COURSE SPECIFICATIONS Eacute of Pharmacy

Bachelor of pharmacy

(Clinical Pharmacy)

Fourth level – Semester 8

2019-2020

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COURSE SPECIFICATIONS

Medicinal chemistry-2

Fourth level –Semester 8

2019-2020

Course specification of Medicinal Chemistry-2

University: Zagazig Faculty: Pharmacy

A- Course identification:

1. Program (s) on which the course is given: Bachelor of pharmacy (Clinical pharmacy)

2. Major or Minor element of programs: Major

- 3. Department offering the course: Medicinal chemistry Dept.
- 4. Academic year Level: fourth level /8th semester
- 5. Date of specification approval:

B- Basic information:

Title : Medicinal chemistry II Code: PC810

Credit Hours: 2h + 1h = 3h

Lectures: 2hrs/week

Practical: 1hr/week

Tutorials: ----

C- Professional information:

1- Objectives:

On completion of the course, students will be able to:

Describe synthesis, assay, mode of action, SAR and uses of CNS-acting drugs, nonsteroidal anti-inflammatory agents, steroidal hormones, cardiovascular drugs& opioid analgesics. nonsteroidal antiinflammatory agents

• Analyze and interpret experimental results.

2- Intended Learning Outcomes (ILOs):

A- Kn	owledge and Understanding:
a1	Demonstrate the synthetic routes and the analytical methods, CNS- acting drugs, nonsteroidal anti-inflammatory agents, steroidal hormones, cardiovascular drugs and opioid analgesics
a2	Outline the mechanism of action for CNS-acting drugs, nonsteroidal anti- inflammatory agents, steroidal hormones, cardiovascular drugs and opioid analgesics.
B- Pr	ofessional and Practical skills:
b1	Handle chemicals safely & effectively.
b2	Perform titrimetric & spectrophotometric assay of drugs with interpretation of results
C- Int	ellectual skills:
c1	Adopt GLP guidelines in handling chemicals & laboratory equipments.
c2	Apply quantitative and qualitative methodology and assay of authentic samples.
с3	Apply quantitative methods for assay of pharmaceutical preparations contained the mentioned drugs.
D-Ge	neral and Transferable skills:
d1	Improve professional abilities by evaluation information from different sources.
d2	Work effectively as a member of a team.
d3	Write reports and present it
	l

D- Contents:

Week No.	Lecture contents	Practical session					
1	Steroidal hormones						
	-Nomenclature of Steroids						
	-Female sex hormones (estrogenic agents)	-Laboratory safety measures					
	-Nonsteroidal anti-estrogenic agents						
	-aromatase inhibitor						
2	-Female sex hormones (progesterone derivatives), oral contraceptives						
	-Androgens& anti-androgenic agents	-Titrimetric analysis					
3	-Anabolic Agents						
	-Mineralocorticoids and Glucocorticoids	-Assay of acetylsalicylic acid (Aspirin) in powder form					
4	Nonsteroidal anti-inflammatory agents						
	-Introduction						
	-Salicylates	-Assay of acetylsalicylic acid					
	-p-Aminophenols	(Aspirin) in Tablets or					
	-Pyrazolone derivatives	suppositories form					
	-N-aryl anthranilic acid derivatives						
5	- Arylacetic acid derivatives						
5	-Propionic acid derivatives,						
	-Oxicams	-Assay of Novalgin in					
	-Selective COX2 inhibitors	tablets or suppositories form					
	- Drugs used in treatment of gout.						

