

# Republic of Yemen

Ministry of Higher Education & Scientific Research

21 September University of Medicals & Applied Sciences



## Faculty of Clinical Pharmacy

Bachelor of Clinical Pharmacy & Pharm. D.

Course Specification of **Therapeutics (1)**

Course No. (02.01.212)

2016/2017

Prepared by:	Reviewed by:	Head of the Department:	Vice Dean for Quality affairs	Dean of College:
Dr. Ali Alyahawi	Dr. Hassan Al Mahbashi	Dr. <i>Hassan Al Mahbashi</i>	Dr. Abdulrahman Thabet	Dr. Ali Alyahawi



### I. Course Identification and General Information:

1	Course Title:	Therapeutics (1)			
2	Course Code & Number:	02.01.212			
3	Credit Hours:	Credit Hours	Theory Hours		Practical
			Lecture	Exercise	
		3	2	--	2
4	Study Level/ Semester at which this Course is offered:	4 Level / 1 Semester			
5	Pre –Requisite (if any):	Pharmacology-III			
6	Co –Requisite (if any):	Case Studies in Therapeutics (1): “case-based seminars”			
7	Program (s) in which the Course is Offered:	Bachelor of Clinical Pharmacy & Pharm. D.			
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:	Dr. Ali Alyahawi			
13	Date of Approval:				

Prepared by:	Reviewed by:	Head of the Department:	Vice Dean for Quality affairs	Dean of College:
Dr. Ali Alyahawi	Dr. Abdulelah Thabet	Dr. -----	Dr. Abdulelah Thabet	Dr. Ali Alyahawi

## II. Course Description:

The course content aims to understand the pathophysiology, clinical manifestations, complications, goals of therapy of cardiovascular and infectious diseases. The pharmacotherapy course is supportive course for pharmacy practice and integrated cases I course and is complementary to pathophysiology and pharmacology courses.

## III. Course Intended Learning Outcomes (CILOs) :

### Referenced PILOs

Learning out of  
program

**A. Knowledge and Understanding:** Upon successful completion of the course, students will be able to:

a1	Discuss the pathophysiology, clinical presentation and prognosis of cardiovascular and infectious diseases.	A1
a2	Describe the goals of therapy for cardiovascular and infectious diseases	A3, A4, A5, A7

**B. Intellectual Skills:** Upon successful completion of the course, students will be able to:

b1	Design properly the drugs regimens and monitoring plans of cardiovascular and infectious diseases.	B2, B3, B5, B6
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**C. Professional and Practical Skills:** Upon successful completion of the course, students will be able to:

c1	Apply properly drugs regimens and monitoring parameters to achieve targeted therapeutic outcomes of cardiovascular and infectious diseases	C2, C3, C5, C6
c2	Provide a correct information to the health care team regarding therapeutic goals and rational drugs selection.	C4

**D. Transferable Skills:** Upon successful completion of the course, students will be able to:

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d1	Search efficiently for required medical information in professional medical references and sites.	D1. D2. D3.
d2	Communicate effectively and ethically with a healthcare 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- Discuss the pathophysiology, clinical presentation and prognosis of cardiovascular and infectious diseases.	Lecture Instructor – student Interactive Office hour	Exam Assignment Quiz
a2- Describe the goals of therapy for cardiovascular and infectious diseases	Lecture Instructor – student Interactive Office hour	Exam Assignment Quiz

**(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 properly the drugs regimens and monitoring plans of cardiovascular and infectious diseases.	Lecture Instructor – student Interactive Exercises Solving Problem Methods	Problem-Solving Exercises. Assignment Quiz

**(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 properly drugs regimen and monitoring parameters to achieve targeted therapeutic outcomes of cardiovascular and infectious diseases	Lecture Instructor – student Interactive Self-Learning	Exam Assignment Quiz
C2- Provide a correct information to the health care team regarding therapeutic goals and rational drugs selection.	Lecture	Exam Assignment

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	Instructor – student Interactive Self-Learning	Quiz
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**(D) Alignment Course Intended Learning Outcomes of Transferable Skills to Teaching Strategies and Assessment Strategies:**

Course Intended Learning Outcomes	Teaching strategies	Assessment Strategies
<b>d1-</b> Search efficiently for required medical information in professional medical references and sites.	Self-Learning Seminar Exercises	Presentation Assignment Quiz
<b>d2-</b> Communicate effectively and ethically with a healthcare team and patients	Seminar Instructor–student Interactive Exercises	Presentation

**I. Course Content:**

**A – Theoretical Aspect:**

Order	Units/Topics List	Learning Outcomes	Sub Topics List	Number of Weeks	Contact Hours
1	CVD	a1, a2, b1, c1,c2, d1, d2	- Hypertension (HTN)	1	2
		a1, a2, b1, c1, c2, d1,d2	- Heart Failure (HF)	1	2
		a1, a2, b1, c1, c2, d1,d2	- Ischemic Heart Diseases (CAD)	2	4
		a1, a2, b1, c1, c2, d1, d2	- Dyslipidemias	1	2
		a 1, a2, b1, c1,c2, d1, d2	- Venous Thromboembolism (VTE)	1	2
		a 1, a2, b1, c1, c2, d1, d2	- Stroke	1	2
2	Midterm Exam	a 1, a2, b1, c1, c2, d1		1	2
3	CVD	a 1, a2, b1, c1, c2, d1, d2	- Cardiac Arrhythmias	1	2
4	Infectious Diseases	a 1, a2, b1, c1, c2, d1, d2	- Lower Respiratory Tract Infection - Upper Respiratory Tract Infection	2	4

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		a 1, a2, b1, c1, c2, d1, d2	- Urinary Tract Infection	1	2
		a 1, a2, b1, c1, c2, d1, d2	- Antimicrobial Prophylaxis in Surgery	1	2
		a 1, a2, b1, c1, c2, d1, d2	- CNS infections	2	2
5	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.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours	Learning Outcomes (CLOs)
1	Principles of Pharmacy Practice	<ul style="list-style-type: none"> <li>- Pharmacist Care</li> <li>- Pharmacist Care Plan</li> <li>- Monitoring Parameters</li> </ul>	1	2	a1, a2, b1
	Cases study of CVD	<ul style="list-style-type: none"> <li>- HTN</li> <li>- HF</li> <li>- CAD</li> <li>- Acute Coronary Syndromes (ACS)</li> <li>- Dyslipidemia</li> <li>- Venous Thromboembolism (VTE)</li> </ul>	1 1 1 1 1 1	2 2 2 2 2 2	a 1, a2, b1, c1, c2, d1, d2
2	Midterm Exam		1	2	a 1, a2, b1, c1, c2, d1, d2
3	Cases study of CVD	- Stroke	1	2	a 1, a2, b1, c1, c2, d1, d2

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No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
4	Cases study of Infectious Diseases	- Lower Respiratory Tract Infection	1	2	a 1, a2, b1, c1, c2, d1, d2
		- Upper Respiratory Tract Infection	1	2	
		- Urinary Tract Infection	1	2	
		- Antimicrobial Prophylaxis in Surgery	1	2	
		- CNS infections	2	4	
5	Final Theoretical Exam		1	2	a 1, a2, b1, c1, c2, d1, d2
Number of Weeks /and Units Per Semester			16	32	

C. Tutorial Aspect: (ان وجدت)

No.	Tutorial	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
1	NA			
2	1-			
3	2-			
4	3-			
5	4-			
6	5-			
7	6-			

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

### V. Teaching Strategies of the Course:

Lecture  
Instructor – student Interactive  
Exercises  
Presentation  
Office hours  
Seminar  
Assignment  
Self-Learning

### VI. Assessment Methods of the Course:

Assignments  
Quiz  
Exam

### VII. Assignments:

No	Assignments	Aligned CILOs(symbols)	Week Due	Mark
1	<b>Assignment 1:</b> Each student presents selected case in selected topic under study	a 1, a2, b1, c1, c2, d1, d2	6th	5

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2	Assignment 2: Each students group present updated guideline on selected topic under study	a 1, a2, b1, c1,c2, d1, d2	12th	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	3 <sup>rd</sup> , 12 <sup>th</sup>	10	10%	a 1, a2, b1, c1, c2, d1
2	Practical Reports	2 <sup>nd</sup> -13 <sup>th</sup>	5	5%	a 1, a 2, b1,c1, c2
3	Midterm Exam (Theory)	Week 7	10	10%	a 1, a2, b1, c1, c2, d1
4	Final Practical Exam	14 <sup>th</sup>	20	15%	a1, a2, c1, c2
5	Final Exam (Theory)	Week 16	50	50%	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. , 5<sup>th</sup> 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. Walk 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)

<b>Class Attendance:</b>
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.

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2	<b>Tardiness:</b> A student will be considered late if he/she is not in class after 10 minutes of the start time of class.
3	<b>Exam Attendance/Punctuality:</b> 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	<b>Assignments &amp; Projects:</b> Assignments and projects must be submitted on time. Students who delay their assignments or projects shall lose the mark allocated for the same.
5	<b>Cheating:</b> 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	<b>Forgery and Impersonation:</b> 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	<b>Other policies:</b> 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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Republic of Yemen  
Ministry of Higher Education & Scientific Research  
**21 SEPTEMBER UMAS**  
Faculty of Clinical Pharmacy  
Department of .....  
Unit of Development & Quality assurance



الجمهورية اليمنية  
وزارة التعليم العالي والبحث العلمي  
جامعة 21 سبتمبر للعلوم الطبية والتطبيقية  
كلية الصيدلة السريرية  
قسم.....  
وحدة التطوير وضمان الجودة

## Republic of Yemen

Ministry of Higher Education & Scientific Research  
21 September University of Medicals & Applied Sciences



## Faculty of Clinical Pharmacy

Program of Clinical Pharmacy & Pharm. D.

## Course Plan (Syllabus) of Therapeutics (1)

Course No. (02.01.212)

2016/2017

Prepared by:	Reviewed by:	Head of the Department:	Vice Dean for Quality affairs	Dean of College:
Dr. Ali Alyahawi	Dr. Abdulelah Thabet	Dr. ....	Dr. Abdulelah Thabet	Dr. Ali Alyahawi

### I. Information about Faculty Member Responsible for the Course:

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

### II. Course Identification and General Information:

1	Course Title:	Therapeutics (1)			
2	Course Code & Number:	02.01.212			
3	Credit Hours:	Credit Hours	Theory Hours		Practical
			Lecture	Exercise	
		3	2	--	2
4	Study Level/ Semester at which this Course is offered:	4 Level / 1 Semester			
5	Pre -Requisite (if any):	Pharmacology-III			
6	Co -Requisite (if any):	Case Studies in Therapeutics (1): "case-based seminars"			
7	Program (s) in which the Course is Offered:	Bachelor of Clinical Pharmacy & Pharm. D.			
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:	Dr. Ali Alyahawi			
13	Date of Approval:				

Prepared by:	Reviewed by:	Head of the Department:	Vice Dean for Quality affairs	Dean of College:
Dr. Ali Alyahawi	Dr. Abdulelah Thabet	Dr. -----	Dr. Abdulelah Thabet	Dr. Ali Alyahawi

### III. Course Description:

The course content aims to understand the pathophysiology, clinical manifestations, complications, goals of therapy of cardiovascular and infectious diseases. The pharmacotherapy course is supportive course for pharmacy practice and integrated cases I course and is complementary to pathophysiology and pharmacology courses.

#### A. Knowledge and Understanding: Upon successful completion of the course, students will be able to:

a1	Discuss the pathophysiology, clinical presentation and prognosis of cardiovascular and infectious diseases.	A1
a2	Describe the goals of therapy for cardiovascular and infectious diseases	A3, A4, A5, A7

#### B. Intellectual Skills: Upon successful completion of the course, students will be able to:

b1	Design properly the drugs regimens and monitoring plans of cardiovascular and infectious diseases.	B2, B3, B5, B6
----	--	----------------

#### C. Professional and Practical Skills: Upon successful completion of the course, students will be able to:

c1	Apply properly drugs regimens and monitoring parameters to achieve targeted therapeutic outcomes of cardiovascular and infectious diseases	C2, C3, C5, C6
c2	Provide a correct information to the health care team regarding therapeutic goals and rational drugs selection.	C4

#### D. Transferable Skills: Upon successful completion of the course, students will be able to:

d1	Search efficiently for required medical information in professional medical references and sites.	D1, D2, D3.
d2	Communicate effectively and ethically with a healthcare team and patients	D1

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## V. Course Contents:

### A. Theoretical Aspect:

Order	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours
1	CVD	- Hypertension (HTN)	1	2
		- Heart Failure (HF)	1	2
		- Ischemic Heart Diseases (IHD)	2	4
		- Dyslipidemias	1	2
		- Venous Thromboembolism (VTE)	1	2
		- Stroke	1	2
2	Midterm Exam		1	2
3	CVD	- Cardiac Arrhythmias	1	2
4	Infectious Diseases	- Lower Respiratory Tract Infection - Upper Respiratory Tract Infection	2	4
		- Urinary Tract Infection	1	2
		- Antimicrobial Prophylaxis in Surgery	1	2
		- CNS infections	2	2
5	Final Exam		1	2
Number of Weeks /and Units Per Semester			16	32

Prepared by:	Reviewed by:	Head of the Department:	Vice Dean for Quality affairs	Dean of College:
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**B. Case Studies and Practical Aspect:**

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours
1	Principles of Pharmacy Practice	<ul style="list-style-type: none"> <li>- Pharmacist Care</li> <li>- Pharmacist Care Plan</li> <li>- Monitoring Parameters</li> </ul>	1	2
2	Cases study of CVD	- HTN	1	2
		- HF	1	2
		- CAD	1	2
		- Acute Coronary Syndromes (ACS)	1	2
		- Dyslipidemia	1	2
		- Venous Thromboembolism (VTE)	1	2
3	Midterm Exam		1	2
4	Cases study of CVD	- Stroke	1	2
5	Cases study of Infectious Diseases	-Lower Respiratory Tract Infection	1	2
		-Upper Respiratory Tract Infection	1	2
		-Urinary Tract Infection	1	2
		-Antimicrobial Prophylaxis in Surgery	1	2
		-CNS infections	2	4

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No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours
6	Final Theoretical Exam		1	2
Number of Weeks /and Units Per Semester			16	32

**C. Tutorial Aspect:**

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

Lecture  
Instructor – student Interactive  
Exercises  
Presentation  
Office hours

Prepared by:	Reviewed by:	Head of the Department:	Vice Dean for Quality affairs	Dean of College:
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Seminar  
Assignment  
Self-Learning

## VII. Assessment Methods of the Course:

Assignments  
Quiz  
Exam

## VIII. Assignments:

No	Assignments	Aligned CILOs(symbols)	Week Due	Mark
1	<b>Assignment 1:</b> Each student presents selected case in selected topic under study	a 1, a2, b1, c1, c2, d1, d2	6th	5
2	<b>Assignment 2:</b> Each students group present updated guideline on selected topic under study	a 1, a2, b1, c1,c2, d1, d2	12th	5
Total				10

## IX. 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	3 <sup>rd</sup> , 12 <sup>th</sup>	10	10%	a 1, a2, b1, c1, c2, d1
2	Practical Reports	2 <sup>nd</sup> -13 <sup>th</sup>	5	5%	a 1, a 2, b1,c1, c2
3	Midterm Exam (Theory)	Week 7	10	10%	a 1, a2, b1, c1, c2, d1
4	Final Practical Exam	14 <sup>th</sup>	20	15%	a1, a2, c1, c2
5	Final Exam (Theory)	Week 16	50	50%	a 1, a2, b1, c1, c2, d1
Total			100	100%	

## X. Learning Resources:

Prepared by:	Reviewed by:	Head of the Department:	Vice Dean for Quality affairs	Dean of College:
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<ul style="list-style-type: none"> <li>Written in the following order: ( Author - Year of publication – Title – Edition – Place of publication – Publisher).</li> </ul>	
<b>1- Required Textbook(s) ( maximum two ).</b>	
	1- Chisholm-Burns et al, 2019. Pharmacotherapy principles & practice. ed. , 5 <sup>th</sup> edition 2- Katzung, 2018. Basic & Clinical Pharmacology, ed., 14th edition.
<b>2- Essential References.</b>	
	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. Walk Whittlesea, 6th edition, 2018.
<b>3- Electronic Materials and Web Sites etc.</b>	
	1 -www.accesspharmacy.com 2 -Disease management guidelines (specified in lecture notes)

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

	<b>Class Attendance:</b>
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.
	<b>Tardiness:</b>
2	A student will be considered late if he/she is not in class after 10 minutes of the start time of class.
	<b>Exam Attendance/Punctuality:</b>
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.
	<b>Assignments &amp; Projects:</b>
4	Assignments and projects must be submitted on time. Students who delay their assignments or projects shall lose the mark allocated for the same.
	<b>Cheating:</b>
5	

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	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	<b>Forgery and Impersonation:</b> 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	<b>Other policies:</b> 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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# Republic of Yemen

Ministry of Higher Education & Scientific Research

21 September University of Medicals & Applied Sciences



## Faculty of Clinical Pharmacy

Bachelor of Clinical Pharmacy & Pharm D

Course Specification of **Therapeutics (2)**

Course No. (02.01.215)

2016/2017

Prepared by:	Reviewed by:	Head of the Department:	Vice Dean for Quality affairs	Dean of College:
Dr. Ali Alyahawi	Dr. Hassan Al-Mahbashi	Dr.	Dr. Abdulelah Thabet	Dr. Ali Alyahawi



### I. Course Identification and General Information:

1	Course Title:	Therapeutics- II			
2	Course Code & Number:	02.01.215			
3	Credit Hours:	Credit Hours	Theory Hours		Practical
			Lecture	Exercise	
		3	2	--	2
4	Study Level/ Semester at which this Course is offered:	4 Level / 2 Semester			
5	Pre –Requisite (if any):	Pharmacology-IV			
6	Co –Requisite (if any):	Case Studies in Pharmacotherapy-II: “case-based seminars”			
7	Program (s) in which the Course is Offered:	Bachelor of Clinical Pharmacy & Pharm. D.			
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:	Dr. Ali Alyahawi			
13	Date of Approval:				

Prepared by:	Reviewed by:	Head of the Department:	Vice Dean for Quality affairs	Dean of College:
Dr. Ali Alyahawi	Dr. Abdulelah Thabet	Dr. -----	Dr. Abdulelah Thabet	Dr. Ali Alyahawi

## II. Course Description:

The course content is supportive for pharmacy practice and integrated cases II course and is complementary to pathophysiology and pharmacology courses and is. The course deals with the study of pathophysiology, clinical presentations, the therapeutic goals, rational pharmacotherapy regimen, the standard therapeutic plans, and patient education for selected endocrine and renal diseases.

