Medical Sciences

Faculty of Clinical Pharmacy

Program of Master in Clinical Pharmacy

Course Specification of Pharmacogenomics and Personalized Medicine

Course No. (CPh107)

2021/2022

**I. Course Identification and General Information:**

١	Course Title:	Pharmacogenomics and Personalized Medicine				
٢	Course Code & Number:	CPh107				
٣	Credit hours:	C.H				TOTAL
		Th.	Seminar	Pr	Tr.	
		2				2
٤	Study level/ semester at which this course is offered:	-				
5	Pre –requisite (if any):	TDM				
6	Co –requisite (if any):	NA				
7	Program (s) in which the course is offered:	Master in Clinical Pharmacy				
8	Language of teaching the course:	English				
9	Study System	Regular				
10	Mode of delivery:	Credit hours system				
11	Location of teaching the course:	21 September University				
12	Prepared By:	Dr. Ali Alkaf				
13	Date of Approval					

II. Course Description:

The Course is designed to addresses the genetic basis for individual differences in metabolizing enzymes, transporters, and other biochemicals impacting drug disposition and action that support the practice of precision (personalized) medicine to understand how these information can be used to provide quality personalized pharmaceutical care for patients. Pharmacogenomics is a young pharmaceutical science that introduces a newly emerging discipline in therapeutics, thought to greatly impact and revolutionize the practice of pharmacy.



III. Course Intended learning outcomes (CILOs):		Referenced PILOs
a.1	Define the basic principles of genetic inheritance and variability in humans	A1
a.2	Describe the impact of genetic variability on drug action	A1
a.3	Discuss probable current and future trends in applications of these fields in clinical practice.	A2
b.1	Design patient-specific pharmacotherapy regimen to optimize patient outcomes based on the patient's pharmacogenomic profile.	B1, B2
b.2	Explain how genomics and other individual factors can influence drug pharmacokinetics and pharmacodynamics.	B1, B2
c.1	Provide Pharmacogenomics-Based Care	C2, C3
d.1	Search efficiently for pharmacogenomic information from professional resources.	D2
d.2	Communicate pharmacogenomic-specific drug therapy recommendations to the health care team and patients	D1

(A) Alignment Course Intended Learning Outcomes of Knowledge and Understanding to Teaching Strategies and Assessment Strategies:

Course Intended Learning Outcomes	Teaching strategies	Assessment Strategies
a1- Define the basic principles of genetic inheritance and variability in humans	<ul style="list-style-type: none"> - Lecture - Self-learning - Interactive Discussion - Use of updated medical references 	<ul style="list-style-type: none"> - Exam - Assignment - Quizzes
a2- Describe the impact of genetic variability on drug action.	<ul style="list-style-type: none"> - Lecture - Self-learning - Interactive Discussion - Use of updated medical references 	<ul style="list-style-type: none"> - Exam - Assignment - Quizzes
a3- Discuss probable current and future trends in applications of these fields in clinical practice.	<ul style="list-style-type: none"> - Self-learning - Interactive Discussion - Use of updated medical references 	<ul style="list-style-type: none"> - Exam - Assignment - Quizzes

(B) Alignment Course Intended Learning Outcomes of Intellectual Skills to Teaching Strategies and Assessment Strategies:

Course Intended Learning Outcomes	Teaching strategies	Assessment Strategies
b1- Design patient-specific pharmacotherapy regimen to optimize patient outcomes based	<ul style="list-style-type: none"> - Lecture 	<ul style="list-style-type: none"> - Exam - Assignment

(Handwritten signatures and marks)



on the patient's pharmacogenomic profile.	<ul style="list-style-type: none"> - Self-learning - Interactive Discussion - Use of updated medical references 	<ul style="list-style-type: none"> - Quizzes
b2- Explain how genomics and other individual factors can influence drug pharmacokinetics and pharmacodynamics.	<ul style="list-style-type: none"> - Lecture - Self-learning - Interactive Discussion - Use of updated medical references 	<ul style="list-style-type: none"> - Exam - Assignment - Quizzes

© Alignment Course Intended Learning Outcomes of Professional and Practical Skills to Teaching Strategies and Assessment Strategies:

Course Intended Learning Outcomes	Teaching strategies	Assessment Strategies
C1- Provide Pharmacogenomics-Based Care	<ul style="list-style-type: none"> - Lecture - Self-learning - Use of updated medical references 	<ul style="list-style-type: none"> - Exam - Assignment - Assignment

(D) Alignment Course Intended Learning Outcomes of Transferable Skills to Teaching Strategies and Assessment Strategies:

Course Intended Learning Outcomes	Teaching strategies	Assessment Strategies
d1- Search efficiently for pharmacogenomic information from professional resources.	<ul style="list-style-type: none"> - Self-learning - Seminar - Interactive Discussion 	<ul style="list-style-type: none"> - Exam - Assignment
d2- Communicate pharmacogenomic-specific drug therapy recommendations to the health care team and patients.	<ul style="list-style-type: none"> - Interactive Discussion - Presentation 	<ul style="list-style-type: none"> - Presentation

IV. Course Content:

A – Theoretical Aspect:

Order	Units/Topics List	Learning Outcomes	Sub Topics List	Number of Weeks	contact hours
1	Introduction to Pharmacogenomics (PGx)	a 1, a2, d1	<ul style="list-style-type: none"> - Principles of genetic medicine - Basic DNA and Genome structure - Human Genome Project 	2	4
2	Human Genetic Variability and	a 3, b2, b3, d1	<ul style="list-style-type: none"> - P450 Enzymes & Drug Transporters 	1	2

(Handwritten signatures and marks)



	Pharmacogenomic studies		- Influence of Genetic variations on drugs pharmacokinetics and pharmacodynamics	2	4
			- Phenotyping studies - Genotyping studies - Adjustment of doses based on pharmacogenomic studies with examples	2	4
3	Midterm Exam	a 1, a2, a3, b2, b3	-	1	2
4	Principles of Gene Therapy	a 2, a3, b1, b2, d1	- Introduction to gene therapy - Gene delivery systems	2	4
5	Clinical Applications of Pharmacogenomics	b 2, c1, d1, d2	- Pharmacogenomics of cardiovascular diseases	1	2
			- Pharmacogenomics of central nervous system diseases and psychiatry	1	2
			- Pharmacogenomics of Diabetes - Other applications	2	4
			- Limitation and ethical issues of gene therapy	1	2
6	Final Exam	a 1, a2, b1, b2, c1, d1		1	2
Number of Weeks /and Units Per Semester				16	32

V. Teaching strategies of the course:

1- Lecture

2- Seminars

3- Self-learning

4- Interactive Discussion

5- Use of updated medical references

6- Office hour



VI. Assignments:

No	Assignments	Aligned CILOS(symbols)	Week Due	Mark
1	Assignment 1: Each student is assigned to provide a search-based report on metabolism variability of one type of Cyt450.	a 2, a3, b2, d1	Week 6	5%
2	Assignment 2: Each students group will be assigned to provide a search-based report on one recent advances in gene therapy techniques and applications.	a 2, a3, b2, d1	Week 12	5%
Total				10

VII. Schedule of Assessment Tasks for Students During the Semester:

No.	Assessment Method	Week Due	Mark	Proportion of Final Assessment	Aligned Course Learning Outcomes
1	Assignments	Week 6 and 12	10	10%	a 2, a3, b2, d1
2	Quiz 1	Week 6	5	5%	a 2, a3, b2, d1, d2
3	Midterm Exam	Week 8	20	20%	a 1, a2, a3, b1, b2
4	Quiz 2	Week 12	5	5%	a 2, a3, b2, d1, d2
5	Final exam	Week 16	60	60%	a 1, a2, b1, b2, c1, d1
Total			100	100%	

VIII. Learning Resources:

- Written in the following order: (Author - Year of publication - Title - Edition - Place of publication - Publisher).

1- Required Textbook(s) (maximum two).

1. J Licinio and M Wong (2003), Pharmacogenomics: The Search for Individualized Therapies; 1st Edition
2. Anthony Meagre (1999), Gene therapy technologies, applications and regulations, John Wiley & Sons Ltd

2- Essential References.

1. American College of Clinical Pharmacy (ACCP); 2009, Pharmacogenomics: Applications to Patient Care; 2nd Edition
2. American Society of Health System Pharmacists, 2010. Concepts in



	Pharmacogenomics
3-	Electronic Materials and Web Sites etc.
	- Updated evidence-based literatures

IX. Course Policies السياسات المقررة	
١	<p><u>Class Attendance</u> سياسة حضور الفعاليات التعليمية</p> <p>- يلتزم الدارس بحضور 75 % من المحاضرات ويحرم في حالة عدم الالتزام بذلك. إذا تغيب الطالب 25% من المحاضرات بدون عذر، يحرم من دخول امتحان المقرر النهائي.</p>
٢	<p><u>Tardy</u> الحضور المتأخر</p> <p>- يسمح للطالب دخول المحاضرة إذا تأخر لمدة خمس عشرة دقيقة في ثلاث محاضرات، وإذا تأخر زيادة عن ذلك يعطى إنذار شفوي من أستاذ المقرر ثم إنذار كتابي من القسم وإذا لم يتم الالتزام بعدها يمنع الطالب من دخول المحاضرة.</p>
٣	<p><u>Exam Attendance/Punctuality</u> ضوابط الامتحان</p> <p>- كما هو محدد في لائحة شئون الطلاب.</p>
٤	<p><u>Assignments & Projects</u> التعيينات والمشاريع</p> <p>- يسلم الطالب التكليف في الوقت المحدد من قبل استاذ المقرر او في الخطة وتعتبر غير مقبولة إذا سلمت بعد الوقت المحدد.</p>
٥	<p><u>Cheating</u> الغش</p> <p>- تطبق لائحة شئون الطلاب الخاصة بذلك.</p>
6	<p><u>Plagiarism</u> الانتحال</p> <p>- تطبق لائحة شئون الطلاب الخاصة بذلك.</p>
7	<p><u>Other policies</u> سياسات أخرى</p> <p>- إغلاق الموبايل أو تصميته على الأقل في حالة حضور الطالب للمحاضرات أو التجارب المعملية، ويمنع اصطحابه في الاختبارات.</p>