6	Narcotic analgesics	
	-Natural narcotic analgesics	
	-Semisynthetic narcotic analgesics	-Activity (presentation)
	-Narcotic antagonists	-Activity (presentation)
	-Synthetic narcotic analgesics	
7	Periodical Exam	Practical exam (1)
8	Central nervous system stimulants	
	Analeptics, Antidepressants,Central sympathomimetic agents and Psychodelics	-Assay of paracetamol
9	Central nervous system depressants	
	-Sedative and hypnotics	-Assay of Novalgin in ampoule form
10	-General anesthetics	-Assay of ketoprofen
	-Antiepileptic	
11	-Minor tranquilizer	-Assay of ibuprofen
12	-Major tranquilizer Cardiovascular drugs	
	-Antianginal agents and vasodilators -Antihypertensive Agents	-Assay of indomethacin
	-Centrally acting sympatholytics (α-2 Agonists) -Peripherally acting Sympatholytics(α-1 antagonists) -β-Adrenergic Antagonists	-Activity (case study)
13	-Angiotensin Antagonists -Calcium Channel Blockers [CCBs] -Direct vasodilators -Anti-arrhythmic Drugs	-Functional group analysis and their applications
14	- Anticoagulants and antihyperlipidemic Drugs	Practical exam (2)
15	Final exam (oral & written)	

E- Teaching and Learning Methods:

- Lectures
- Practical sessions
- Activity(presentation-Case study)

F- Student Assessment methods:

- 1- Written exams to assess: a1, a2, c1, c2, c3
- 2- Activity to assess: d1, d3
- 3- Practical exams to assess: b1, b2, d2, d3
- 4- Oral exam to assess: a1, a2, c1, c2, c3

Assessment schedule

Assessment (1):Periodical exam	7
Assessment (2):Final written exam	Week 15
Assessment (3):Activity	Week 6, 12
Assessment (4): Practical exams	Week 7,14
Assessment (5): Oral exams	Week 15

Weighting of Assessment

Assessment method	Marks	Percentage
Periodical exam	10	10%

Final written exam	50	50%
Practical exams & activity	25	25%
Oral exam	15	15%
TOTAL	100	100%

G- Facilities required for teaching and learning:

•For lectures: Black (white) boards, data show, air conditioned classroom

•For practical: Chemicals, glassware, instruments, Software, Digital balances.

H- List of References:

1- Course Notes: Student book of Medicinal chemistry (2) approved by Medicinal chemistry department **2019**

2- Essential Books (Text Books)

- i-Textbook of Organic Medicinal and Pharmaceutical Chemistry "Wilson, Charles Owens; Beale, John Marlowe; Block, John H.; Block, John H.; Gisvold, Ole "Wilson & Gisvold's, Wiley-Interscience (2011).
- ii- "Foye's Principles of Medicinal Chemistry", Williams, David A., WilliamO. Foye, and Thomas L. Lemke, Lippincott Williams and Wilkins (2013).
- iii-An Introduction to Medicinal Chemistry", Patrick, Graham L "An Introduction to Medicinal Chemistry", Oxford University Press (2014).

3- Periodicals, Web Sites, etc

i- Anti-Cancer Drug Design

ii-Bioorganic & Medicinal Chemistry Letters

iii-Medicinal Research Reviews

iv-Drugs of the Future.

Course Coordinator: Prof. Dr. Mohamed Elhusseny

Head of Department: Prof. Dr. Kamel Metwally

واعتماد توصيف المقرر من مجلس القسم المقرر بتاريخ Date 24/2/2020

	Matrix- I of Medicinal chemistry-2												
		ILOs of Medicinal Chemistry- 2course											
Course Contents			ents knowledge profe and and pr understanding sk							Transferable and general skills			
		a1	a2	b1	b2	c1	c2	с3	d1	d2	d3		
1	Sedative and hypnotics	x	×										
2	General anesthetics & antiepileptic	x	x										
3	Minor tranquilizer& major tranquilizer	x	x										
4	Analeptics & antidepressants	x	x										
5	Central sympathomimetic agents and psychodelics	x	x										