## III. Course Intended Learning Outcomes (CILOs) :

**Referenced  
PILOs**  
Learning out of  
program

**A. Knowledge and Understanding:** Upon successful completion of the course, students will be able to:

a1	Define the pathophysiology, clinical presentations, and prognosis of endocrine and renal diseases.	A1
a2	Describe the target goals of therapy for endocrine and renal diseases	A3, A4, A5, A7
a3	Determine the rational pharmacotherapy regimen for treatment of endocrine and renal diseases	A5, A7

**B. Intellectual Skills:** Upon successful completion of the course, students will be able to:

b1	Construct appropriate drugs regimen and monitoring plan of endocrine and renal diseases	B2, B6
----	---	--------

**C. Professional and Practical Skills:** Upon successful completion of the course, students will be able to:

c1	Use properly drugs regimen and monitoring parameters to achieve targeted therapeutic outcomes of endocrine and renal diseases	C3
c2	Provide a correct drugs information to the health care team and the patients	C4

Prepared by:	Reviewed by:	Head of the Department:	Vice Dean for Quality affairs	Dean of College:
Dr. Ali Alyahawi	Dr. Abdulelah Thabet	Dr. -----	Dr. Abdulelah Thabet	Dr. Ali Alyahawi

<b>D. Transferable Skills: Upon successful completion of the course, students will be able to:</b>		
d1	Search properly medical information from professional medical references	D2
d2	Share successfully therapeutic decisions in team-work.	D1

<b>(A) Alignment Course Intended Learning Outcomes of Knowledge and Understanding to Teaching Strategies and Assessment Strategies:</b>		
Course Intended Learning Outcomes	Teaching strategies	Assessment Strategies
<b>a1-</b> Define the pathophysiology, clinical presentations, and prognosis of endocrine and renal diseases.	Lecture Instructor – student Interactive Office hour	Exam Assignment Quiz
<b>a2-</b> Describe the target goals of therapy for endocrine and renal diseases	Lecture Instructor – student Interactive Office hour	Exam Assignment Quiz

<b>(B) Alignment Course Intended Learning Outcomes of Intellectual Skills to Teaching Strategies and Assessment Strategies:</b>		
Course Intended Learning Outcomes	Teaching strategies	Assessment Strategies
<b>b1-</b> Construct appropriate drugs regimen and monitoring plan of endocrine and renal diseases.	Lecture Instructor – student Interactive Exercises Solving Problem Methods	Problem-Solving Exercises. Assignment Quiz

<b>(C) Alignment Course Intended Learning Outcomes of Professional and Practical Skills to Teaching Strategies and Assessment Strategies:</b>		
Course Intended Learning Outcomes	Teaching strategies	Assessment Strategies

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<b>C1-</b> Use properly drugs regimen and monitoring parameters to achieve targeted therapeutic outcomes of endocrine and renal diseases	Lecture Instructor – student Interactive Self-Learning	Exam Assignment Quiz
<b>C2-</b> Provide a correct drugs information to the health care team and the patients	Lecture Instructor – student Interactive Self-Learning	Exam Assignment Quiz

<b>(D) Alignment Course Intended Learning Outcomes of Transferable Skills to Teaching Strategies and Assessment Strategies:</b>		
Course Intended Learning Outcomes	Teaching strategies	Assessment Strategies
<b>d1-</b> Search properly medical information from professional medical references	Self-Learning Seminar Exercises	Presentation Assignment Quiz
<b>d2-</b> Share successfully therapeutic decisions in team-work.	Seminar Instructor–student Interactive Exercises	Presentation

## I. Course Content:

### A – Theoretical Aspect:

Order	Units/Topics List	Learning Outcomes	Sub Topics List	Number of Weeks	Contact Hours
1	Endocrine Diseases	a1, a2, b1 ,c1, c2, d1, d2	- Diabetes Mellitus Type I	2	2
			- Diabetes Mellitus Type II		
			- Hypothyroidism	2	4
			- Hyperthyroidism		
			- Adrenal Gland Disorders	1	2
			- Pituitary Gland Diseases	2	2
2	Midterm Exam	a1, a 2, b1, ,c1, c2, d 1		1	2
3	Endocrine diseases	a1, a2, b1 ,c1, c2, d1, d2	- Pituitary Gland Diseases	1	2
4	Renal diseases	a1, a2, b1 ,c1, c2, d1, d2	- Acute Kidney Injury	1	2
			- CKD Stages		

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			- Complications of CKD	3	6
			- Fluids and Electrolytes	1	2
			- Acid-Base Disturbances	2	4
5	Final Exam	a 1, a 2, b1, , c1,c2, d 1		1	2
Number of Weeks /and Units Per Semester				16	32

**B. Case Studies and Practical Aspect:**

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours	Learning Outcomes (CLOs)
1	Cases study of endocrine diseases	- Diabetes Mellitus type I	3	6	a1, a2, a3, b1, c1, c2, d1, d2
		- Diabetes Mellitus type II			
		- Hypothyroidism	2	4	
		- Hyperthyroidism			
		- Adrenal Gland Disorders	2	4	
2	Midterm Exam		1	2	a1, a2, a3, b1, c1, c2, d1, d2
3	Cases study of endocrine diseases	- Pituitary Gland Disorders	1	2	a 1, a2, a3, b1, c1, c2, d1, d2
4	Cases study of Renal diseases	- Acute Kidney Injury	1	2	a1, a2, a3, b1, c1, c2, d1, d2
		- Estimation of CKD Stages			
		- Complication of CKD	3	6	
		- Fluids and Electrolytes	1	2	
		- Acid-Base Disturbances	1	2	
5	Final Theoretical Exam		1	2	a1, a2, a3, b1, c1, c2, d1
Number of Weeks /and Units Per Semester			16	32	

Prepared by:	Reviewed by:	Head of the Department:	Vice Dean for Quality affairs	Dean of College:
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**C. Tutorial Aspect: (ان وجدت)**

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

- Lecture
- Instructor – student Interactive
- Exercises
- Presentation
- Office hours
- Seminar
- Assignment
- Self-Learning

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Dr. Ali Alyahawi	Dr. Abdulelah Thabet	Dr. -----	Dr. Abdulelah Thabet	Dr. Ali Alyahawi

## VI. Assessment Methods of the Course:

- Assignments
- Quiz
- Exam

## VII. Assignments:

No	Assignments	Aligned CILOs(symbols)	Week Due	Mark
1	<b>Assignment 1:</b> Develop Pharmaceutical Care plan for patient with hypothyroidism	a 1, a 2, b1 ,c1, c2, d 1, d 2	Week 3	5
2	<b>Assignment 2:</b> Modify drug regimen for selected patients of CKD based on GFR	a 1, a 2, b1 ,c1, c2, d 1, d 2	Week 13	5
<b>Total</b>				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	3 <sup>rd</sup> , 13 <sup>th</sup>	10	10%	a1-a 3, b1, c1, c2, d 1, d 2
2	Practical Reports	2 <sup>nd</sup> -13 <sup>th</sup>	5	5%	a 1- a 2, b1, c1, c2, d 1, d 2
3	Midterm Exam (Theory)	Week 7	10	10%	a 1- a 2, b1 c1, c2, d 1, d 2
4	Final Practical Exam	14 <sup>th</sup>	20	15%	a1, a2, c1, c2
5	Final Exam (Theory)	Week 16	50	50%	a 1, a 2, b1,, .c1, d 2
<b>Total</b>			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. , 5<sup>th</sup> edition

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	2- Katzung, 2018. Basic & Clinical Pharmacology, ed., 14th edition.
<b>2- Essential References.</b>	
	1- DiPiro et al, 11th ed, 2020. Pharmacotherapy: A Pathophysiological Approach, 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.
<b>3- Electronic Materials and Web Sites etc.</b>	
	1- <a href="http://www.accesspharmacy.com">www.accesspharmacy.com</a> 2- Disease management guidelines (specified in lecture notes)

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

	<b>Class Attendance:</b>
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.
	<b>Tardiness:</b>
2	A student will be considered late if he/she is not in class after 10 minutes of the start time of class.
	<b>Exam Attendance/Punctuality:</b>
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.
	<b>Assignments &amp; Projects:</b>
4	Assignments and projects must be submitted on time. Students who delay their assignments or projects shall lose the mark allocated for the same.
	<b>Cheating:</b>
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.
	<b>Forgery and Impersonation:</b>
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.
	<b>Other policies:</b>
7	

Prepared by:	Reviewed by:	Head of the Department:	Vice Dean for Quality affairs	Dean of College:
Dr. Ali Alyahawi	Dr. Abdulelah Thabet	Dr. -----	Dr. Abdulelah Thabet	Dr. Ali Alyahawi

Republic of Yemen  
Ministry of Higher Education & Scientific Research  
**21 SEPTEMBER UMAS**  
Faculty of Faculty of Clinical Pharmacy  
Department of .....  
Unit of Development & Quality assurance



الجمهورية اليمنية  
وزارة التعليم العالي والبحث العلمي  
جامعة 21 سبتمبر للعلوم الطبية والتطبيقية  
كلية الصيدلة السريرية  
قسم.....  
وحدة التطوير وضمان الجودة

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:	Reviewed by:	Head of the Department:	Vice Dean for Quality affairs	Dean of College:
Dr. Ali Alyahawi	Dr. Abdulelah Thabet	Dr. -----	Dr. Abdulelah Thabet	Dr. Ali Alyahawi

## Republic of Yemen

Ministry of Higher Education & Scientific Research

21 September University of Medicals & Applied Sciences



### Faculty of Clinical Pharmacy

Bachelor of Clinical Pharmacy & Pharm. D.

Course Specification of Therapeutics (2)

Course No. (02.01.215)

2016/2017

#### I. Information about Faculty Member Responsible for the Course:

Prepared by:	Reviewed by:	Head of the Department:	Vice Dean for Quality affairs	Dean of College:
Dr. Ali Alyahawi	Dr. Abdulelah Thabet	Dr. ----.....	Dr. Abdulelah Thabet	Dr. Ali Alyahawi



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

## II. Course Identification and General Information:

1	Course Title:	Therapeutics- II			
2	Course Code & Number:	02.01.215			
3	Credit Hours:	Credit Hours	Theory Hours		Practical
			Lecture	Exercise	
		3	2	--	2
4	Study Level/ Semester at which this Course is offered:	4 Level / 2 Semester			
5	Pre -Requisite (if any):	Pharmacology-IV			
6	Co -Requisite (if any):	Case Studies in Pharmacotherapy-II: "case-based seminars"			
7	Program (s) in which the Course is Offered:	Bachelor of Clinical Pharmacy & Pharm. D.			
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:	Dr. Ali Alyahawi			

Prepared by:	Reviewed by:	Head of the Department:	Vice Dean for Quality affairs	Dean of College:
Dr. Ali Alyahawi	Dr. Abdulelah Thabet	Dr. -----	Dr. Abdulelah Thabet	Dr. Ali Alyahawi

### III. Course Description:

The course content is supportive for pharmacy practice and integrated case based learning" courses and is complementary to pathophysiology and pharmacology courses. The course aims to improve the knowledge of the pathophysiology, clinical presentations, complications, and therapeutics of oncology and hematology conditions including venous thromboembolism, emesis, anemia, infection related to cancer, common chemotherapy regimen used for cancer, pain management, general toxicity of chemotherapy agents, coagulation disorders and Sickle Cell Disease (SCD).

### IV. Course Intended Learning Outcomes (CILOs) :

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

**A. Knowledge and Understanding: Upon successful completion of the course, students will be able to:**

a1	Discuss the pathophysiology, clinical presentations, and complications of oncology and hematology diseases.	A1
a2	Understand the goals of therapy for oncology and hematology diseases.	A3, A4, A5, A7

**B. Intellectual Skills: Upon successful completion of the course, students will be able to:**

b1	Design the rational medication use and monitoring plan of selected oncology and hematology disease.	B2, B3, B5, B6
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**C. Professional and Practical Skills: Upon successful completion of the course, students will be able to:**

c1	Apply properly the drug regimens and monitoring parameters to achieve therapeutic goals of oncology and hematology diseases.	C2, C3, C5, C6
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**D. Transferable Skills: Upon successful completion of the course, students will be able to:**

d1	Search for updated medical information from proper medical references to manage oncology and hematology diseases	D1, D2, D3.
----	--	-------------

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Dr. Ali Alyahawi	Dr. Abdulelah Thabet	Dr. ....	Dr. Abdulelah Thabet	Dr. Ali Alyahawi

d2	Communicate effectively therapeutics decisions with a teamwork and patients.	D1
----	--	----

## V. Course Contents:

### A. Theoretical Aspect:

Order	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours
1	Oncology Supportive Care	- Overview of cancer chemotherapy	1	2
		- Venous thromboembolism	1	2
		- Chemotherapy-Induced Nausea and Vomiting (CINV)		
		- Anemia & Fatigue	1	2
		- Pain management	1	2
		- Infection related to cancer	1	2
		- Common chemotherapy regimen used for cancer.	1	2
		- Chemoprotectants	1	2
- Oncologic Emergencies				
2	Midterm Exam		1	2
3	Oncology Supportive Care	- <b>General toxicity of some chemotherapy agents:</b> <ul style="list-style-type: none"> <li>• Platinum agents (ex.Cisplatin)</li> <li>• Anthracyclines ex.doxorubicin</li> <li>• Vina alkaloid ex.Vincristine</li> <li>• Methotrexate, Etoposide, Ara-C, Ifosphamide, Docetaxel, Infliximab.</li> </ul>	2	4
4	Hematology Disorders	- Anemia	1	2
		- Coagulation Disorders	2	4
		- Sickle Cell Disease (SCD)	1	2
		- Drug-Induced Hematologic Disorders	1	2
5	Final Exam		1	2

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Dr. Ali Alyahawi	Dr. Abdulelah Thabet	Dr. -----	Dr. Abdulelah Thabet	Dr. Ali Alyahawi



Number of Weeks /and Units Per Semester	16	32
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**B. Case Studies and Practical Aspect:**

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours
1	Cases study in Oncology diseases Disorders	- Common complications of cancer chemotherapy	3	6
		- Acute Myeloid Leukemia (AML)	1	2
		- Chronic Myeloid Leukemia (CML)	1	2
		- Prostate Cancer	2	4
2	Midterm Exam		1	2
3	Cases study in Oncology diseases	- Breast Cancer	1	2
4	Cases study in Hematology Disorders	- Anemia	2	4
		- Coagulation Disorders	2	4
		- Sickle Cell Disease	1	2
		- Drug-Induced Hematologic Disorders	1	2
5	Final Theoretical Exam		1	2
Number of Weeks /and Units Per Semester			16	32

**C. Tutorial Aspect:**

Prepared by:	Reviewed by:	Head of the Department:	Vice Dean for Quality affairs	Dean of College:
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No.	Tutorial	Number of Weeks	Contact Hours
1	NA		
2	10-		
3	11-		
4	12-		
5	13-		
6	14-		
7	15-		
8	16-		
9	17-		
10	18-		
<b>Number of Weeks /and Units Per Semester</b>			

## VI. Teaching Strategies of the Course:

Lecture  
Instructor – student Interactive  
Exercises  
Presentation  
Office hours  
Seminar  
Assignment  
Self-Learning

## VII. Assessment Methods of the Course:

Assignments

Prepared by:	Reviewed by:	Head of the Department:	Vice Dean for Quality affairs	Dean of College:
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Quiz  
Exam

## VIII. Assignments:

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

No.	Assessment Method	Week Due	Mark	Proportion of Final Assessment
1	Assignments	3 <sup>rd</sup> , 9 <sup>th</sup>	10	10%
2	Practical Reports	2 <sup>nd</sup> -13 <sup>th</sup>	5	5%
3	Midterm Exam (Theory)	Week 7	10	10%
4	Final Practical Exam	14 <sup>th</sup>	20	15%
5	Final Exam (Theory)	Week 16	50	50%
Total			100	100%

## 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. ed. , 5<sup>th</sup> 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. Walk Whittlesea, 6th edition, 2018.

### 3- Electronic Materials and Web Sites etc.

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

Prepared by:	Reviewed by:	Head of the Department:	Vice Dean for Quality affairs	Dean of College:
Dr. Ali Alyahawi	Dr. Abdulelah Thabet	Dr. -----	Dr. Abdulelah Thabet	Dr. Ali Alyahawi

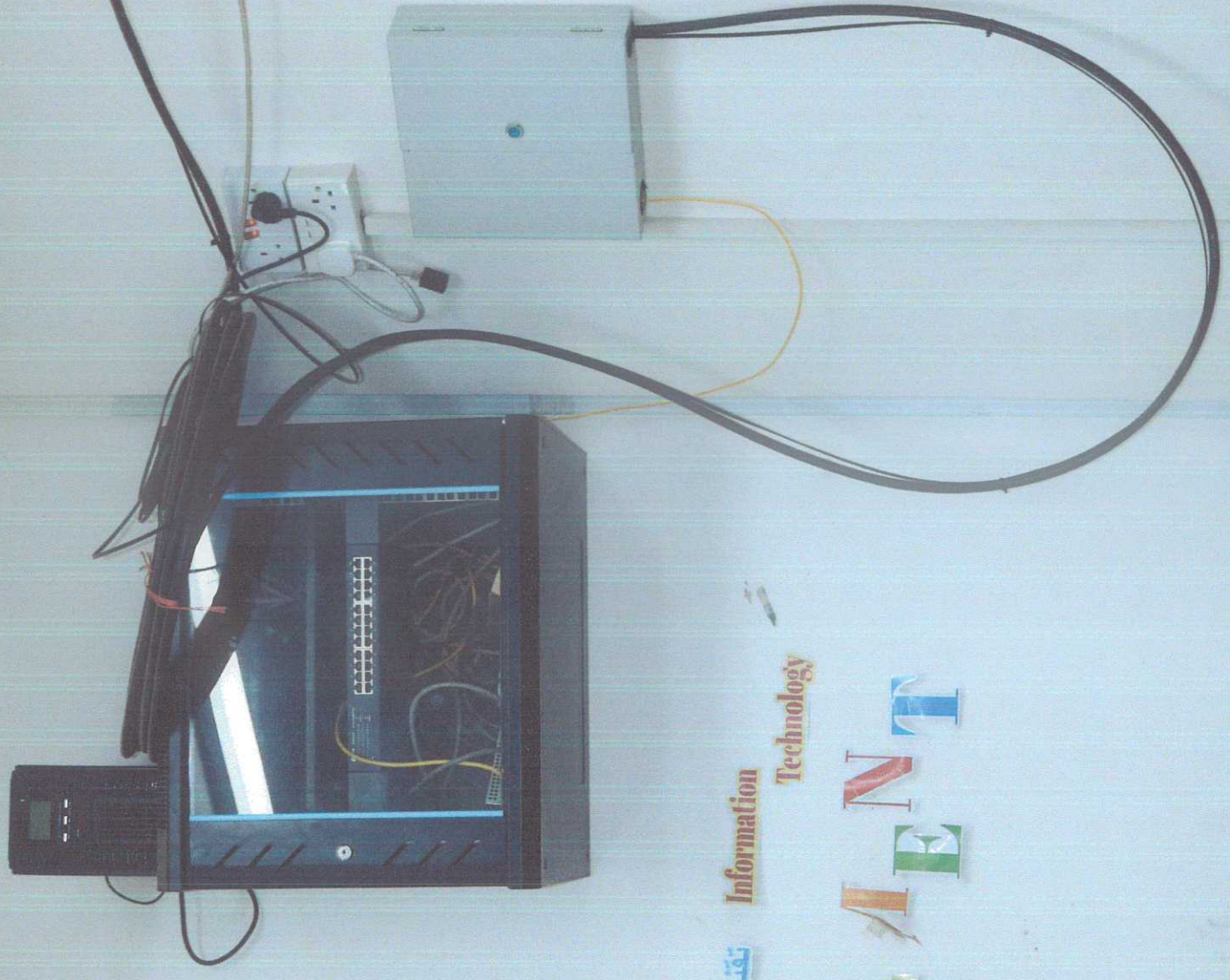


## XI. Course Policies: (Based on the Uniform Students' Bylaw (2007))

1	<b>Class Attendance:</b> 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	<b>Tardiness:</b> A student will be considered late if he/she is not in class after 10 minutes of the start time of class.
3	<b>Exam Attendance/Punctuality:</b> 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	<b>Assignments &amp; Projects:</b> Assignments and projects must be submitted on time. Students who delay their assignments or projects shall lose the mark allocated for the same.
5	<b>Cheating:</b> 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	<b>Forgery and Impersonation:</b> 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	<b>Other policies:</b> 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.

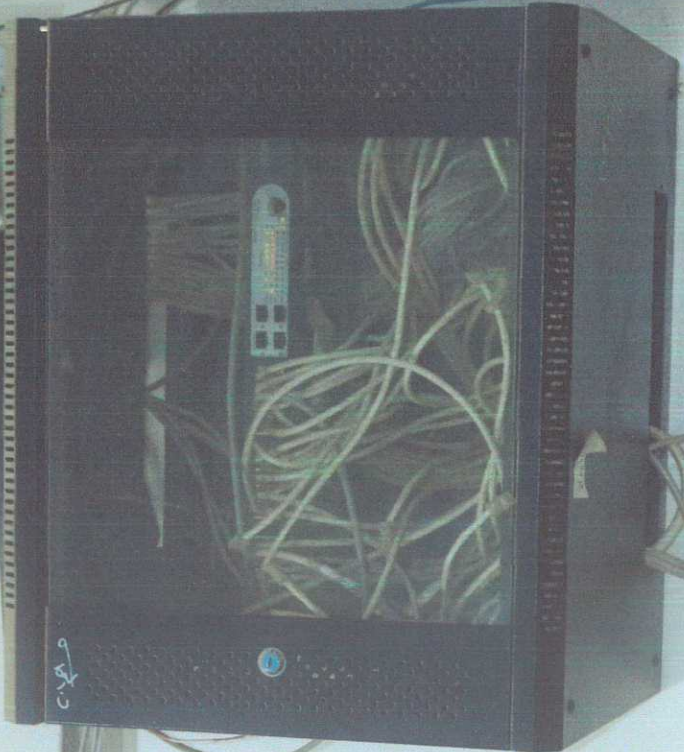
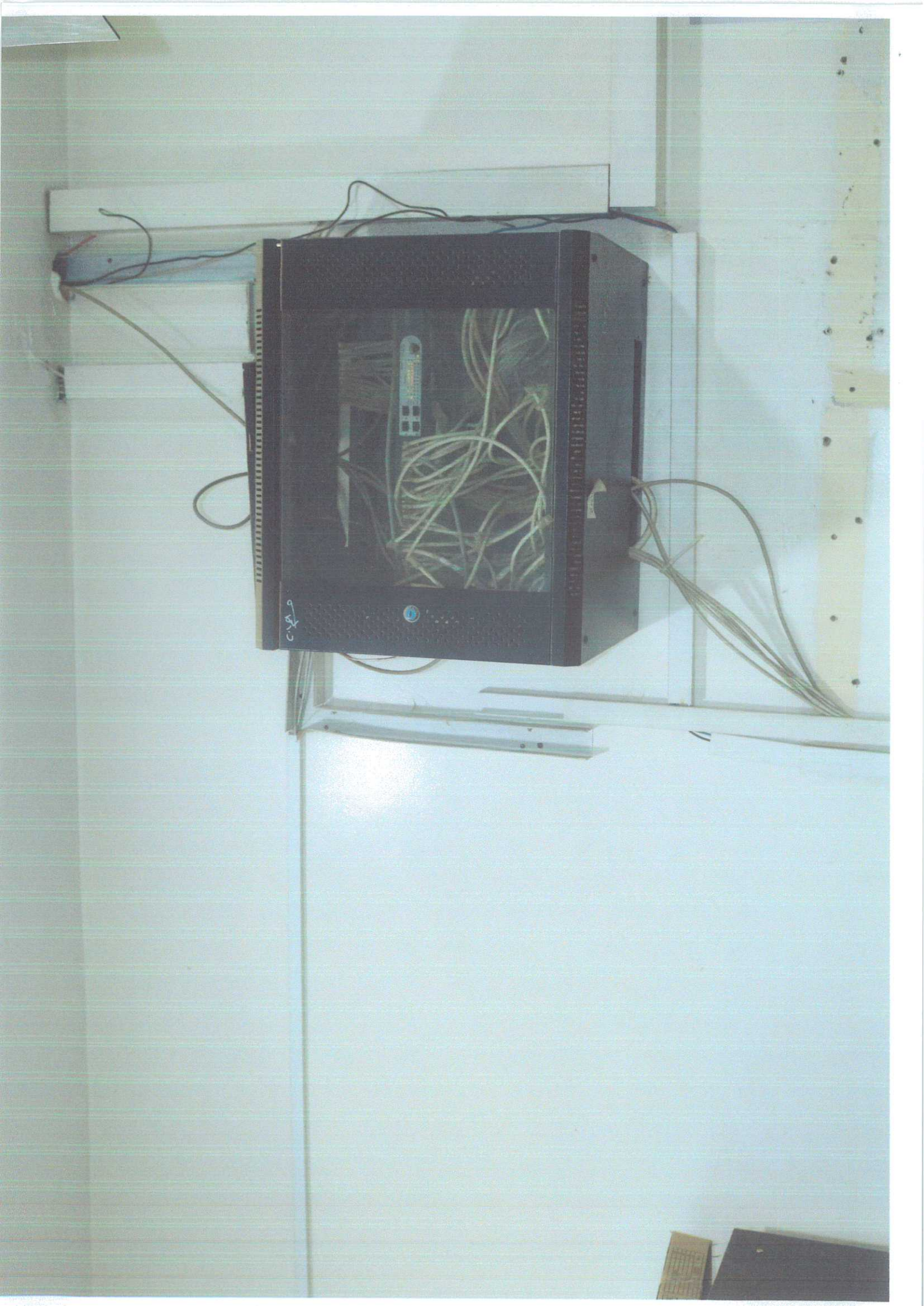
Prepared by:	Reviewed by:	Head of the Department:	Vice Dean for Quality affairs	Dean of College:
Dr. Ali Alyahawi	Dr. Abdulelah Thabet	Dr. ....	Dr. Abdulelah Thabet	Dr. Ali Alyahawi





المعلومات  
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Information  
Technology  
DEPARTMENT

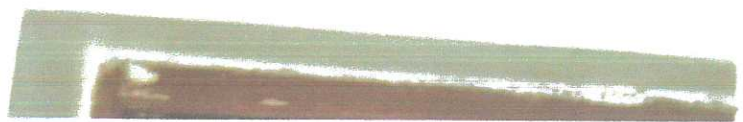
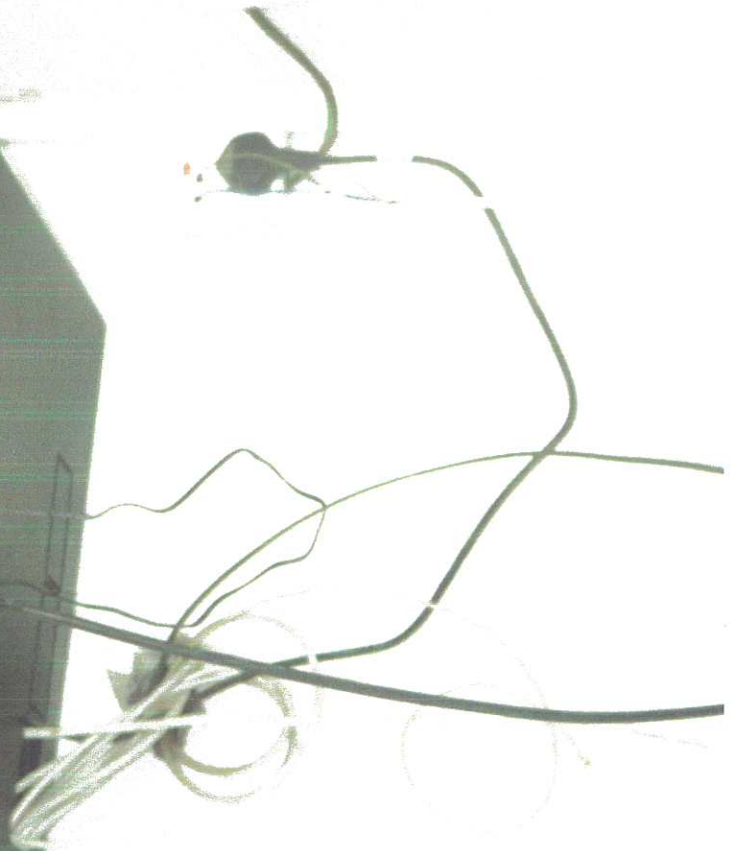
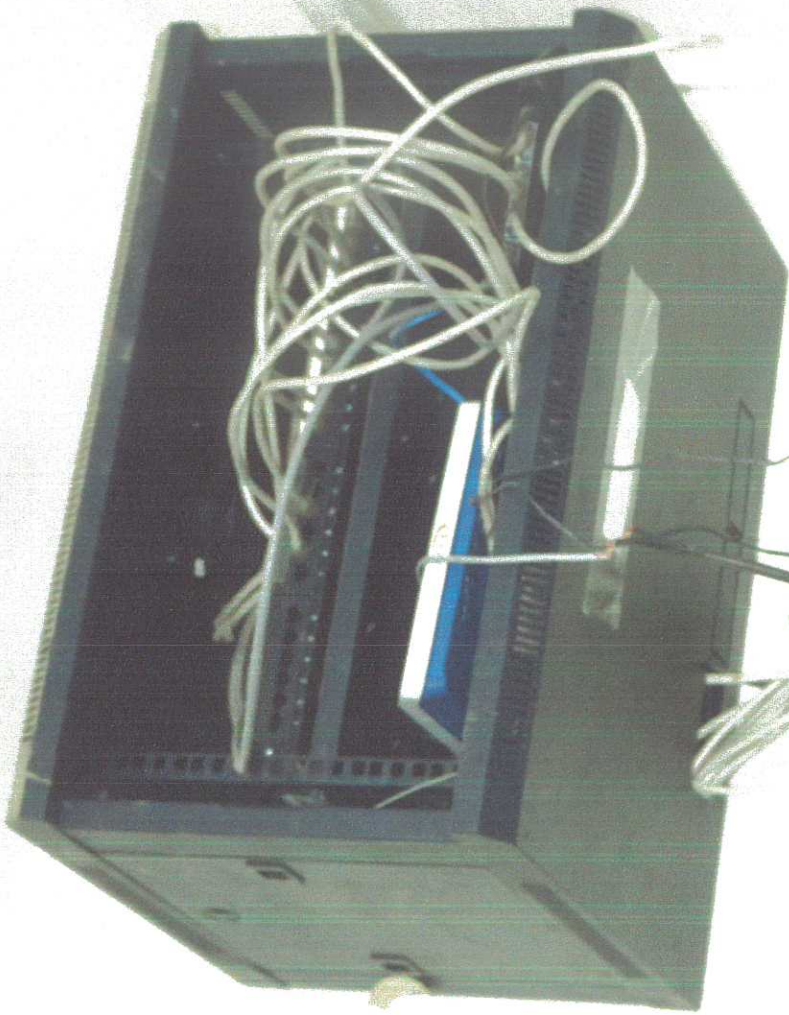




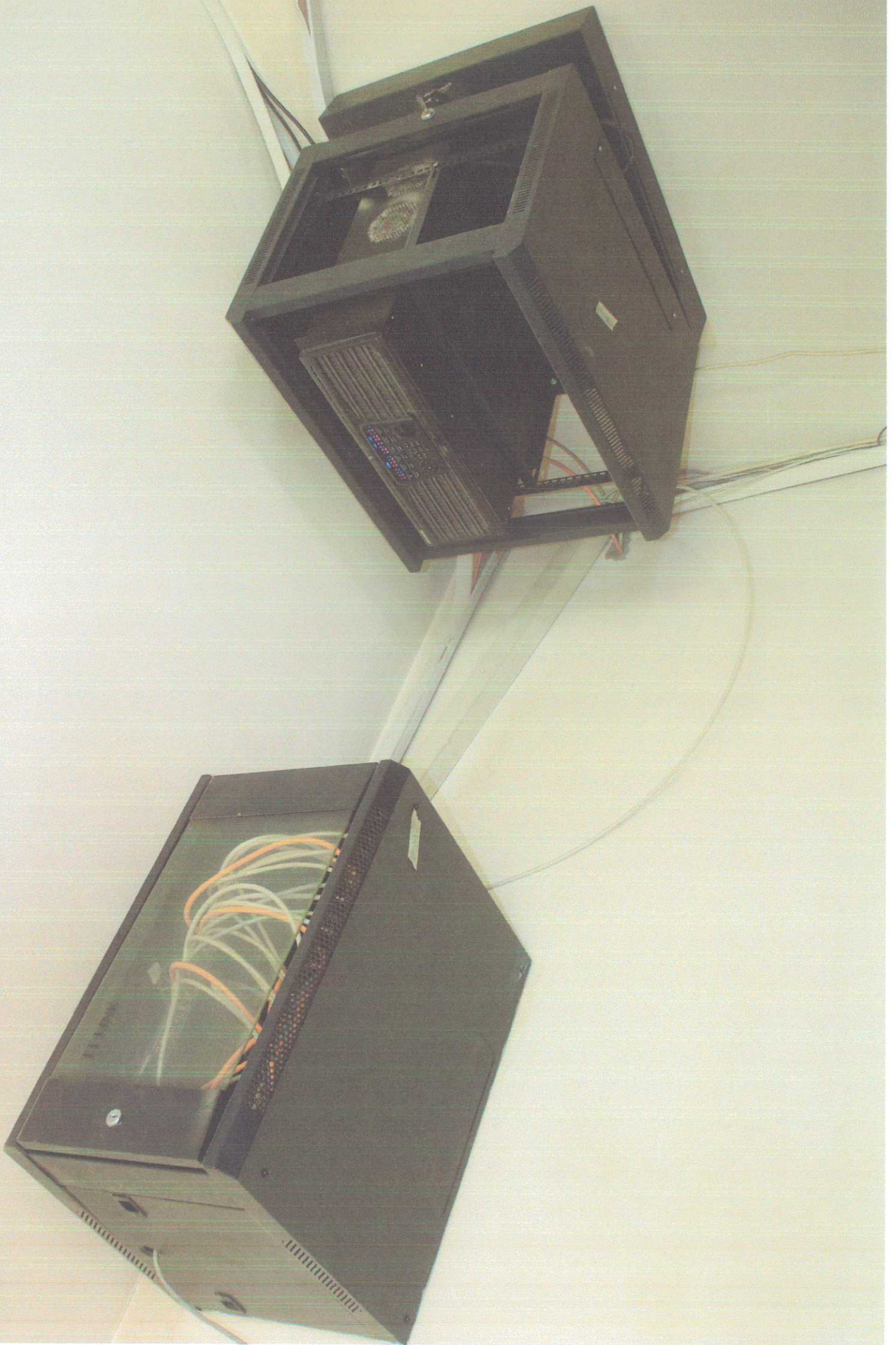
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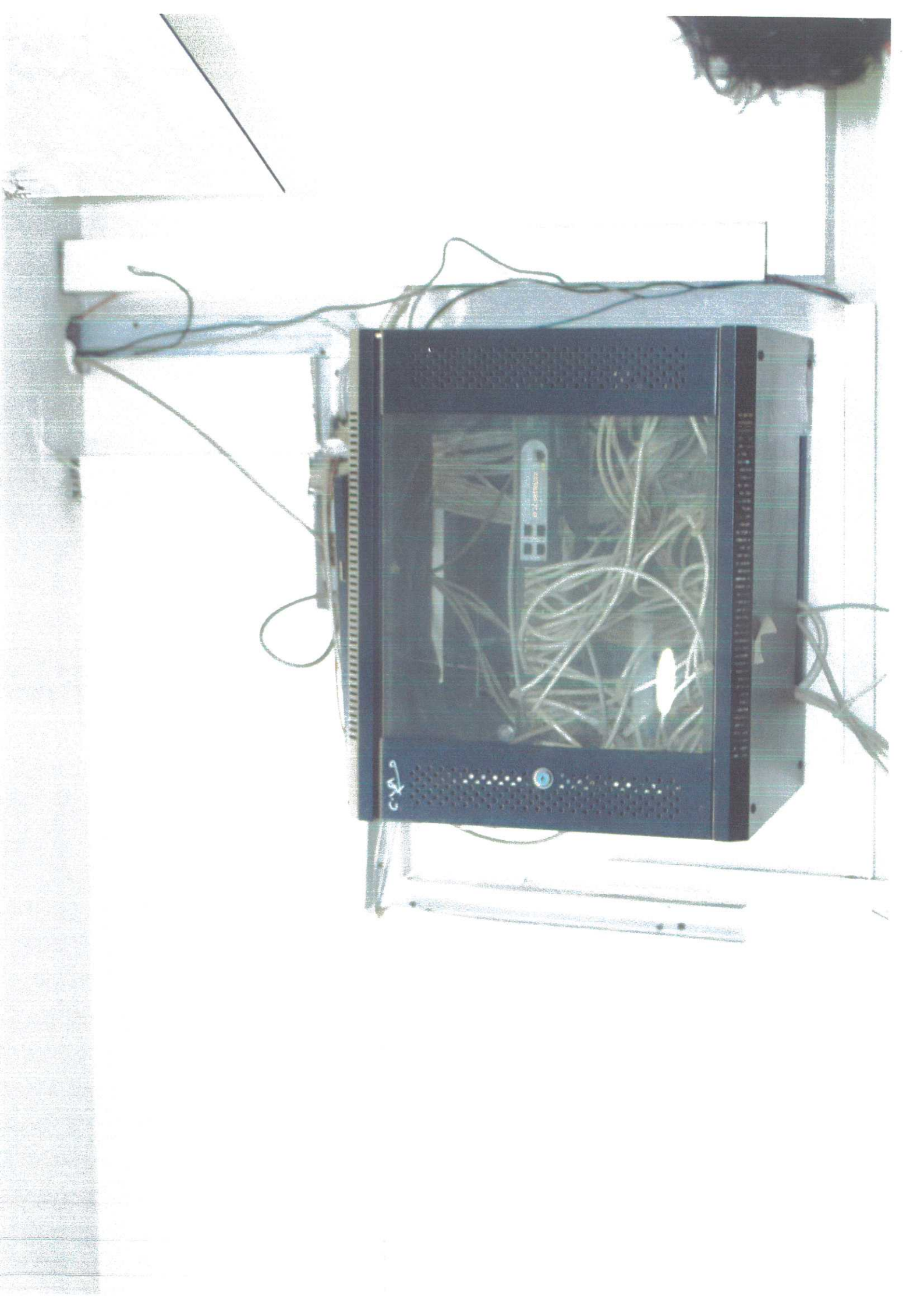