6	Nonestroidal anti-inflammatory agents, salicylates, p- aminophenols, pyrazolone derivatives.	×	x					
7	Nonestroidal anti-inflammatory agents, N-arylanthranilic acid derivatives, aryl acetic acid derivatives, aryl propionic acid derivatives, oxicams and drugs used in treatment of gout.	x	x		x			
8	Narcotic analgesics, natural narcotic analgesics, semisynthetic narcotic analgesics, narcotic antagonists, synthetic narcotic analgesics	×	x					
9	Antianginal agents and vasodilators, calcium channel blockers	x	х					
10	Anti-arrhythmic drugs & antihypertensive agents	x	х					
11	Antihypertensive agents, anticoagulants and antihyperlipidemic drugs	x	x					
12	Nomenclature of steroidal hormones, mineralocorticoids and glucocorticoids	x	x					
13	Female sex hormones (Estrogen, Progesterone) & anti- estrogens,oral contraceptives	x	x					
14	Steroidal hormones ,androgens and anabolic agents & anti- Androgenics	x	x					
15	Open discussions	x	X					

16	Laboratory safety measures		×					
17	Assay of novalgin ,aspirin ,paracetamol, ketoprofen, ibuprofen, indomethacin & prescription						x	
18	Functional group analysis and their applications			x	x		x	
19	Activities					x		x

National Academic Reference Standards (NARS)		Program Cou		Course Course contents	Sources	Teach	ing and l method		Method of assessment			
		ILOs	ILOs			lecture	practical session	self learning	written exam	practical exam	oral exam	
	Principles of drug design, development and synthesis.	esign, A9 a1		Steroidal hormones	student book ,essential books	x			x		x	
				Cardiovascular drugs	Student book	х			x		x	
2.5			al	Drugs acting on central nervous system	Student book	х			x		x	
				Nonestroidal antiinflammatory agents	student book, essential books	х			x		x	
				Narcotic analgesics	Student book	Х			x		x	

	Pharmacological		22 a2	Steroidal hormones	student book, essential books	х		x		x
2.13	properties of drugs including mechanisms of			Cardiovascular drugs	Student book	Х		x		x
	action, therapeutic uses, dosage, contra- indications, ADRs and drug interactions.	e, rug		Drugs acting on central nervous system	Student book	х		x		x
				Nonestroidal antiinflammatory agents	student book essential books	Х		x		x
				Narcotic analgesics	Student book	х		x		x
	Handle and			Titrimetric analysis	Practical notes		x		х	
3.2	dispose chemicals and pharmaceutical preparations safely.	als and B2 B	b1	Assay of novalgin ,aspirin ,paracetamol, ketoprofen, ibuprofen, indomethacin & prescription	Practical notes		x		x	
				Functional group analysis and their applications	Practical notes		х		х	

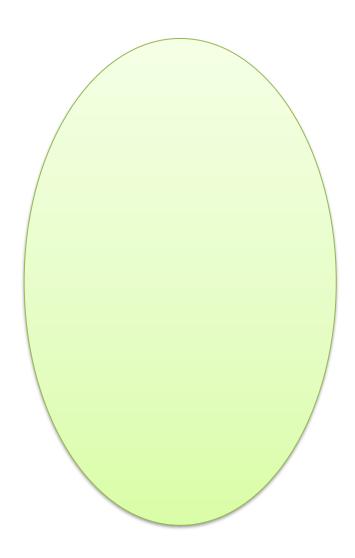
	Extract, isolate, synthesize, purify, identify,			Titrimetric analysis	Practical notes	x		х	
3.4	and /or standardize active substances	В5		Assay of novalgin ,aspirin ,paracetamol, ketoprofen, ibuprofen, indomethacin & prescription	Practical notes	x		x	
	from different origins.		b2						
3.11	Conduct research studies and analyze the results.	B17		Functional group analysis and their applications	Practical notes	x		x	
4.2	Comprehend and apply GLP, GPMP, GSP and GCP guidelines in pharmacy	C2	c1	Titrimetric analysis	Practical notes	x		x	

	practice.			Assay of novalgin ,aspirin ,paracetamol, ketoprofen, ibuprofen, indomethacin & prescription	Practical notes		x		x	
				Functional group analysis and their applications	Practical notes		х		х	
4.3	Apply qualitative and quantitative			Steroidal hormones	student book	Х		x		x
	analytical and biological methods for QC and assay of			Cardiovascular drugs	student book	Х		x		x
	raw materials as well as pharmaceutical	C3	c2	Drugs acting on central nervous system	student book	х		x		x
	preparations			Nonestroidal antiinflammatory agents	student book	х		x		x
				Narcotic analgesics	student book	Х		x		x