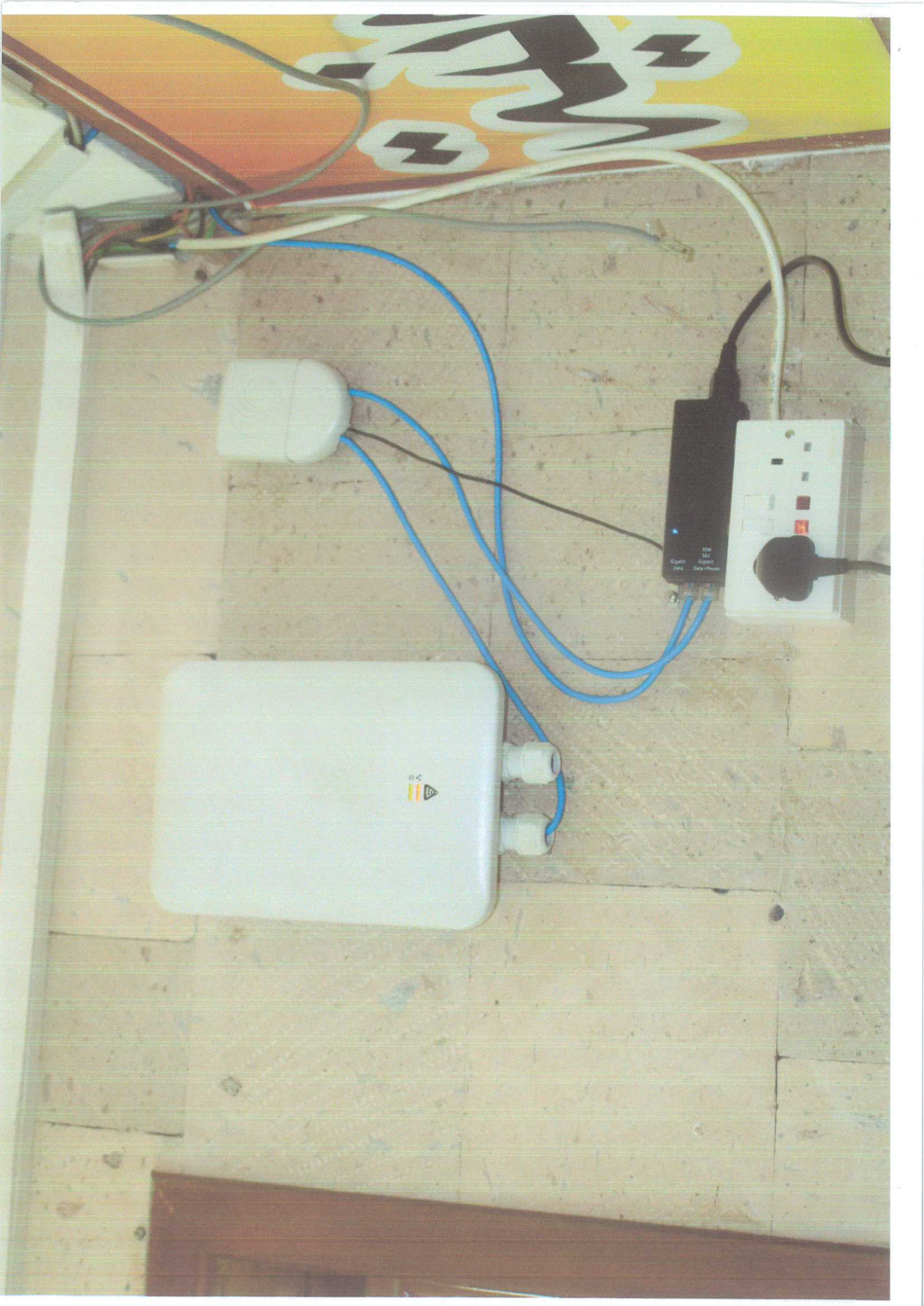














# Republic of Yemen

Ministry of Higher Education & Scientific Research

21 September University of Medicals & Applied Sciences



Faculty of Clinical Pharmacy

Program of Pharm. D.

Course Specification of **Hospital Training Surgery**

Course No. (02.05.259)

2016/2017

Prepared by:	Reviewed by:	Head of the Department:	Vice Dean for Quality affairs	Dean of College:
Dr. Ali Alyahawi	Dr. Abdelmalek abudunya	Dr. ....	Dr. Abdulelah Thabet	Dr. Ali Alyahawi



I. Course Identification and General Information:						
1	Course Title:	Hospital Training Surgery				
2	Course Code & Number:	02.05.259				
3	Credit hours:	C.H			TOTAL	
		Th.	Seminar	Pr		Tr.
			-	-	96 hrs. (90 hrs. on-site a ward rotation + 6 hrs. a formal case presentation at the end of the rotation)	3 CH
4	Study level/ semester at which this course is offered:	-				
5	Pre –requisite (if any):	Students must have successfully completed their basic curriculum of 5 <sup>th</sup> Year.				
6	Co –requisite (if any):	-				
7	Program (s) in which the course is offered:	Doctor of Pharmacy (Pharm D)				
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:	Dr. Ali Alyahawi				
13	Date of Approval					

## II. Course Description:

This surgery training course aims to integrate Pharm D students practice skills and the knowledge of clinical manifestations, complications, goals of pharmacotherapy and patient education in preoperational procedures. This hospital training course will cover drug therapy of the DVT prophylaxis, PONV, pain, medication adjustments pre and post surgeries, antimicrobial surgical prophylaxis, and basic concepts of local and general anesthesia. The student will receive exposure to surgery clinical training by working with surgery preceptors and documenting cases for surgery at selected training centers. Students will have the opportunity to collect data, communicate with patients and other healthcare professionals, perform in patient clinical pharmacy services and observe at least one real life patient preparation for surgery and anaesthesia. The student will also have the opportunity to participate in educational activities.



<b>I. Course Intended learning outcomes (CILOs) of the course</b>		<b>Referenced PILOs</b>
<b>Knowledge and Understanding:</b> Upon successful completion of the course, students will be able to:		
a.1	Understand the role and responsibilities of a clinical pharmacist in the pre and post- operative settings.	A1, A5
a.2	Define the desired outcomes and rational drug therapy of the DVT prophylaxis, PONV, pain, medication adjustments pre and post surgeries, antimicrobial surgical prophylaxis and basic concepts of local and general anesthesia.	A1, A5
<b>B. Intellectual Skills:</b> Upon successful completion of the course, students will be able to:		
b.1	Design rational pharmacotherapy regimens to optimize the clinical outcomes for surgery patients.	B 2
b.2	Explain monitoring plan parameters of drug efficacy, adverse effects, compliance, and drug interactions.	B2
<b>C. Professional and Practical Skills:</b> Upon successful completion of the course, students will be able to:		
c.1	Apply rational pharmacotherapy regimen and monitoring plan to achieve targeted therapeutic outcomes.	C 3
<b>D. Transferable Skills:</b> Upon successful completion of the course, students will be able to:		
d.1	Search and interpret medical information from professional medical references and sites	D3
d.2	Communicate successfully therapeutic decisions in a team-work	D1, D2

<b>(A) Alignment Course Intended Learning Outcomes of Knowledge and Understanding to Teaching Strategies and Assessment Strategies:</b>		
Course Intended Learning Outcomes	Teaching strategies	Assessment Strategies
a1- Define the role and responsibilities of a clinical pharmacist in the pre and post- operative settings.	<ul style="list-style-type: none"> <li>- Interactive round discussion</li> <li>- Presentations and critical readings</li> <li>- Discussion with the Pharm. D. course Coordinator</li> <li>- Self-learning</li> </ul>	<ul style="list-style-type: none"> <li>- Exam</li> <li>- Oral Discussions</li> <li>- Homework and assignments</li> </ul>
a2- Discuss the desired outcomes and rational drug therapy of the DVT prophylaxis, PONV, pain, medication adjustments pre and post surgeries, antimicrobial surgical prophylaxis and basic concepts of local and general anesthesia.	<ul style="list-style-type: none"> <li>- Interactive round discussion</li> <li>- Presentations and critical readings</li> <li>- Discussion with the Pharm. D. course Coordinator</li> <li>- Self-learning</li> </ul>	<ul style="list-style-type: none"> <li>- Exam</li> <li>- Oral Discussions</li> <li>- Homework and assignments</li> </ul>

<b>(B) Alignment Course Intended Learning Outcomes of Intellectual Skills to Teaching Strategies and Assessment Strategies:</b>		
Course Intended Learning Outcomes	Teaching strategies	Assessment Strategies
b1- Design rational pharmacotherapy regimens to optimize the clinical outcomes for surgery patients.	<ul style="list-style-type: none"> <li>- Problem solving</li> <li>- Self-learning</li> </ul>	<ul style="list-style-type: none"> <li>- Exam</li> <li>- Pharmacy practice manual.</li> <li>- Homework and assignments.</li> </ul>
b2- Explain monitoring plan parameters for drug efficacy, adverse effects, compliance, and drug interactions.	<ul style="list-style-type: none"> <li>- Problem solving</li> <li>- Self-learning</li> </ul>	<ul style="list-style-type: none"> <li>- Exam</li> <li>- Pharmacy practice manual.</li> <li>- Homework and assignments.</li> </ul>





**© 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 rational pharmacotherapy regimen and monitoring plan to achieve targeted therapeutic outcomes.	<ul style="list-style-type: none"> <li>- Pharmacy services documentation and manual completion.</li> <li>- Self-learning</li> </ul>	<ul style="list-style-type: none"> <li>- Pharmacy practice manual.</li> <li>- Homework and assignments.</li> <li>- Presentation</li> </ul>

**(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 and interpret medical information from professional medical references and sites	<ul style="list-style-type: none"> <li>- Pharmacy services documentation and manual completion.</li> <li>- Interactive case discussion</li> <li>- Self-learning</li> </ul>	<ul style="list-style-type: none"> <li>- Pharmacy practice manual.</li> <li>- Presentation</li> <li>- Oral Case Discussion</li> </ul>
d2- Communicate successfully therapeutic decisions in a team-work.	<ul style="list-style-type: none"> <li>- Clinical rounds with both residents and clinical pharmacist instructors</li> <li>- Interactive case discussion</li> <li>- Presentation</li> </ul>	<ul style="list-style-type: none"> <li>- Oral case discussion</li> <li>- Presentation</li> </ul>

## VI. Course Content:

### A - Theoretical Aspect:

Order	Tasks/ Experiments	Number of Weeks	contact hours	Learning Outcomes
1	NA			
Number of Weeks /and Units Per Semester				

### B – Practical Aspect:

Order	Units/Topics List	Learning Outcomes	Sub Topics List (Reference)	Number of Weeks	Contact Hours (CH)
1	Guidelines For Diagnosis And Treatment Of Diabetic Foot Infection.	a 1, a 2, b1, b2, c1, d 1, d2	Infectious Diseases Society of America	Course Training Period	Of Course, Training CH
2	Antithrombotic Therapy and Prevention of Thrombosis, Updated American College of Chest Physicians Evidence-Based Clinical Practice Guidelines.	a 1, a 2, b1, b2, c1, d 1, d2	American college of chest physician.	Course Training Period	Of Course, Training CH
3	Updated Guideline for the management of postoperative nausea and vomiting.	a 1, a 2, b1, b2, c1, d 1, d2	SOGC clinical practice guideline	Course Training Period	Of Course, Training CH
4	Updated Consensus Guidelines for Managing Postoperative Nausea and Vomiting	a 1, a 2, b1, b2, c1, d 1, d2	International Anesthesia Research Society	Course Training Period	Of Course Training CH
5	Updated Practice Guidelines for Antimicrobial Prophylaxis of Urologic Surgery	a 1, a 2, b1, b2, c1, d 1, d2	American Urological Association	Course Training Period	Of Course Training CH
6	Updated Practice Guidelines for Acute Pain Management in the Perioperative Setting	a 1, a 2, b1, b2, c1, d 1, d2	American Society of Anesthesiologists Task Force on Acute Pain Management	Course Training Period	Of Course Training CH
7	Management of postoperative pain	a 1, a 2, b1, b2, c1, d 1, d2	UpToDate	Course Training Period	Of Course Training CH
8	Management of Common Opioid-Induced Adverse Effects	a 1, a 2, b1, b2, c1, d 1, d2	American family physician	Course Training Period	Of Course Training CH
9	Updated Practice Guidelines for Preoperative Fasting and the Use of Pharmacologic Agents to	a 1, a 2, b1, b2, c1, d 1, d2	American Society of Anesthesiologists	Course Training Period	Of Course Training CH



	Reduce the Risk of Pulmonary Aspiration: Application to Healthy Patients Undergoing Elective procedure				
10	Management of Hyperglycemia in Type 2 Diabetes- A Patient-Centered Approach: Position Statement	a 1, a 2, b1, b2, c1, d 1, d2	European Association for the Study of Diabetes, American Diabetes Association (ADA).	Course Training Period	Of Course Training CH
11	Insulin administration	a 1, a 2, b1, b2, c1, d 1, d2	American Diabetes Association (ADA)	Course Training Period	Of Course Training CH
12	Overview of perioperative medication management and anesthetic choices		UpToDate	Course Training Period	Of Course Training CH
13	Standards for postanesthesia care	a 1, a 2, b1, b2, c1, d 1, d2	American Society of Anesthesiologists	Course Training Period	Of Course Training CH
14	Surgical site infection	a 1, a 2, b1, b2, c1, d 1, d2	National Collaborating Centre for Women's and Children's Health, NIH.	Course Training Period	Of Course Training CH
	Final Exam	a 1, a 2, b1, b2, c1, d 1, d2		Week 3	-----
<b>Number of Weeks /and Units Per Semester</b>				<b>3 weeks</b>	<b>96 contact hrs.</b>

### I. Teaching & Assessment strategies of the course:

- Interactive round discussion
- Presentation
- Pharmacy services documentation and manual completion.
- Clinical rounds with both residents and clinical pharmacist instructors
- Oral case discussion
- Final Exam.

## II. Assignments:

No	Assignments	Aligned CILOs(symbols)	Week Due	Mark
1	<b>Assignment 1:</b> Every student will present pharmaceutical care of selected case related to course topic.	a 1, a 2, b1, b2, c1, d 1, d2	Week 2	10
2	<b>Assignment 2:</b> Every student group will present summary of updated guide recommendation of selected course topics	a 1, a 2, b1, b2, c1, d 1, d2	Week 3	10
<b>Total</b>				20

## 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	20	20 %	a 1, a2, b1, b2, c1, d1, d2
2	Adherence to Professional Attitudes	Course Training Period	10	10 %	d1, d2
3	Skills Acquired during Training	Course Training Period	20	20 %	b1, b2, c1, d1, d2
4	Formal Case Presentation	Last week of Rotation	10	10 %	a 1, a2, b1, b2, c1, d1, d2
5	General Written Examination	Last week of Rotation	40	40 %	a 1,a2, b1, b2, c1, d1
<b>Total</b>			100	100%	

## III. Learning Resources:

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

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

1. Katzung, 2018. Basic & Clinical Pharmacology, ed. 14th edition.
2. DiPiro, J. T. (2017). Pharmacotherapy: Handbook, 10<sup>th</sup> edition, New York: McGraw-Hill Medical, United States of America.

### 2- Essential References.



	<ol style="list-style-type: none"> <li>1. Lexicomp, (2018). Drug Information Handbook, 27<sup>th</sup> edition, Lexi-Comp, U.S.A</li> <li>2. Caroline S. Zeind and Michael G. Carvalho, 2018, Applied Therapeutics: The Clinical Use of Drugs, 11th edition.</li> </ol>
<b>3- Electronic Materials and Web Sites etc.</b>	
	<ol style="list-style-type: none"> <li>1. <a href="http://www.uptodate.com">www.uptodate.com</a></li> <li>3. <a href="http://www.ncbi.nlm.nih.gov/pubmed">www.ncbi.nlm.nih.gov/pubmed</a></li> <li>4. Disease management guidelines (specified in lecture notes)</li> </ol>

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

	<b>Class Attendance:</b>
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.
	<b>Tardiness:</b>
2	A student will be considered late if he/she is not in class after 10 minutes of the start time of class.
	<b>Exam Attendance/Punctuality:</b>
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.
	<b>Assignments &amp; Projects:</b>
4	Assignments and projects must be submitted on time. Students who delay their assignments or projects shall lose the mark allocated for the same.
	<b>Cheating:</b>
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.
	<b>Forgery and Impersonation:</b>
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.
7	<b>Other policies:</b>



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.

## Faculty of Clinical Pharmacy

### Program of Doctor of Pharmacy (Pharm D)

#### Course Plan (Syllabus) of Hospital Training Surgery

Course No. (02.05.259)

2016/2017

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



II. Course Identification and General Information:						
1	Course Title:	Hospital Training Surgery				
2	Course Code & Number:	02.05.259				
3	Credit hours:	C.H				TOTAL
		Th.	Seminar	Pr	Tr.	
			--		96 contact hrs.	3 CH
4	Study level/ semester at which this course is offered:	Sixth Year- Second Semester				
5	Pre –requisite (if any):	Students must have successfully completed their basic curriculum of 5th Years.				
6	Co –requisite (if any):	-				
7	Program (s) in which the course is offered:	Doctor of Pharmacy (Pharm. D.)				
8	Language of teaching the course:	English				
9	Study System	Semester based System				
10	Mode of delivery:	Regular				
11	Location of teaching the course:	Faculty of Clinical Pharmacy				

III. Course Description:	
<p>This surgery training course aims to integrate Pharm D students practice skills and the knowledge of clinical manifestations, complications, goals of pharmacotherapy and patient education in preoperational procedures, induction of anaesthesia, general anaesthesia and the management of postoperative nausea and vomiting (PONV) and pain. The student will receive exposure to surgery clinical training by working with surgery preceptors and documenting cases for surgery at selected training centers. Students will have the opportunity to collect data, communicate with patients and other healthcare professionals, perform in patient clinical pharmacy services and observe at least one real life patient preparation for surgery and anaesthesia. The student will also have the opportunity to participate in educational activities.</p>	



#### IV. Course Intended learning outcomes (CILOs)

Upon completion of this Course, student will be able to:

a.1	Define the role and responsibilities of a clinical pharmacist in the pre and post- operative settings.
a.2	Discuss the clinical management of the DVT prophylaxis, PONV, pain, medication adjustments pre and post surgeries, antimicrobial surgical prophylaxis and basic concepts of local and general anesthesia.
b.1	Design rational pharmacotherapy regimens to optimize the clinical outcomes for surgery patients.
b.2	Explain monitoring plan parameters of drug efficacy, adverse effects, compliance, and drug interactions.
c.1	Apply rational pharmacotherapy regimen and monitoring plan to achieve targeted therapeutic outcomes.
d.1	Search and interpret medical information from professional medical references and sites
d.2	Communicate successfully therapeutic decisions in a team-work

#### V. Course Content:

##### A – Theoretical Aspect:

Order	Units/Topics List	Sub Topics List	Week Due	Contact Hours
1				
2				
3				
4				
5				
6				
7				
8				
9				
Number of Weeks /and Units Per Semester 16				32



<b>B - Practical Aspect: (if any)</b>				
<b>Order</b>	<b>Tasks/ Experiments</b>	<b>References</b>	<b>Week Due</b>	<b>Contact Hours</b>
1	Guidelines For Diagnosis And Treatment of Diabetic Foot Infection.	Infectious Diseases Society of America	Course Training Period	Of Course Training CH
2	Antithrombotic Therapy and Prevention of Thrombosis, Updated American College of Chest Physicians Evidence-Based Clinical Practice Guidelines.	American college of chest physician.	Course Training Period	Of Course Training CH
3	Updated Guideline for the management of postoperative nausea and vomiting.	SOGC clinical practice guideline	Course Training Period	Of Course Training CH
4	Updated Consensus Guidelines for Managing Postoperative Nausea and Vomiting	International Anesthesia Research Society	Course Training Period	Of Course Training CH
5	Updated Practice Guidelines for Antimicrobial Prophylaxis of Urologic Surgery	American Urological Association	Course Training Period	Of Course Training CH
6	Updated Practice Guidelines for Acute Pain Management in the Perioperative Setting	American Society of Anesthesiologists Task Force on Acute Pain Management	Course Training Period	Of Course Training CH
7	Management of postoperative pain	UpToDate	Course Training Period	Of Course Training CH
8	Management of Common Opioid-Induced Adverse Effects	American family physician	Course Training Period	Of Course Training CH
9	Updated Practice Guidelines for Preoperative Fasting and the Use of Pharmacologic Agents to Reduce the Risk of Pulmonary Aspiration: Application to Healthy Patients Undergoing Elective procedure	American Society of Anesthesiologists	Course Training Period	Of Course Training CH
10	Management of Hyperglycemia in Type 2 Diabetes- A Patient-Centered Approach: Position Statement	European Association for the Study of Diabetes, American Diabetes Association (ADA).	Course Training Period	Of Course Training CH
11	Insulin administration	American Diabetes Association (ADA)	Course Training Period	Of Course Training CH



12	Overview of perioperative medication management and anesthetic choices	UpToDate	Course Training Period	Of Course Training CH
13	Standards for postanesthesia care	American Society of Anesthesiologists	Course Training Period	Of Course Training CH
14	Surgical site infection	National Collaborating Centre for Women's and Children's Health, NIH.	Course Training Period	Of Course Training CH
15	<b>Final Exam</b>	The last week of rotation		
<b>Number of Weeks /and Units Per Semester 3 weeks</b>				<b>96 contact hrs.</b>

#### VI. Teaching & Assessment strategies of the course:

- Interactive round discussion
- Presentation
- Pharmacy services documentation and manual completion.
- Clinical rounds with both residents and clinical pharmacist instructors
- Oral case discussion
- Final Exam.

#### VII. Assignments:

No	Assignments	Week Due	Mark
1	<b>Assignment 1:</b> Every student will present pharmaceutical care of selected case related to course topic.	Week 2	10
2	<b>Assignment 2:</b> Every student group will present summary of updated guide recommendation of selected course topics	Week 3	10
Total			20

### 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	20	20 %	a 1, a2, b1, b2, c1, d1, d2
2	Adherence to Professional Attitudes	Course Training Period	10	10 %	d1, d2
3	Skills Acquired during Training	Course Training Period	20	20 %	b1, b2, c1, d1, d2
4	Formal Case Presentation	Last week of Rotation	10	10 %	a 1, a2, b1, b2, c1, d1, d2
5	General Written Examination	Last week of Rotation	40	40 %	a 1, a2, b1, b2, c1, d1
<b>Total</b>			<b>100</b>	<b>100%</b>	

### IV. Learning Resources:

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

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

3. Katzung, 2018. Basic & Clinical Pharmacology, ed. 14th edition.
4. DiPiro, J. T. (2017). Pharmacotherapy: Handbook, 10<sup>th</sup> edition, New York: McGraw-Hill Medical, United States of America.

#### 2- Essential References.

3. Lexicomp, (2018). Drug Information Handbook, 27<sup>h</sup> edition, Lexi-Comp, U.S.A
4. Caroline S. Zeind and Michael G. Carvalho, 2018, Applied Therapeutics: The Clinical Use of Drugs, 11<sup>th</sup> edition.

#### 3- Electronic Materials and Web Sites etc.

1. [www.uptodate.com](http://www.uptodate.com)
3. [www.ncbi.nlm.nih.gov/pubmed](http://www.ncbi.nlm.nih.gov/pubmed)
4. Disease management guidelines (specified in lecture notes)



V. Course Policies:	
<b>1</b>	<p><b>Attendance policies::</b></p> <ul style="list-style-type: none"> <li>- Students are allowed to be absent for not more than 10% of rotation period with an excuse.</li> <li>- In each training course the students will be divided into groups. Each group will undergo training in the hospital for two weeks -daily (Saturday-Wednesday), from (8.00 AM-2:00 PM). Students will require doing the following during their internship:                     <ol style="list-style-type: none"> <li>1- Students must attend a minimum of 2 teaching rounds per week.</li> <li>2- Students will be responsible for one full case 1st week (follow up until DISCHARGE), then two cases per week.</li> <li>3- Students must conduct full patient interview and counselling for full case, otherwise case will not be accounted for, and student must submit another case or receive a "zero" for that certain case.</li> <li>4- Students must pick their main full case within the first 2 days of the week (Sunday or Monday), By Tuesday, they must have read about the disease and medications and prepared primary PCP. Students will be asked about their cases and input on their cases during the week.</li> <li>5- Students must attend daily morning report and clinical pharmacy round and be prepared for any questions the preceptor may have regarding their case as well as cases that other members of their group have.</li> <li>6- Students will have a weekly case discussion (during same week of particular cases) with their supervisor and must be fully prepared. Anything regarding disease, pharmacotherapy or pharmacology of drugs may be asked.</li> <li>7- Students will be assigned a topic by their preceptor in whom they must prepare a brief presentation (no longer than ten minutes). There will be one presentation per student per rotation. Topic will be assigned by preceptor.</li> <li>8- Attendance will be taken daily, and a tardiness of 15 minutes or more will be considered an absence.</li> <li>9- If a student is caught cheating or filling manual with false data then he/she will receive a zero in the area they are caught cheating in.</li> </ol> </li> </ul>
<b>2</b>	<p><b>Tardy:</b></p> <p>Being 15 minutes late for two days is considered as one absence                      One absence is given first warning                      Two absences merits dismissing student from class</p>



3	<b>Exam Attendance/Punctuality:</b> Will result in zero achievement unless health report or other significant excuse is documented.
4	<b>Assignments &amp; Projects:</b> -
5	<b>Cheating:</b> Penalty of cheating includes all of the following : 1. Students failure in the course 2. Cancellation of all courses registered in the same semester 3. Separation from university for one semester following the semester in which the student tries to cheat and this means that one academic year will be lost for just trying to cheat.
6	<b>Plagiarism:</b> Plagiarism or any other form of cheating in examinations, term tests or academic work is subject to serious academic penalty
7	<b>Other policies:</b> - No side talks during rotations - No mobile phones during rotations - Before training, it is mandatory to get blood tests for Hepatitis B, C and HIV.

# Republic of Yemen

Ministry of Higher Education & Scientific Research

21 September University of Medicals & Applied Sciences



## Faculty of Clinical Pharmacy

Bachelor of Clinical Pharmacy & Pharm. D.

Course Specification of **Therapeutics (3)**

Course No. (02.01.218)

2016/2017

Prepared by:	Reviewed by:	Head of the Department:	Vice Dean for Quality affairs	Dean of College:
Dr. Ali Alyahawi	Dr. Hassan Al-Mahbashi	Dr. A. ....	Dr. Abdulelah Thabet	Dr. Ali Alyahawi



## I. Course Identification and General Information:

1	Course Title:	Therapeutics (3)			
2	Course Code & Number:	02.01.218			
3	Credit Hours:	Credit Hours	Theory Hours		Practical
			Lecture	Exercise	
		3	2	--	2
4	Study Level/ Semester at which this Course is offered:	5 Level / 1 Semester			
5	Pre –Requisite (if any):	Pharmacology-IV			
6	Co –Requisite (if any):	Case Studies in Therapeutics (3): “case-based seminars”			
7	Program (s) in which the Course is Offered:	Bachelor of Clinical Pharmacy & Pharm D			
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:	Dr. Ali Alyahawi			
13	Date of Approval:				

## II. Course Description:

Prepared by:	Reviewed by:	Head of the Department:	Vice Dean for Quality affairs	Dean of College:
Dr. Ali Alyahawi	Dr. Abdulelah Thabet	Dr. -----	Dr. Abdulelah Thabet	Dr. Ali Alyahawi



The course content is supportive for pharmacy practice and integrated cases III course and is complementary to pathophysiology and pharmacology courses. The course content aims to understand the pathophysiology, clinical presentations, complications, goals of therapy, and rational pharmacotherapy regimens of respiratory / GIT diseases/bones and joints diseases.

III. Course Intended Learning Outcomes (CILOs)		Referenced PILOs Learning out of program
<b>A. Knowledge and Understanding: Upon successful completion of the course, students will be able to:</b>		
a1	Describe the pathophysiology, clinical presentations, and prognosis of respiratory/ GIT diseases/ Bones and Joints diseases..	A1
a2	Define the goals of therapy for respiratory / GIT diseases/Bones and Joints diseases.	A3, A4, A5, A7
<b>B. Intellectual Skills: Upon successful completion of the course, students will be able to:</b>		
b1	Construct appropriate drugs regimen and monitoring plan of respiratory / GIT diseases/Bones and Joints diseases.	B2, B3, B5, B6
<b>C. Professional and Practical Skills: Upon successful completion of the course, students will be able to:</b>		
c1	Implement rational pharmacotherapy regimens and monitoring parameters to achieve targeted therapeutic goals of Respiratory/ GIT diseases/Bones and Joints diseases.	C2, C3, C5, C6
c2	Evaluate drug therapy and the outcomes of an implemented pharmacotherapeutic plan	C6
<b>D. Transferable Skills: Upon successful completion of the course, students will be able to:</b>		
d1	Search and interpret properly medical information from professional medical references	D2
d2	Share successfully therapeutic decisions in a healthcare team.	D1

Prepared by:	Reviewed by:	Head of the Department:	Vice Dean for Quality affairs	Dean of College:
Dr. Ali Alyahawi	Dr. Abdulelah Thabet	Dr. -----	Dr. Abdulelah Thabet	Dr. Ali Alyahawi



<b>(D) Alignment Course Intended Learning Outcomes of Transferable Skills to Teaching Strategies and Assessment Strategies:</b>		
Course Intended Learning Outcomes	Teaching strategies	Assessment Strategies
<b>d1-</b> Search and interpret properly medical information from professional medical references	Self-Learning Seminar Exercises	Presentation Assignment
<b>d2-</b> Share successfully therapeutic decisions in team-work.	Seminar Instructor–student Interactive Exercises	Presentation

<b>IV. Course Content:</b>					
<b>A – Theoretical Aspect:</b>					
Order	Units/Topics List	Learning Outcomes	Sub Topics List	Number of Weeks	Contact Hours
1	GIT diseases	a 1, a 2, b1, c1, c2, d 1, d 2	- Peptic Ulcer Disease (PUD)	1	2
			- Gastroesophageal Reflux Disease (GERD)	1	2
			- Ulcerative colitis (UC)	1	2
			- Crohn's Disease (CD)		
			- Irritable Bowel Syndrome (IBS)	1	2
			- Complications of Cirrhosis	2	4
- Clinical Presentation and Diagnosis of Viral Hepatitis	1	2			
2	Midterm Exam	a 1, a 2, b1, c1, c2, d 1		1	2
3	GIT diseases		- Management of Viral Hepatitis	1	2
4	Respiratory diseases	a 1, a 2, b1, c1, c2, d 1, d 2	- Bronchial Asthma	1	2
			- Chronic Obstructive Pulmonary Disease (COPD)	1	2
5	Bones and Joints diseases	a 1, a 2, b1, c1, c2, d 1, d2	- Osteoporosis	1	2
			- Rheumatoid Arthritis (RA)	1	2

Prepared by:	Reviewed by:	Head of the Department:	Vice Dean for Quality affairs	Dean of College:
Dr. Ali Alyahawi	Dr. Abdulelah Thabet	Dr. -----	Dr. Abdulelah Thabet	Dr. Ali Alyahawi



			- Gout and Hyperuricemia	1	2
			- Musculoskeletal Disorders	1	2
6	Final Exam	a1, a2,b1, c1,c2, d1		1	32
Number of Weeks /and Units Per Semester				16	32

**B. Case Studies and Practical Aspect:**

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours	Learning Outcomes (CIOs)
1	GIT diseases cases	- Peptic Ulcer Disease (PUD)	1	2	a1, a2, b1, b2, c1, c2, d1, d2
		- Gastroesophageal Reflux Disease (GERD)	1	2	
		- Inflammatory Bowel Disease (IBD)	1	2	
		- Irritable Bowel Syndrome (IBS)	1	2	
		- Viral Hepatitis	2	4	
		- Portal Hypertension and Cirrhosis	1	2	
2	Midterm Exam		1	2	a1, a2, b1, b2, c1, d1
3	GIT diseases cases	Portal Hypertension and Cirrhosis	1	2	a 1, a2, b1, b2, c1, c2, d1, d2
4		- Asthma	1	2	

Prepared by:	Reviewed by:	Head of the Department:	Vice Dean for Quality affairs	Dean of College:
Dr. Ali Alyahawi	Dr. Abdulelah Thabet	Dr. ....	Dr. Abdulelah Thabet	Dr. Ali Alyahawi

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
	Respiratory diseases cases	- Chronic Obstructive Pulmonary Diseases (COPD)	1	2	a1, a2, b1, b2, c1, c2, d1, d2
5	Bones and Joints diseases cases	- Osteoporosis	1	2	a1, a2, b1, c1, c2, d1, d2
		- Osteoarthritis (OA)	1	2	
		- Rheumatoid Arthritis (RA)	1	2	
		- Gout and Hyperuricemia	1	2	
6	Final Theoretical Exam		1	2	a1, a2, b1, c1, c2, d1
Number of Weeks /and Units Per Semester			16	32	

C. Tutorial Aspect: (ان وجدت)

No.	Tutorial	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
1	NA			
2	1-			
3	2-			
4	3-			
5	4-			
6	5-			
7	6-			
8	7-			

Prepared by:	Reviewed by:	Head of the Department:	Vice Dean for Quality affairs	Dean of College:
Dr. Ali Alyahawi	Dr. Abdulelah Thabet	Dr. -----	Dr. Abdulelah Thabet	Dr. Ali Alyahawi

No.	Tutorial	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
9	8-			
10	9-			
Number of Weeks /and Units Per Semester				

### V. Teaching Strategies of the Course:

- Lecture
- Instructor – student Interactive
- Exercises
- Presentation
- Office hours
- Seminar
- Assignment
- Self-Learning

### VI. Assessment Methods of the Course:

- Assignments
- Quiz
- Exam

### VII. Assignments:

No	Assignments	Aligned CILOs(symbols)	Week Due	Mark
1	<b>Assignment 1:</b> Develop Pharmaceutical Care plan for patient with IBD	a 1, a 2, b1, ,c1, c2, d 1, d 2	3th	2.5
2	<b>Assignment 2:</b> Develop Pharmaceutical Care plan for patient with bronchial asthma	a 1, a 2, b1, ,c1, , c2d 1, d 2	6th	2.5
3	<b>Assignment 3:</b> Develop Pharmaceutical Care plan for patient with HE	a 1, a 2, b1, ,c1, c2, d 1, d 2	9th	2.5
4	<b>Assignment 4:</b> Develop Pharmaceutical Care plan for patient with hepatitis B	a 1, a 2, b1, ,c1, c2, d 1, d 2	13th	2.5

Prepared by:	Reviewed by:	Head of the Department:	Vice Dean for Quality affairs	Dean of College:
Dr. Ali Alyahawi	Dr. Abdulelah Thabet	Dr. -----	Dr. Abdulelah Thabet	Dr. Ali Alyahawi



<b>Total</b>	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	3 <sup>rd</sup> , 13 <sup>th</sup>	10	10%	a1, a 2, b1,, b2, c1, d 1, d 2
2	Practical Reports	2 <sup>nd</sup> -13 <sup>th</sup>	5	5%	a 1, a 2, b1,c1, c2
3	Midterm Exam (Theory)	Week 7	10	10%	a 1, a 2, b1,c1, d 2
4	Final Practical Exam	14 <sup>th</sup>	20	15%	a1, a2, c1, c2
5	Final Exam (Theory)	Week 16	50	50%	a 1, a 2, b1,b2, .c1, d 2
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. , 5<sup>th</sup> 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)

<b>Class Attendance:</b>
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.