				Steroidal hormones	student book	х		x		x
	Select the appropriate			Cardiovascular drugs	student book	х		x		x
4.5	methods of isolation, synthesis,			Drugs acting on central nervous system	student book	х		x		x
	purification, identification, and standardization of active	C5	c3	Nonestroidal antiinflammatory agents	student book ,essential books	х		x		x
	substances from			Narcotic analgesics	student book	Х		х		х
	different origins.			Titrimetric analysis	Practical notes		х		x	
				Assay of novalgin ,aspirin ,paracetamol, ketoprofen, ibuprofen, indomethacin & prescription	Practical notes		x		x	
				Functional group analysis and their applications	Practical notes		х		х	

5.2	Retrieve and evaluate information from different sources to improve professional competencies	D2	d1	Activities	Practical notes/ Internet		x		
5.3	Work effectively in a team	D4	d2	Functional group analysis and their applications Assay of novalgin ,aspirin, paracetamol, ketoprofen, ibuprofen, indomethacin & prescription	Practical notes	x		x	
				Activities	Practical notes/ Internet		x		
5.9	Implement writing and presentation skills	D11	d3	Activities	Practical notes/ Internet		x		

Course Coordinator: Prof. Dr. Mohamed Elhusseny Head of Department: Prof. Dr. Kamel Metwally واعتماد توصيف المقرر من مجلس القسم المقرر بتاريخ Date 24/2/2020



Course Specification of Clinical pharmacy-2

University: Zagazig

Faculty: Pharmacy

A- Course identification:

1. Program (s) on which the course is given: Bachelor of pharmacy (Clinical pharmacy)

- 2. Major or Minor element of programs: Major
- 3. Department offering the course: Pharmacology and toxicology department
- 4. Academic year Level: fourth level/8th semester
- 5. Date of specification approval: Feb. 2020

B- Basic information:

Title : Clinical pharmacy-2 Code: PP 805 Credit Hours: Lectures: 2hrs/week Practical: 1hr/week Tutorials: ----Total : 3 hrs / week

C- Professional information:

1-Overall Aims of the Course

- Illustrate the principles of dispensing drugs, hospital formulary and dose adjustment in clinical case studies
- Describe various precautions that should be followed during dispensing

2-Intended Learning Outcomes

A-]	Knowledge and Understanding
	Outline the principles of dispensing drugs ,hospital formulary and dose
a1	adjustment
a2	Describe laboratory tests to diagnose different diseases
B-I	Professional and Practical Skills
	Solve different cases involving dispensing of medicines of different
b1	classes
C-]	Intellectual Skills
c1	Differentiate between different formulations of hormones
c2	Solve problems of therapeutic incompatibilities during drug dispensing
C3	Calculate insulin dose

D- (General and Transferable Skills
d 1	Communicate effectively with public
d2	Work effectively as a team member
d3	Demonstrate critical thinking and decision skills

D- Contents:

Week	Lecture (2 hr/week)	Practical Session (1 hrs/week)
No.		
1	Introduction to hormones	Introduction to hormones
2	Thyroid gland	Case study on thyroid gland
		hypofunction
3	Adrenal gland	Case study on thyroid gland
		hyperfunction
4	Diabetes	Case study on adrenal gland
5	Diabetic complications	Case study on diabetes &
		calculation of insulin dose
		(Activity report)
6	Insulin regimen	Case study on diabetic
		complications
7	-Periodical exam	Case study on diabetes treatment
	Oral hypoglycemics	
8	Pituitary gland hormones.	Case study on pituitary gland
		hormones.
0	Mole & female any homeone	Cose study on mele & forcele
9	Male & female sex hormones.	Case study on male & female sex

		hormones.
10	Contraception & PMS.	Case study on contraception & PMS.
11	Menstrual disorders.	Case study on menstrual disorders. (Activity report)
12	Menopause	Case study on menopause
13	Obesity & pcos.	Practical Exam
14	Revision	
15	Final exam	

E- Teaching and Learning Methods:

- Lectures
- Practical sessions
- Open discussion, case study, self learning.....

F- Student Assessment Methods:

1- Written exam	to assess	a1,a2,c1
2- Practical exam	to assess	b1,c2,c3
3- Oral exam	to assess	a1,a2,c1
4- Periodical	to assess	a1,a2,c1
5- Activity to	assess	d1,d2,d3

Assessment Schedule:

Assessment (1): Final written exam	15 Week
Assessment (2): Practical exam	13 Week
Assessment (3): Oral exam	15 Week
Assessment (4): Periodical exam	7 Week
Assessment (5): Activity	5,11 Week

Weighting of Assessment:

Assessment method	Marks	Percentage
Written exam	50	50
Practical exam & activity	25	25
Oral exam	15	15
Periodical exam	10	10
TOTAL	100	100

F- Facilities required for teaching and learning:

- For lectures: Black (white) boards, data show
- For labs: Black (white) boards, data show, formal patients clinical cases of selected disease states and Sphygmomanometers; Glucocheck devices

H- List of References:

1- Course Notes:

- Student book of Clinical Pharmacy approved by pharmacology department 2019.

- Practical notes of Clinical Pharmacy approved by pharmacology department 2019.

- **2- Essential Books:**
 - i- Pharmacotherapy. J.T. DiPiro et al (Ed). McGraw Hill, 7th Edition, 2008.

ii-Applied therapeutics, Mary-Ann Koda-Kimble, Lippincott, , 2009

3- Recommended Books

i- Textbook of therapeutics, 7th edition. Williams &

Wilkins, 2006

4- Periodicals and websites:

www.Pubmed.Com

www.sciencedirect.com

Course Coordinator: Prof.Dr. Salah Gharib

Head of Department: Prof.Dr. Mona Fouad

تم مناقشة و اعتماد توصيف المقرر من مجلس القسم بتاريخ فبراير 2020

Course contents		a	Knowledge Profess and an understanding Ski		cal			Transferable and general skills			
	Lectures	a1	a2	b1	c1	c2	c3	d1	d2	d3	
1	Introduction to hormones	Х	X		х	X	х	х	х	Х	
2	Thyroid gland	х	х		х	x	х	x	х	х	
3	Adrenal gland	Х	х		Х	X	х	х	X	х	
4	Diabetes	Х	х		Х	Х	х	х	х	х	
5	Diabetic complications	X	х		X	X	X	x	X	X	
6	Insulin regimen	Х	X		х						
7	-Periodical exam Oral hypoglycemics	х	X		x	x	X	x	х	х	
8	Pituitary gland hormones.	X	x		x	x	х	x	x	x	
9	Male & female sex hormones.	Х	X		x	X	Х	х	х	Х	
10	Contraception & PMS.	X	X		X	X	X	х	х	х	
11	Menstrual disorders.	X	X		х	X	X	х	Х	х	
12	Menopause	X	X		х	X	х	X	X	х	
13	Obesity & pcos.	X	X		х		х		х		

14	Revision	x	x		X	x	X	X	x	X
15	Final exam	х	x		х					
	Practical sessions									
1	Introduction to hormones			x		x	x		х	X
2	Case study on thyroid gland hypofunction			X		x	x		х	X
3	Case study on thyroid gland hyperfunction			X		x	X		х	X
4	Case study on adrenal gland			X		Х	X		Х	X
5	Case study on diabetes (Activity report)			x		X	X		X	X
6	Case study on diabetic complications			X		Х	X		Х	X
7	Case study on diabetes treatment			X		x	X		х	X
8	Case study on pituitary gland hormones.			x		X	х		Х	X
9	Case study on male & female sex hormones.			x		х	x		Х	х
10	Case study on contraception & PMS.			Х		х	X		х	X