Prepared by:	Reviewed by:	Head of the Department:	Vice Dean for Quality affairs	Dean of College:
Dr. Ali Alyahawi	Dr. Abdulelah Thabet	Dr. -----	Dr. Abdulelah Thabet	Dr. Ali Alyahawi

2	<b>Tardiness:</b> A student will be considered late if he/she is not in class after 10 minutes of the start time of class.
3	<b>Exam Attendance/Punctuality:</b> 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	<b>Assignments &amp; Projects:</b> Assignments and projects must be submitted on time. Students who delay their assignments or projects shall lose the mark allocated for the same.
5	<b>Cheating:</b> 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	<b>Forgery and Impersonation:</b> 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	<b>Other policies:</b> 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:	Reviewed by:	Head of the Department:	Vice Dean for Quality affairs	Dean of College:
Dr. Ali Alyahawi	Dr. Abdulelah Thabet	Dr. -----	Dr. Abdulelah Thabet	Dr. Ali Alyahawi

Republic of Yemen  
Ministry of Higher Education & Scientific Research  
**21 SEPTEMBER UMAS**  
Faculty of Faculty of Clinical Pharmacy  
Department of .....  
Unit of Development & Quality assurance



الجمهورية اليمنية  
وزارة التعليم العالي والبحث العلمي  
جامعة 21 سبتمبر للعلوم الطبية والتطبيقية  
كلية الصيدلة السريرية  
قسم.....  
وحدة التطوير وضمان الجودة

## Republic of Yemen

Ministry of Higher Education & Scientific Research

21 September University of Medicals & Applied Sciences



## Faculty of Clinical Pharmacy

Program of Clinical Pharmacy & Pharm. D.

### Course Plan (Syllabus) of Pharmacotherapy-III

Course No. (02.01.218)

2016/2017

Prepared by:	Reviewed by:	Head of the Department:	Vice Dean for Quality affairs	Dean of College:
Dr. Ali Alyahawi	Dr. Abdulelah Thabet	Dr. -----	Dr. Abdulelah Thabet	Dr. Ali Alyahawi



### I. Information about Faculty Member Responsible for the Course:

Name of Faculty Member:	Dr. Ali ALyahawi	Office Hours					
Location & Telephone No.:							
E-mail:		SAT	SUN	MON	TUE	WED	THU

### II. Course Identification and General Information:

1	Course Title:	Therapeutics (3)			
2	Course Code & Number:	02.01.218			
3	Credit Hours:	Credit Hours	Theory Hours		Practical
			Lecture	Exercise	
		3	2	--	2
4	Study Level/ Semester at which this Course is offered:	5 Level / 1 Semester			
5	Pre –Requisite (if any):	Pharmacology-IV			
6	Co –Requisite (if any):	Case Studies in Therapeutics (3): “case-based seminars”			
7	Program (s) in which the Course is Offered:	Bachelor of Clinical Pharmacy & Pharm D			
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:	Dr. Ali Alyahawi			

Prepared by:	Reviewed by:	Head of the Department:	Vice Dean for Quality affairs	Dean of College:
Dr. Ali Alyahawi	Dr. Abdulelah Thabet	Dr. -----	Dr. Abdulelah Thabet	Dr. Ali Alyahawi

13	Date of Approval:	
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### III. Course Description:

The course content is supportive for pharmacy practice and integrated cases II course and is complementary to pathophysiology and pharmacology courses and is. The course deals with the study of pathophysiology, clinical presentations, the therapeutic goals, rational pharmacotherapy regimen, the standard therapeutic plans, and patient education for selected endocrine and renal diseases.

### IV. Course Intended Learning Outcomes (CILOs) :

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

<b>A. Knowledge and Understanding: Upon successful completion of the course, students will be able to:</b>		
a1	Define the pathophysiology, clinical presentations, and prognosis of endocrine and renal diseases.	A1
a2	Describe the target goals of therapy for endocrine and renal diseases	A3, A4, A5, A7
a3	Determine the rational pharmacotherapy regimen for treatment of endocrine and renal diseases	A5, A7
<b>B. Intellectual Skills: Upon successful completion of the course, students will be able to:</b>		
b1	Construct appropriate drugs regimen and monitoring plan of endocrine and renal diseases	B2, B6
<b>C. Professional and Practical Skills: Upon successful completion of the course, students will be able to:</b>		
c1	Use properly drugs regimen and monitoring parameters to achieve targeted therapeutic outcomes of endocrine and renal diseases	C3

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c2	Provide a correct drugs information to the health care team and the patients	C4
<b>D. Transferable Skills: Upon successful completion of the course, students will be able to:</b>		
d1	Search properly medical information from professional medical references	D2
d2	Share successfully therapeutic decisions in team-work.	D1

## V. Course Contents:

### A. Theoretical Aspect:

Order	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours
1	Endocrine Diseases	- Diabetes Mellitus Type I	2	2
		- Diabetes Mellitus Type II		
		- Hypothyroidism	2	4
		- Hyperthyroidism		
- Adrenal Gland Disorders	1	2		
		- Pituitary Gland Diseases	2	2
2	Midterm Exam		1	2
3	Endocrine Diseases	- Pituitary Gland Diseases	1	2
4	Renal Diseases	- Acute Kidney Injury	1	2
		- CKD Stages	3	6
		- Complications of CKD		
		- Fluids and Electrolytes	1	2
- Acid-Base Disturbances	2	4		
5	Final Exam		1	2
<b>Number of Weeks /and Units Per Semester</b>			<b>16</b>	<b>32</b>

Prepared by:	Reviewed by:	Head of the Department:	Vice Dean for Quality affairs	Dean of College:
Dr. Ali Alyahawi	Dr. Abdulelah Thabet	Dr. ....	Dr. Abdulelah Thabet	Dr. Ali Alyahawi



**B. Case Studies and Practical Aspect:**

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours
1	Cases study of endocrine diseases	- Diabetes Mellitus type 1 - Diabetes Mellitus type II	3	6
		- Hypothyroidism - Hyperthyroidism	2	4
		- Adrenal Gland Disorders	2	4
2	Midterm Exam		1	2
3	Cases study of endocrine diseases	- Pituitary Gland Disorders	1	2
4	Cases study of renal diseases	- Acute Kidney Injury	1	2
		- Estimation of CKD Stages - Complication of CKD	3	6
		- Fluids and Electrolytes	1	2
		- Acid-Base Disturbances	1	2
5	Final Theoretical Exam		1	2
<b>Number of Weeks /and Units Per Semester</b>			<b>16</b>	<b>32</b>

**C. Tutorial Aspect:**

No.	Tutorial	Number of Weeks	Contact Hours
1	NA		
2			
3			

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Dr. Ali Alyahawi	Dr. Abdulelah Thabet	Dr. ....	Dr. Abdulelah Thabet	Dr. Ali Alyahawi



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

### VI. Teaching Strategies of the Course:

Lecture  
Instructor – student Interactive  
Exercises  
Presentation  
Office hours  
Seminar  
Assignment  
– Self-Learning

### VII. Assessment Methods of the Course:

Assignments  
Quiz  
Exam

### VIII. Assignments:

Prepared by:	Reviewed by:	Head of the Department:	Vice Dean for Quality affairs	Dean of College:
Dr. Ali Alyahawi	Dr. Abdulelah Thabet	Dr. ....	Dr. Abdulelah Thabet	Dr. Ali Alyahawi



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

No.	Assessment Method	Week Due	Mark	Proportion of Final Assessment
1	Assignments	3 <sup>rd</sup> , 13 <sup>th</sup>	10	10%
2	Practical Reports	2 <sup>nd</sup> -13 <sup>th</sup>	5	5%
3	Midterm Exam (Theory)	Week 7	10	10%
4	Final Practical Exam	14 <sup>th</sup>	20	15%
5	Final Exam (Theory)	Week 16	50	50%
Total			100	100%

### 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. ed. , 5<sup>th</sup> 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. Walker & 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))

#### 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.

Prepared by:	Reviewed by:	Head of the Department:	Vice Dean for Quality affairs	Dean of College:
Dr. Ali Alyahawi	Dr. Abdulelah Thabet	Dr. ....	Dr. Abdulelah Thabet	Dr. Ali Alyahawi



2	<b>Tardiness:</b> A student will be considered late if he/she is not in class after 10 minutes of the start time of class.
3	<b>Exam Attendance/Punctuality:</b> 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	<b>Assignments &amp; Projects:</b> Assignments and projects must be submitted on time. Students who delay their assignments or projects shall lose the mark allocated for the same.
5	<b>Cheating:</b> 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	<b>Forgery and Impersonation:</b> 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	<b>Other policies:</b> 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:	Reviewed by:	Head of the Department:	Vice Dean for Quality affairs	Dean of College:
Dr. Ali Alyahawi	Dr. Abdulelah Thabet	Dr. ....	Dr. Abdulelah Thabet	Dr. Ali Alyahawi

13	Date of Approval:	
----	-------------------	--

### III. Course Description:

The course content is supportive for pharmacy practice and integrated cases III course and is complementary to pathophysiology and pharmacology courses. The course content aims to understand the pathophysiology, clinical presentations, complications, goals of therapy, and rational pharmacotherapy regimens of respiratory / GIT diseases/bones and joints diseases.

### IV. Course Intended Learning Outcomes (CILOs) :

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

<b>A. Knowledge and Understanding: Upon successful completion of the course, students will be able to:</b>		
a1	Describe the pathophysiology, clinical presentations, and prognosis of respiratory/ GIT diseases/ Bones and Joints diseases..	A1
a2	Define the goals of therapy for respiratory / GIT diseases/Bones and Joints diseases.	A3, A4, A5, A7
<b>B. Intellectual Skills: Upon successful completion of the course, students will be able to:</b>		
b1	Construct appropriate drugs regimen and monitoring plan of respiratory / GIT diseases/Bones and Joints diseases.	B2, B3, B5, B6
<b>C. Professional and Practical Skills: Upon successful completion of the course, students will be able to:</b>		
c1	Implement rational pharmacotherapy regimens and monitoring parameters to achieve targeted therapeutic goals of Respiratory/ GIT diseases/Bones and Joints diseases.	C2, C3, C5, C6
c2	Evaluate drug therapy and the outcomes of an implemented pharmacotherapeutic plan	C6
<b>D. Transferable Skills: Upon successful completion of the course, students will be able to:</b>		

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d1	Search and interpret properly medical information from professional medical references	D2
d2	Share successfully therapeutic decisions in a healthcare team.	D1

## V. Course Contents:

### A. Theoretical Aspect:

Order	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours
1	GIT diseases	- Peptic Ulcer Disease (PUD)	1	2
		- Gastroesophageal Reflux Disease (GERD)	1	2
		- IBD: Ulcerative colitis (UC) and Crohn's Disease (CD)	1	2
		- Irritable Bowel Syndrome (IBS)	1	2
		- Complications of Cirrhosis	2	4
		- Clinical Presentation and Diagnosis of Viral Hepatitis	1	2
2	Midterm Exam		1	2
3	GIT diseases	- Management of Viral Hepatitis	1	2
4	Respiratory diseases	- Bronchial Asthma	1	2
		- Chronic Obstructive Pulmonary Disease (COPD)	1	2
5	Bones and Joints diseases	- Osteoporosis	1	2
		- Rheumatoid Arthritis (RA)	1	2
		- Gout and Hyperuricemia	1	2

Prepared by:	Reviewed by:	Head of the Department:	Vice Dean for Quality affairs	Dean of College:
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		- Musculoskeletal Disorders	1	2
6	Final Exam		1	32
Number of Weeks /and Units Per Semester			16	32

**B. Case Studies and Practical Aspect:**

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours
1	GIT diseases cases	- Peptic Ulcer Disease (PUD)	1	2
		- Gastroesophageal Reflux Disease (GERD)	1	2
		- Inflammatory Bowel Disease (IBD)	1	2
		- Irritable Bowel Syndrome (IBS)	1	2
		- Viral Hepatitis	2	4
		- Portal Hypertension and Cirrhosis	1	2
2	Midterm Exam		1	2
3	GIT diseases cases	Portal Hypertension and Cirrhosis	1	2
4	Respiratory diseases cases	- Asthma	1	2
		- Chronic Obstructive Pulmonary Diseases (COPD)	1	2
5	Bones and Joints diseases cases	- Osteoporosis	1	2
		- Osteoarthritis (OA)	1	2
		- Rheumatoid Arthritis (RA)	1	2
		- Gout and Hyperuricemia	1	2

Prepared by:	Reviewed by:	Head of the Department:	Vice Dean for Quality affairs	Dean of College:
Dr. Ali Alyahawi	Dr. Abdulelah Thabet	Dr. ....	Dr. Abdulelah Thabet	Dr. Ali Alyahawi

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours
6	Final Theoretical Exam		1	2
Number of Weeks /and Units Per Semester			16	32

### VI. Teaching Strategies of the Course:

Lecture  
Instructor – student Interactive  
Exercises  
Presentation  
Office hours  
Seminar  
Assignment  
Self-Learning

### VII. Assessment Methods of the Course:

Assignments  
Quiz  
Exam

Prepared by:	Reviewed by:	Head of the Department:	Vice Dean for Quality affairs	Dean of College:
Dr. Ali Alyahawi	Dr. Abdulelah Thabet	Dr. ....	Dr. Abdulelah Thabet	Dr. Ali Alyahawi



## VIII. Assignments:

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

No.	Assessment Method	Week Due	Mark	Proportion of Final Assessment
1	Assignments	3 <sup>rd</sup> , 13 <sup>th</sup>	10	10%
2	Practical Reports	2 <sup>nd</sup> -13 <sup>th</sup>	5	5%
3	Midterm Exam (Theory)	Week 7	10	10%
4	Final Practical Exam	14 <sup>th</sup>	20	15%
5	Final Exam (Theory)	Week 16	50	50%
Total			100	100%

## 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. ed. , 5<sup>th</sup> edition
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### 2- Essential References.

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2. Carolin, 2018. Applied Therapeutics: The Clinical Use of Drugs, 11th edition.
3. Walker & Whittlesea, 6th edition, 2018. Clinical Pharmacy and Therapeutics, ed. Walk 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))

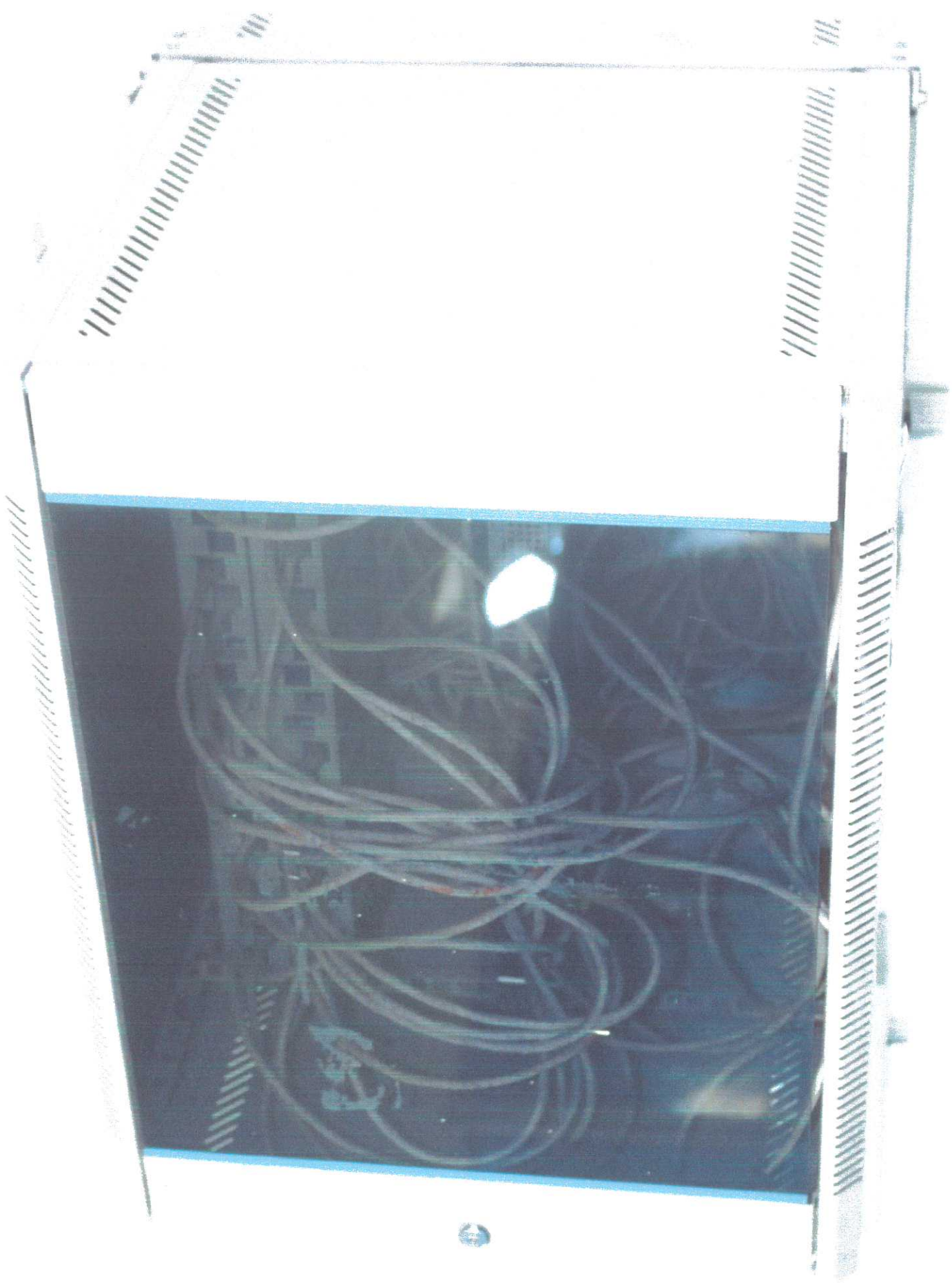
### 1 Class Attendance:

Prepared by:	Reviewed by:	Head of the Department:	Vice Dean for Quality affairs	Dean of College:
Dr. Ali Alyahawi	Dr. Abdulelah Thabet	Dr. -----	Dr. Abdulelah Thabet	Dr. Ali Alyahawi



	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	<b>Tardiness:</b> A student will be considered late if he/she is not in class after 10 minutes of the start time of class.
3	<b>Exam Attendance/Punctuality:</b> 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	<b>Assignments &amp; Projects:</b> Assignments and projects must be submitted on time. Students who delay their assignments or projects shall lose the mark allocated for the same.
5	<b>Cheating:</b> 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	<b>Forgery and Impersonation:</b> 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	<b>Other policies:</b> 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:	Reviewed by:	Head of the Department:	Vice Dean for Quality affairs	Dean of College:
Dr. Ali Alyahawi	Dr. Abdulelah Thabet	Dr. ....	Dr. Abdulelah Thabet	Dr. Ali Alyahawi



# Republic of Yemen

Ministry of Higher Education & Scientific Research

21 September University of Medicals & Applied Sciences



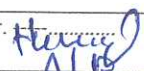
## Faculty of Clinical Pharmacy

Bachelor of Clinical Pharmacy & Pharm. D.

Course Specification of **Therapeutics (4)**

Course No. (02.01.220)

2016/2017

Prepared by:	Reviewed by:	Head of the Department:	Vice Dean for Quality affairs	Dean of College:
Dr. Ali Alyahawi	Dr. Hassan Al Mahbashi	Dr. 	Dr. Abdulelah Thabet	Dr. Ali Alyahawi





### I. Course Identification and General Information:

1	Course Title:	Therapeutics (4)			
2	Course Code & Number:	02.01.220			
3	Credit Hours:	Credit Hours	Theory Hours		Lab. Hours
			Lecture	Exercise	
		3	2	--	2
4	Study Level/ Semester at which this Course is offered:	5 Level / 2 Semester			
5	Pre –Requisite (if any):	Pharmacology IV			
6	Co –Requisite (if any):	Cases Studies of Therapeutics (4): “case-based seminars”			
7	Program (s) in which the Course is Offered:	Bachelor of Clinical Pharmacy & Pharm. D.			
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 Medical Sciences			
12	Prepared by:	Dr. Ali Alyahawi			
13	Date of Approval:				

Prepared by:	Reviewed by:	Head of the Department:	Vice Dean for Quality affairs	Dean of College:
Dr. Ali Alyahawi	Dr. Abdulelah Thabet	Dr. -----	Dr. Abdulelah Thabet	Dr. Ali Alyahawi

## II. Course Description:

The course content is supportive for pharmacy practice and integrated cases III course and complementary to pathophysiology and pharmacology courses. The course content aims to understand the knowledge of the pathophysiology, clinical manifestations, and therapeutics of Neurologic Disorders/ Psychiatric Disorders/ Woman and Man Health.

## III. Course Intended Learning Outcomes (CILOs)

### Referenced PILOs

Learning out of program

**A. Knowledge and Understanding:** Upon successful completion of the course, students will be able to:

a1	Describe the clinical manifestations, pathophysiology, and complication of Neurologic Disorders/ Psychiatric Disorders/ Woman and Man Health.	A1
a2	Define the target goals of therapy for Neurologic Disorders/ Psychiatric Disorders/ Woman and Man Health.	A3, A4, A5, A7

**B. Intellectual Skills:** Upon successful completion of the course, students will be able to:

b1	Design the appropriate drugs regimens and monitoring plans for Neurologic Disorders/ Psychiatric Disorders/ Woman and Man Health.	B2, B3, B5, B6
----	---	----------------

**C. Professional and Practical Skills:** Upon successful completion of the course, students will be able to:

c1	Apply properly drug regimens and monitoring parameters to achieve targeted treatment goals of Neurologic Disorders/ Psychiatric Disorders/ Woman and Man Health	C2, C3, C5, C6
----	---	----------------

**D. Transferable Skills:** Upon successful completion of the course, students will be able to:

d1	Search efficiently in professional medical references and sites	D1, D2, D3
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Prepared by:	Reviewed by:	Head of the Department:	Vice Dean for Quality affairs	Dean of College:
Dr. Ali Alyahawi	Dr. Abdulelah Thabet	Dr. -----	Dr. Abdulelah Thabet	Dr. Ali Alyahawi

d2	Communicate effectively with healthcare professionals and patients	D1
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**(A) Alignment Course Intended Learning Outcomes of Knowledge and Understanding to Teaching Strategies and Assessment Strategies:**

Course Intended Learning Outcomes	Teaching strategies	Assessment Strategies
<b>a1-</b> Describe the clinical manifestations, pathophysiology, and complication of Neurologic Disorders/ Psychiatric Disorders/ Woman and Man Health.	<ul style="list-style-type: none"> <li>▪ Lecture</li> <li>▪ Instructor – student Interactive</li> <li>▪ Office hour</li> </ul>	<ul style="list-style-type: none"> <li>▪ Exam</li> <li>▪ Assignment</li> <li>▪ Quiz</li> </ul>
<b>a2-</b> Define the target goals of therapy for Neurologic Disorders/ Psychiatric Disorders/ Woman and Man Health.	<ul style="list-style-type: none"> <li>▪ Lecture</li> <li>▪ Instructor – student Interactive</li> <li>▪ Office hour</li> </ul>	<ul style="list-style-type: none"> <li>▪ Exam</li> <li>▪ Assignment</li> <li>▪ Quiz</li> </ul>

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

Course Intended Learning Outcomes	Teaching strategies	Assessment Strategies
<b>b1-</b> Design the appropriate drugs regimens and monitoring plans for Neurologic Disorders/ Psychiatric Disorders/ Woman and Man Health.	Lecture Instructor – student Interactive Exercises Solving Problem Methods	Problem-Solving Exercises. Assignment Quiz

**(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
<b>C1-</b> Apply properly drug regimens and monitoring parameters to achieve targeted treatment goals of Neurologic Disorders/ Psychiatric Disorders/ Woman and Man Health	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
<b>d1-</b> Search efficiently in professional medical references and sites	Self-Learning Seminar Exercises	Presentation Assignment
<b>d2-</b> Communicate effectively with healthcare professionals and patients	Seminar Instructor–student Interactive	Presentation

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Dr. Ali Alyahawi	Dr. Abdulelah Thabet	Dr. -----	Dr. Abdulelah Thabet	Dr. Ali Alyahawi



Exercises					
IV. Course Content:					
A – Theoretical Aspect:					
Order	Units/Topics List	Learning Outcomes	Sub Topics List	Number of Weeks	Contact Hours
1	Neurologic Diseases	a1, a 2, b1 ,c1, d 1, d 2	- Epilepsy - Parkinson Disease - Alzheimer Disease (AD)	3	6
2	Psychiatric Diseases	a1, a 2, b1 ,c1, d 1, d 2	- Sleep Disorders - Major Depressive Disorder - Anxiety Disorder	4	8
3	Midterm Exam	a1, a 2, b1, ,c1, d 1		1	2
4	Psychiatric Diseases	a1, a 2, b1 ,c1, d 1, d 2	- Schizophrenia	2	4
5	Woman and Man Health	a1, a 2, b1 ,c1, d1, d 2	- Therapeutic Considerations in Pregnancy and Lactation:	1	2
			- Birth control	2	4
			- Menstruation-Related Disorders	1	2
			- Hormone Therapy in Menopause	1	2
6	Final Exam	a 1, a 2, b1, , c1, d 1		1	2
Number of Weeks /and Units Per Semester				16	32

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Dr. Ali Alyahawi	Dr. Abdulelah Thabet	Dr. -----	Dr. Abdulelah Thabet	Dr. Ali Alyahawi

**B. Case Studies and Practical Aspect:**

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
1	Cases study of Neurologic Disorders	- Epilepsy - Parkinson Disease - Alzheimer Disease (AD)	3	6	a1, a2, b1, c1, d1, d2
2	Cases study of Psychiatric Disorders	- Sleep Disorders - Major Depressive Disorder - Anxiety Disorder - Schizophrenia	4	8	a1, a2, b1, c1, d1, d2
3	Midterm Exam		1	2	a1, a2, b1, c1, d1
4	Cases study of Woman and Man Health	- Menstruation-Related Disorders - Hormone Therapy in Menopause - Women Infertility & Men Sexual Dysfunction	7	14	a1, a2, b1, c1, d1, d2
5	Final Theoretical Exam		1	2	a1, a2, b1, c1, d1
Number of Weeks /and Units Per Semester			16	32	

**C. Tutorial Aspect: (ان وجدت)**

No.	Tutorial	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
1	NA			
2	1-			
3	2-			
4	3-			

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No.	Tutorial	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
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:

- Lecture
- Instructor – student Interactive
- Exercises
- Presentation
- Office hours
- Seminar
- Assignment
- Self-Learning

#### VI. Assessment Methods of the Course:

- Assignments
- Quiz
- Exam

#### VII. Assignments:

Prepared by:	Reviewed by:	Head of the Department:	Vice Dean for Quality affairs	Dean of College:
Dr. Ali Alyahawi	Dr. Abdulelah Thabet	Dr. -----	Dr. Abdulelah Thabet	Dr. Ali Alyahawi



No	Assignments	Aligned CIOs(symbols)	Week Due	Mark
1	<b>Assignment 1:</b> Develop Pharmaceutical Care plan for patient with Parkinson disease	a 1, a 2, b1,c1, d1, d 2	3th	2.5
2	<b>Assignment 2:</b> Develop Pharmaceutical Care plan for patient with Anxiety Disorders	a1, a 2, b1,c1, d1, d 2	6th	2.5
3	<b>Assignment 3:</b> Develop Pharmaceutical Care plan for pregnant with DM	a1, a2, b1,c1, d 1, d 2	9th	2.5
4	<b>Assignment 4:</b> Compare between different Hormone Therapy in Menopause	a1, a2, b1,c1, d 1, d 2	13th	2.5
<b>Total</b>				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	3 <sup>rd</sup> , 9 <sup>th</sup>	10	10%	a 1, a 2, b1,c1, d 1, d 2
2	Practical Reports	2 <sup>nd</sup> -13 <sup>th</sup>	5	5%	a 1, a 2, b1,c1, d 2
3	Midterm Exam (Theory)	Week 7	10	10%	a 1, a 2, b1,c1, d 2
4	Final Practical Exam	14 <sup>th</sup>	20	15%	a1, a2, c1, c2
5	Final Exam (Theory)	Week 16	50	50%	a 1, a 2, b1,c1, d 2
<b>Total</b>			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. , 5<sup>th</sup> 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.

Prepared by:	Reviewed by:	Head of the Department:	Vice Dean for Quality affairs	Dean of College:
Dr. Ali Alyahawi	Dr. Abdulelah Thabet	Dr. ....	Dr. Abdulelah Thabet	Dr. Ali Alyahawi

1- <a href="http://www.accesspharmacy.com">www.accesspharmacy.com</a> 2- Disease management guidelines (specified in lecture notes)
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<b>X. Course Policies: (Based on the Uniform Students' By law (2007))</b>	
<b>1</b>	<b>Class Attendance:</b> 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.
<b>2</b>	<b>Tardiness:</b> A student will be considered late if he/she is not in class after 10 minutes of the start time of class.
<b>3</b>	<b>Exam Attendance/Punctuality:</b> 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.
<b>4</b>	<b>Assignments &amp; Projects:</b> Assignments and projects must be submitted on time. Students who delay their assignments or projects shall lose the mark allocated for the same.
<b>5</b>	<b>Cheating:</b> 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.
<b>6</b>	<b>Forgery and Impersonation:</b> 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.
<b>7</b>	<b>Other policies:</b> 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:	Reviewed by:	Head of the Department:	Vice Dean for Quality affairs	Dean of College:
Dr. Ali Alyahawi	Dr. Abdulelah Thabet	Dr. -----	Dr. Abdulelah Thabet	Dr. Ali Alyahawi

## Republic of Yemen

Ministry of Higher Education & Scientific Research

21 September University of Medicals & Applied Sciences



### Faculty of Clinical Pharmacy

Bachelor of Clinical Pharmacy & Pharm. D.

Course Specification of Therapeutics (4)

Course No. (02.01.220)

2016/2017

#### I. Information about Faculty Member Responsible for the Course:

Prepared by:	Reviewed by:	Head of the Department:	Vice Dean for Quality affairs	Dean of College:
Dr. Ali Alyahawi	Dr. Abdulelah Thabet	Dr. ....	Dr. Abdulelah Thabet	Dr. Ali Alyahawi



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

## II. Course Identification and General Information:

1	Course Title:	Therapeutics (4)			
2	Course Code & Number:	02.01.220			
3	Credit Hours:	Credit Hours	Theory Hours		Lab. Hours
			Lecture	Exercise	
		3	2	--	2
4	Study Level/ Semester at which this Course is offered:	5 Level / 2 Semester			
5	Pre -Requisite (if any):	Pharmacology IV			
6	Co -Requisite (if any):	Cases Studies of Therapeutics (4): "case-based seminars"			
7	Program (s) in which the Course is Offered:	Bachelor of Clinical Pharmacy & Pharm. D.			
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 Medical Sciences			
12	Prepared by:	Dr. Ali Alyahawi			
13	Date of Approval:				

## III. Course Description:

Prepared by:	Reviewed by:	Head of the Department:	Vice Dean for Quality affairs	Dean of College:
Dr. Ali Alyahawi	Dr. Abdulelah Thabet	Dr. -----	Dr. Abdulelah Thabet	Dr. Ali Alyahawi



The course content is supportive for pharmacy practice and integrated cases III course and complementary to pathophysiology and pharmacology courses. The course content aims to understand the knowledge of the pathophysiology, clinical manifestations, and therapeutics of Neurologic Disorders/ Psychiatric Disorders/ Woman and Man Health.

#### IV. Course Intended Learning Outcomes (CILOs) :

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

##### A. Knowledge and Understanding: Upon successful completion of the course, students will be able to:

a1	Describe the clinical manifestations, pathophysiology, and complication of Neurologic Disorders/ Psychiatric Disorders/ Woman and Man Health.	A 1
a2	Define the target goals of therapy for Neurologic Disorders/ Psychiatric Disorders/ Woman and Man Health.	A 3 , A 4 , A 5 , A 7

##### B. Intellectual Skills: Upon successful completion of the course, students will be able to:

b1	Design the appropriate drugs regimens and monitoring plans for Neurologic Disorders/ Psychiatric Disorders/ Woman and Man Health.	E 2 , E 3 , E 5
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Prepared by:	Reviewed by:	Head of the Department:	Vice Dean for Quality affairs	Dean of College:
Dr. Ali Alyahawi	Dr. Abdulelah Thabet	Dr. -----	Dr. Abdulelah Thabet	Dr. Ali Alyahawi

		6
<b>C. Professional and Practical Skills: Upon successful completion of the course, students will be able to:</b>		
c1	Apply properly drug regimens and monitoring parameters to achieve targeted treatment goals of Neurologic Disorders/ Psychiatric Disorders/ Woman and Man Health	2 3 5 6
<b>D. Transferable Skills: Upon successful completion of the course, students will be able to:</b>		
d1	Search efficiently in professional medical references and sites	1 2 3
d2	Communicate effectively with healthcare professionals and patients	1

Prepared by:	Reviewed by:	Head of the Department:	Vice Dean for Quality affairs	Dean of College:
Dr. Ali Alyahawi	Dr. Abdulelah Thabet	Dr. -----	Dr. Abdulelah Thabet	Dr. Ali Alyahawi



## V. Course Contents:

### A. Theoretical Aspect:

Order	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours
1	Neurologic Diseases	- Epilepsy - Parkinson Disease - Alzheimer Disease (AD)	3	6
2	Psychiatric Diseases	- Sleep Disorders - Major Depressive Disorder - Anxiety Disorder	4	8
3	Midterm Exam		1	2
4	Psychiatric Diseases	- Schizophrenia	2	4
5	Woman and Man Health	- Therapeutic Considerations in Pregnancy and Lactation:	1	2
		- Birth control	2	4
		- Menstruation-Related Disorders	1	2
		- Hormone Therapy in Menopause	1	2
6	Final Exam		1	2
Number of Weeks /and Units Per Semester			16	32

Prepared by:	Reviewed by:	Head of the Department:	Vice Dean for Quality affairs	Dean of College:
Dr. Ali Alyahawi	Dr. Abdulelah Thabet	Dr. -----	Dr. Abdulelah Thabet	Dr. Ali Alyahawi

**B. Case Studies and Practical Aspect:**

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours
1	Cases study of Neurologic Disorders	- Epilepsy - Parkinson Disease - Alzheimer Disease (AD)	3	6
2	Cases study of Psychiatric Disorders	- Sleep Disorders - Major Depressive Disorder - Anxiety Disorder - Schizophrenia	4	8
3	Midterm Exam		1	2
4	Cases study of Woman and Man Health	- Menstruation-Related Disorders - Hormone Therapy in Menopause - Women Infertility & Men Sexual Dysfunction	7	14
5	Final Theoretical Exam		1	2
Number of Weeks /and Units Per Semester			16	32