11	Case study on menstrual disorders. (Activity report)		Х	х	х	х	x
12	Case study on menopause		x	Х	x	Х	X
13	Practical Exam		Х				

	Matrix II of Clinical pharmacy 2 course														
National Academic Reference Standards (NARS)		Program Course Course		Course			ing and le methods		Method of assessment						
		ILOs	ILOs	contents	Source	Lecture	Practical session	Self- learning	Written exam	Practical exam	Mid- term exam	Oral exam			
2.1	Principles of basic, pharmaceutical, medical, social, behavioral, management, health and environmental sciences as well as pharmacy practice.	A4	a1	All lectures	Student book, Essential books	V			V		V	V			
2.12	Etiology, epidemiology, laboratory diagnosis and clinical features of different	A20	a2	All lectures	Student book Essential books	V			٧		٧	v			

	diseases and their pharmacotherapeutic approaches.	A21		All lectures	Student book Essential books	V		V	V	V
2.13	Pharmacological properties of drugs including mechanisms of action, therapeutic uses, dosage, contraindications, ADRs and drug interactions.	A22	a1 c3	All lectures	Student book Essential books	V		V	V	V
2.14	Principles of clinical pharmacology, pharmacovigilance and the rational use of drugs.	A23	a2	All lectures	Student book Essential books Recommended books	V		7	v	v
2.20	Principles of proper documentation and drug filing systems.	A30		All lectures	Student book Essential books Recommended books	v		V	V	V

3.5	Select medicines based on understanding etiology and path physiology of diseases.	В7	b1	All practical sessions	Practical notes Internet		V	V		V		
4.9	Utilize the pharmacological basis of therapeutics in the proper selection and use of drugs in various disease conditions.	C11	c1 c2	All lectures	Student book Essential books Recommended book Internet	V			V		V	v
5.1	Communicate clearly by verbal and means	D1	d1	All practical sessions	Recommended books Internet							
5.3	Work effectively in a team	D4	d2	All practical sessions	Recommended books Internet			V		V		
5.10	Implement writing and thinking, problem- solving and decision- making abilities.	D12	d3	All practical sessions	Recommended books Internet			V		v		

Course Coordinator: Prof.Dr. Salah Gharib

Head of Department: Prof.Dr. Mona Fouad

تم مناقشة و اعتماد توصيف المقرر من مجلس القسم بتاريخ فبراير 2020

COURSE SPECIFICATIONS

Phytotherapy

Fourth level –Semester 8

2019-2020

Course Specification of Phytotherapy

University:	Zagazig	Faculty:	Pharmacy											
<u>A- Course spe</u>	cifications:													
Program (s) on which the course is given: Bachelor of pharmacy														
(Clinical Pharma	асу)													
Major or Minor	element of program:	Major												
Department off	ering the program:													
Department off department	ering the course:	Pharmac	cognosy											
Academic year/	Level: Fourth level ,	/eighth semest	er											
Date of specifica	ation approval:	9 / 2	2019											
<u>B- Basic infor</u>	mation:													
Title: Phytother	ару	Code: PG 80	7											
Credit Hours:														
 Lectures : 2 Practical: 1 Tutorials: Total: 2brs 	hrs/week 													

• Total: 3hrs/week

C- Professional information:

<u>1-Overall Aims of the Course:</u>

On completion of the course, students will be able to:

 Illustrate the fundamental knowledge about herbal medicine including preparation, identity, efficacy, standardization and its relation to conventional medicine, in addition to the use of herbal medications in some common health problems, its toxicological aspects, regulatory laws of production and forensic pharmacognosy.

2-Intended Learning Outcomes of Phytotherapy (ILOs):

Δ_ κ	Knowledge and Understanding
a1	Illustrate the principles of alternative medicine (history and forms) and its
a1	relation to conventional medicine.
-2	Outline the principles of herbal medicine preparation, identification,
a2	efficacy and standardization.
a3	List different herbal medications to relief some common health problems
40	such as GIT, Cardiac problems etc.
	Verify principles and approaches about narcotic drugs, toxicological
a4	aspects of herbal medicines, its concomitant use with conventional
	medicine, regulations of its production and forensic pharmacognosy.
a5	Describe both physical and chemical properties of active ingredients used
as	in preparation of medications.
	Identify pharmacological properties of some herbal medications used in
a6	some specific health problems; in addition to the adverse reactions and
au	contraindications of these drugs and the concomitant use of these drugs
	with conventional medicine
B- P	Professional and Practical skills
b1	Identify simple health problems.
b2	Describe a herbal remedy for treatment of common health problems.
b3	Practice patient counseling using case study.
C- I	ntellectual skills
c1	Select appropriate herbs or formulas of herbs for treatment of common
	diseases such as GIT and Cardiovascular problems.
62	Select appropriate methods of standardization of active substances in
c2	herbal medicine.
-2	Analyze information using scientific and library based knowledge for using
c3	herbal medicine as an alternative medicine

D- (General and Transferable skills
d1	Retrieve information from different sources.
d2	Work effectively as a member of a team
d3	Write reports and present it.
d4	Demonstrate, decision making and problem solving skills.

D- Contents:

Week	Lecture	Practical session
No.	(2hrs/week)	(1hrs/week)
1	-Definition, history and forms of alternative medicine.-Preparation of herbal medications.	-Preparation of herbal medications.
2	 Herbal medicine versus conventional medicine Identity, efficacy and standardization of herbal medications. 	-Phytochemical screening of some herbal drug. (Case study)
3	-Herbal remedies for dermatologic use.	-Drugs used for dermatologic use.
4	-Herbal medications and nutraceuticals for renal problems.	-Drugs used for renal disorders.
5	-Herbal medications and nutraceuticals for hepatic disorders.	-Drugs used for hepatic disorders.
6	-Herbal medications and nutraceuticals for diabetes.	-Drugs used for diabetes.
7	-Drugs used for anxiety and as tranquilizers. Periodical exam	-Drugs used for anxiety and as tranquilizers
8	-Herbal medications and nutraceuticals for arthritis.	-Drugs used for arthritis. -Activity (case studies of renal, hepatic and diabetes disorders).
9	-Herbal medications and nutraceuticals for cancer (prevention/ treatment)	-Drugs used for cancer
10	-Herbal remedies for respiratory tract problems.	-Herbal remedies for respiratory tract problems

	-Herbal remedies for colds and flu	
11	Herbal medications for circulatory disorders.	-Drugs used for circulatory disorders.
	-Herbal remedies for digestive disorders	-Drugs used for digestive disorders
12	-Narcotic drug	-Applications on forensic
		pharmacognosy
13	-Revision.	-Practical exam
14	- Open discussion	-Practical exam
15	- Final Exam	

E- Teaching and Learning Methods:

- Lectures
- Practical sessions (case studies).
- Self-learning (Activities (internet search and report preparation about different health problems e.g. renal, hepatic and diabetes disorders)),
 Open discussion...)

F- Student Assessment Methods:

Written exams to assess:	a1, a2, a3, a4, a5, a6, c1, c2, c3.
Activities to assess:	d1, d2, d3, d4.
Practical exams to assess:	b1, b2, b3, d1, d2, d3.
Oral exam to assess:	a1, a2, a3, a4, a5, a6, c1, c2, c3, d4.
Periodical exam to assess:	a1, a2, a3, a4, a5, a6, c1, c2, c3.
	Activities to assess: Practical exams to assess: Oral exam to assess:

Assessment schedule:

Assessment (1): Periodical exam	Week 7
Assessment (2): Activity	Week 8
Assessment (3): Practical exam	Week 13 ,14
Assessment (4): Written exam	Week 15
Assessment (5): Oral exam	Week 15

Weighting of Assessment:

Assessment method	Marks	Percentage
Periodical exam	10	10%
Practical exam & activity	25	25%
Written exam	50	50%
Oral exam	15	15%
TOTAL	100	100%

G- Facilities Required for Teaching and Learning:

• Black (white) board, data show.