**C. Tutorial Aspect:**

No.	Tutorial	Number of Weeks	Contact Hours
1	NA		
2	10-		
3	11-		
4	12-		
5	13-		

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Dr. Ali Alyahawi	Dr. Abdulelah Thabet	Dr. -----	Dr. Abdulelah Thabet	Dr. Ali Alyahawi

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

### VI. Teaching Strategies of the Course:

Lecture  
 Instructor – student Interactive  
 Exercises  
 Presentation  
 Office hours  
 Seminar  
 Assignment  
 Self-Learning

### VII. Assessment Methods of the Course:

Assignments  
 Quiz  
 Exam

Prepared by:	Reviewed by:	Head of the Department:	Vice Dean for Quality affairs	Dean of College:
Dr. Ali Alyahawi	Dr. Abdulelah Thabet	Dr. -----	Dr. Abdulelah Thabet	Dr. Ali Alyahawi



## VIII. Assignments:

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

No.	Assessment Method	Week Due	Mark	Proportion of Final Assessment
1	Assignments	3 <sup>rd</sup> , 9 <sup>th</sup>	10	10%
2	Practical Reports	2 <sup>nd</sup> -13 <sup>th</sup>	5	5%
3	Midterm Exam (Theory)	Week 7	10	10%
4	Final Practical Exam	14 <sup>th</sup>	20	15%
5	Final Exam (Theory)	Week 16	50	50%
Total			100	100%

## 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. ed. , 5<sup>th</sup> 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:

Prepared by:	Reviewed by:	Head of the Department:	Vice Dean for Quality affairs	Dean of College:
Dr. Ali Alyahawi	Dr. Abdulelah Thabet	Dr. -----	Dr. Abdulelah Thabet	Dr. Ali Alyahawi

	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	<b>Tardiness:</b> A student will be considered late if he/she is not in class after 10 minutes of the start time of class.
3	<b>Exam Attendance/Punctuality:</b> 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	<b>Assignments &amp; Projects:</b> Assignments and projects must be submitted on time. Students who delay their assignments or projects shall lose the mark allocated for the same.
5	<b>Cheating:</b> 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	<b>Forgery and Impersonation:</b> 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	<b>Other policies:</b> 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:	Reviewed by:	Head of the Department:	Vice Dean for Quality affairs	Dean of College:
Dr. Ali Alyahawi	Dr. Abdulelah Thabet	Dr. -----	Dr. Abdulelah Thabet	Dr. Ali Alyahawi

# Republic of Yemen

Ministry of Higher Education & Scientific Research

21 September University of Medicals & Applied Sciences



## Faculty of Clinical Pharmacy

Bachelor of Clinical Pharmacy & Pharm. D.

Course Specification of **Therapeutics (5)**

Course No. (02.01.222)

2016/2017

Prepared by:	Reviewed by:	Head of the Department:	Vice Dean for Quality affairs	Dean of College:
Dr. Ali Alyahawi	Dr. Hassan Al Mahbashi	Dr. <i>Hassan Al Mahbashi</i>	Dr. Abdulelah Thabet	Dr. Ali Alyahawi





## I. Course Identification and General Information:

1	Course Title:	Therapeutics (5)			
2	Course Code & Number:	02.01.222			
3	Credit Hours:	Credit Hours	Theory Hours		Lab. Hours
			Lecture	Exercise	
		3	2	--	2
4	Study Level/ Semester at which this Course is offered:	5 <sup>th</sup> Level / 2 <sup>nd</sup> Semester			
5	Pre –Requisite (if any):	Pharmacology IV			
6	Co –Requisite (if any):	Cases Studies in Therapeutics (5): “case-based seminars”			
7	Program (s) in which the Course is Offered:	Bachelor of Clinical Pharmacy & Pharm. D.			
8	Language of Teaching the Course:	English			
9	Study System:	Semester based System			
10	Mode of Delivery:	Regular-Full Time			
11	Location of Teaching the Course:	Faculty of Clinical Pharmacy			
12	Prepared by:	Dr. Ali Alyahawi			
13	Date of Approval:				

Prepared by:	Reviewed by:	Head of the Department:	Vice Dean for Quality affairs	Dean of College:
Dr. Ali Alyahawi	Dr. Abdulelah Thabet	Dr. -----	Dr. Abdulelah Thabet	Dr. Ali Alyahawi

## II. Course Description:

The course content is supportive for pharmacy practice and integrated case based learning" courses and is complementary to pathophysiology and pharmacology courses. The course aims to improve the knowledge of the pathophysiology, clinical presentations, complications, and therapeutics of oncology and hematology conditions including venous thromboembolism, emesis, anemia, infection related to cancer, common chemotherapy regimen used for cancer, pain management, general toxicity of chemotherapy agents, coagulation disorders and Sickle Cell Disease (SCD).

## III. Course Intended Learning Outcomes (CILOs) :

**Referenced  
PILOs**  
Learning out of  
program

**A. Knowledge and Understanding:** Upon successful completion of the course, students will be able to:

a1	Discuss the pathophysiology, clinical presentations, and complications of oncology and hematology diseases.	A1
a2	Understand the goals of therapy for oncology and hematology diseases.	A3, A4, A5, A7

**B. Intellectual Skills:** Upon successful completion of the course, students will be able to:

b1	Design the rational medication use and monitoring plan of selected oncology and hematology disease.	B2, B3, B5, B6
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**C. Professional and Practical Skills:** Upon successful completion of the course, students will be able to:

c1	Apply properly the drug regimens and monitoring parameters to achieve therapeutic goals of oncology and hematology diseases.	C2, C3. C5. C6
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**D. Transferable Skills:** Upon successful completion of the course, students will be able to:

d1	Search for updated medical information from proper medical references to manage oncology and hematology diseases	D1. D2. D3.
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Prepared by:	Reviewed by:	Head of the Department:	Vice Dean for Quality affairs	Dean of College:
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d2	Communicate effectively therapeutics decisions with a teamwork 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- Discuss the pathophysiology, clinical presentations, and complications of oncology and hematology diseases.	- Lecture - Instructor – student Interactive - Office hour	Exam Assignment Quiz
a2- Understand the goals of therapy for oncology and hematology diseases.	Lecture Instructor – student Interactive Office hour	Exam Assignment Quiz

**(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 the rational medication use and monitoring plan of selected oncology and hematology disease	Lecture Instructor – student Interactive Exercises Solving Problem Methods	Problem- Solving Assignment Quiz

**(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 properly the drug regimens and monitoring parameters to achieve therapeutic goals of oncology and hematology diseases.	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
d1- Search for updated medical information from proper medical references to manage oncology and hematology diseases	Self-Learning Seminar Exercises	Presentation Assignment Quiz

Prepared by:	Reviewed by:	Head of the Department:	Vice Dean for Quality affairs	Dean of College:
Dr. Ali Alyahawi	Dr. Abdulelah Thabet	Dr. -----	Dr. Abdulelah Thabet	Dr. Ali Alyahawi



d2- Communicate effectively therapeutics decisions with a team work and patients.	Seminar Instructor–student Interactive Exercises	Presentation
---	---	--------------

#### IV. Course Content:

##### A – Theoretical Aspect:

Order	Units/Topics List	Learning Outcomes	Sub Topics List	Number of Weeks	Contact Hours
1	Oncology Supportive Care	a1, a2, b1, c1, d1, d2	- Overview of cancer chemotherapy	1	2
			- Venous thromboembolism	1	2
			- Chemotherapy-Induced Nausea and Vomiting (CINV)		
			- Anemia & Fatigue	1	2
			- Pain management	1	2
			- Infection related to cancer	1	2
			- Common chemotherapy regimen used for cancer.	1	2
2	Midterm Exam	a1, a2, b1, c1, d1	- Chemoprotectants	1	2
			- Oncologic Emergencies		
3	Oncology Supportive Care	a1, a2, b1, c1, d1, d2	- <b>General toxicity of some chemotherapy agents:</b> <ul style="list-style-type: none"> <li>• Platinum agents (ex.Cisplatin)</li> <li>• Anthracyclines ex.doxorubicin</li> <li>• Vina alkaloid ex.Vincristine</li> <li>• Methotrexate, Etoposide, Ara-C, Ifosphamide, Docetaxel, Infliximab.</li> </ul>	2	4
4	Hematology Disorders	a1, a2, b1, c1, d1, d2	- Anemia	1	2
			- Coagulation Disorders	2	4
			- Sickle Cell Disease (SCD)	1	2
			- Drug-Induced Hematologic Disorders	1	2

Prepared by:	Reviewed by:	Head of the Department:	Vice Dean for Quality affairs	Dean of College:
Dr. Ali Alyahawi	Dr. Abdulelah Thabet	Dr. ....	Dr. Abdulelah Thabet	Dr. Ali Alyahawi

5	Final Exam	a1, a2, b1, c1, d1		1	2
<b>Number of Weeks /and Units Per Semester</b>				<b>16</b>	<b>32</b>

**B. Case Studies and Practical Aspect:**

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours	Learning Outcomes (CLOs)
1	Cases study in Oncology diseases Disorders	- Common complications of cancer chemotherapy	3	6	a 1, a2, b1, c1, c2, d1, d2
		- Acute Myeloid Leukemia (AML)	1	2	
		- Chronic Myeloid Leukemia (CML)	1	2	
		- Prostate Cancer	2	4	
2	Midterm Exam		1	2	a1, a2, b1, c1, d1
3	Cases study in Oncology diseases	- Breast Cancer	1	2	a 1, a2, b1, c1, c2, d1, d2
4	Cases study in Hematology Disorders	- Anemia	2	4	a 1, a2, b1, c1, c2, d1, d2
		- Coagulation Disorders	2	4	
		- Sickle Cell Disease	1	2	
		- Drug-Induced Hematologic Disorders	1	2	
5	Final Theoretical Exam		1	2	a 1, a2, b1, c1, d1
<b>Number of Weeks /and Units Per Semester</b>			<b>16</b>	<b>32</b>	

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Dr. Ali Alyahawi	Dr. Abdulelah Thabet	Dr. -----	Dr. Abdulelah Thabet	Dr. Ali Alyahawi



**C. Tutorial Aspect: (ان وجدت)**

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

- Lecture
- Instructor – student Interactive
- Exercises
- Presentation
- Office hours
- Seminar
- Assignment
- Self-Learning

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## VI. Assessment Methods of the Course:

- Assignments
- Quiz
- Exam

## VII. Assignments

NO	Assignments	Aligned CILOs(symbols)	Week Due	Mark
1	<b>Assignment 1:</b> Develop pharmaceutical care plan for pain management of selected cases of cancer based on updated recommendations.	a1, a2, b1, ,c1, d1, d2	3th	2.5
2	<b>Assignment 2:</b> Develop pharmaceutical care plan for cancer patients with febrile neutropenia based on updated guidelines.	a1, a2, b1, ,c1, d1, d2	6th	2.5
3	<b>Assignment 3:</b> Compare between the different types of anemia	a1, a2, b1, ,c1, d1, d2	9th	5
<b>Total</b>				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	3 <sup>rd</sup> , 9 <sup>th</sup>	10	10%	a 1, a 2, b1,c1, d 1, d 2
2	Practical Reports	2 <sup>nd</sup> -13 <sup>th</sup>	5	5%	a 1, a 2, b1,c1, d 2
3	Midterm Exam (Theory)	Week 7	10	10%	a 1, a 2, b1,c1, d 2
4	Final Practical Exam	14 <sup>th</sup>	20	15%	a1, a2, c1, c2
5	Final Exam (Theory)	Week 16	50	50%	a 1, a 2, b1,c1, d 2
<b>Total</b>			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 ).**

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	1- Chisholm-Burns et al, 2019. Pharmacotherapy principles & practice. ed. , 5 <sup>th</sup> edition 2- Katzung, 2018. Basic & Clinical Pharmacology, ed., 14th edition.
<b>2- Essential References.</b>	
	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. Walk Whittlesea, 6th edition, 2018.
<b>3- Electronic Materials and Web Sites etc.</b>	
	1- www.accesspharmacy.com 2- Disease management guidelines (specified in lecture notes)

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

	<b>Class Attendance:</b>
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.
	<b>Tardiness:</b>
2	A student will be considered late if he/she is not in class after 10 minutes of the start time of class.
	<b>Exam Attendance/Punctuality:</b>
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.
	<b>Assignments &amp; Projects:</b>
4	Assignments and projects must be submitted on time. Students who delay their assignments or projects shall lose the mark allocated for the same.
	<b>Cheating:</b>
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.
	<b>Forgery and Impersonation:</b>
6	

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	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	<b>Other policies:</b> 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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## Republic of Yemen

Ministry of Higher Education & Scientific Research

21 September University of Medicals & Applied Sciences



## Faculty of Clinical Pharmacy

Bachelor of Clinical Pharmacy & Pharm. D.

Course Specification of Therapeutics (5)

Course No. (02.01.222)

2016/2017

### I. Information about Faculty Member Responsible for the Course:

Prepared by:	Reviewed by:	Head of the Department:	Vice Dean for Quality affairs	Dean of College:
Dr. Ali Alyahawi	Dr. Abdulelah Thabet	Dr. ....	Dr. Abdulelah Thabet	Dr. Ali Alyahawi

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:

1	Course Title:	Therapeutics (5)			
2	Course Code & Number:	02.01.222			
3	Credit Hours:	Credit Hours	Theory Hours		Lab. Hours
			Lecture	Exercise	
		3	2	--	2
4	Study Level/ Semester at which this Course is offered:	5th Level / 2nd Semester			
5	Pre -Requisite (if any):	Pharmacology IV			
6	Co -Requisite (if any):	Cases Studies in Therapeutics (5): "case-based seminars"			
7	Program (s) in which the Course is Offered:	Bachelor of Clinical Pharmacy & Pharm. D.			
8	Language of Teaching the Course:	English			
9	Study System:	Semester based System			
10	Mode of Delivery:	Regular-Full Time			
11	Location of Teaching the Course:	Faculty of Clinical Pharmacy			
12	Prepared by:	Dr. Ali Alyahawi			
13	Date of Approval:				

Prepared by:	Reviewed by:	Head of the Department:	Vice Dean for Quality affairs	Dean of College:
Dr. Ali Alyahawi	Dr. Abdulelah Thabet	Dr. -----	Dr. Abdulelah Thabet	Dr. Ali Alyahawi



### III. Course Description:

The course content is supportive for pharmacy practice and integrated case based learning" courses and is complementary to pathophysiology and pharmacology courses. The course aims to improve the knowledge of the pathophysiology, clinical presentations, complications, and therapeutics of oncology and hematology conditions including venous thromboembolism, emesis, anemia, infection related to cancer, common chemotherapy regimen used for cancer, pain management, general toxicity of chemotherapy agents, coagulation disorders and Sickle Cell Disease (SCD).

### IV. Course Intended Learning Outcomes (CILOs) :

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

#### A. Knowledge and Understanding: Upon successful completion of the course, students will be able to:

a1	Discuss the pathophysiology, clinical presentations, and complications of oncology and hematology diseases.	A1
a2	Understand the goals of therapy for oncology and hematology diseases.	A3, A4, A5, A7

#### B. Intellectual Skills: Upon successful completion of the course, students will be able to:

b1	Design the rational medication use and monitoring plan of selected oncology and hematology disease.	B2, B3, B5, B6
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#### C. Professional and Practical Skills: Upon successful completion of the course, students will be able to:

c1	Apply properly the drug regimens and monitoring parameters to achieve therapeutic goals of oncology and hematology diseases.	C2, C3, C5, C6
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#### D. Transferable Skills: Upon successful completion of the course, students will be able to:

d1	Search for updated medical information from proper medical references to manage oncology and hematology diseases	D1, D2, D3.
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d2	Communicate effectively therapeutics decisions with a teamwork and patients.	D1
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## V. Course Contents:

### A. Theoretical Aspect:

Order	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours
1	Oncology Supportive Care	- Overview of cancer chemotherapy	1	2
		- Venous thromboembolism	1	2
		- Chemotherapy-Induced Nausea and Vomiting (CINV)		
		- Anemia & Fatigue	1	2
		- Pain management	1	2
		- Infection related to cancer	1	2
		- Common chemotherapy regimen used for cancer.	1	2
		- Chemoprotectants - Oncologic Emergencies	1	2
2	Midterm Exam		1	2
3	Oncology Supportive Care	- <b>General toxicity of some chemotherapy agents:</b> • Platinum agents (ex.Cisplatin) • Anthracyclines ex.doxorubicin • Vina alkaloid ex.Vincristine • Methotrexate, Etoposide, Ara-C, Ifosphamide, Docetaxel, Infliximab.	2	4
4	Hematology Disorders	- Anemia	1	2
		- Coagulation Disorders	2	4
		- Sickle Cell Disease (SCD)	1	2
		- Drug-Induced Hematologic Disorders	1	2
5	Final Exam		1	2

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Number of Weeks /and Units Per Semester	16	32
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### B. Case Studies and Practical Aspect:

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours
1	Cases study in Oncology diseases Disorders	- Common complications of cancer chemotherapy	3	6
		- Acute Myeloid Leukemia (AML)	1	2
		- Chronic Myeloid Leukemia (CML)	1	2
		- Prostate Cancer	2	4
2	Midterm Exam		1	2
3	Cases study in Oncology diseases	- Breast Cancer	1	2
4	Cases study in Hematology Disorders	- Anemia	2	4
		- Coagulation Disorders	2	4
		- Sickle Cell Disease	1	2
		- Drug-Induced Hematologic Disorders	1	2
5	Final Theoretical Exam		1	2
Number of Weeks /and Units Per Semester			16	32

### C. Tutorial Aspect:

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

Lecture  
Instructor – student Interactive  
Exercises  
Presentation  
Office hours  
Seminar  
Assignment  
Self-Learning

## VII. Assessment Methods of the Course:

Assignments

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Quiz  
Exam

## VIII. Assignments:

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

No.	Assessment Method	Week Due	Mark	Proportion of Final Assessment
1	Assignments	3 <sup>rd</sup> , 9 <sup>th</sup>	10	10%
2	Practical Reports	2 <sup>nd</sup> -13 <sup>th</sup>	5	5%
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Total			100	100%

## X. Learning Resources:

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

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