H- List of References:

1- Course Notes:

A. Student book of Phytotherapy approved by Pharmacognosy department 2019.

B. Practical notes of Phytotherapy approved by Pharmacognosy department 2019.

2- Essential books:

- A. HEINRICH, Michael, et al. Fundamentals of Pharmacognosy and Phytotherapy E-Book. Elsevier Health Sciences, 2017.
- B. EASLEY, Thomas; HORNE, Steven. The modern herbal dispensatory: A medicine-making guide. North Atlantic Books, (2016).
- C. Evans, W.C.; Pharmacognosy; Saunders-Elsevier (2009).

3- Recommended books:

- A. TOBYN, Graeme; DENHAM, Alison; WHITELEGG, Midge. The Western herbal tradition: 2000 years of medicinal plant knowledge. Singing Dragon, (2016).
- B. The honest herbal ;Varror, T. and Foster, S.; Haworth Herbal Press, Binghamton, NY. (1999).
- C. Herbal medicine: a clinical guide ; Miller, L. and Murray, W.; Pharmaceutical Products Press , Binghamton, NY. (1998).

4- Periodicals and websites:

- A. GLASTONBURY, Stuart. Principles and Practice of Phytotherapy.
 Modern Herbal Medicine. Australian Journal of Herbal Medicine, 2013, 25.2: 95-96.
- B. Journal of Natural Products
- C. J. Ethnopharmacology
- D. Planta Medica
- E. Phytoterapia

Course Coordinators: Prof. Dr. Samih El-Dahmy

Head of department: Prof. Dr. Amal Al-Gendy

تم مناقشة و اعتماد توصيف المقرر من مجلس القسم بتاريخ :Date

9 /2019

	Matrix I of Phytotherapy course 2019-2020																
		ILOs of Phytotherapy course															
	Course Contents	к	nowled	lge and	l under	rstandir	ng	Professional and practical skills			Intellectual skills			General and transferable skills			
Lectures			a2	a 3	a4	a5	a6	b1	b2	b3	c1	c2	c3	d1	d2	d3	d4
1	-Definition, history and forms of alternative medicine -Preparation of herbal medications.	х	x								x						
2	 Herbal medicine versus conventional medicine Identity, efficacy and standardization of herbal medications. 	x	x								x	x					
3	-Herbal remedies for dermatologic use.			x		×	x						x				
4	-Herbal medications and nutraceuticals for renal problems.			x		x	x						x				
5	-Herbal medications and nutraceuticals for hepatic disorders.			x		x	x						x				

6	-Herbal medications and nutraceuticals for diabetes.	x		x	x			x		
7	-Drugs used for anxiety and as tranquilizers.	x		x	x			x		
8	-Herbal medications and nutraceuticals for arthritis.	x		x	x			x		
9	-Herbal medications and nutraceuticals for cancer (prevention/ treatment)	x		x	x			x		
1 0	-Herbal remedies for respiratory tract problems. -Herbal remedies for colds and flu	×		×	x			x		
1 1	Herbal medications for circulatory disorders. -Herbal remedies for digestive disorders	x		X	X			x		
1 2	-Narcotic drugs	x	x	x	X			x		
1	-Revision and open discussion.									×

3									x	x		
	Practical sessions											
1	-Preparation of herbal medications.				x							
2	-Phytochemical screening of some herbal drug					×						
3	-Drugs used for dermatologic use.					x						
4	-Drugs used for renal disorders.					x						
5	-Drugs used for hepatic disorders.					x						
6	-Drugs used for diabetes.					x						
7	-Drugs used for anxiety and as tranquilizers					x						
8	-Drugs used for arthritis. -Activity (case studies of renal, hepatic and diabetes disorders).					×	x		x	x	×	×
9	-Drugs used for cancer					x						
1 0	-Herbal remedies for respiratory tract problems					x						

1	-Drugs used for circulatory disorders.				x				
1	-Drugs used for digestive disorders								
1	-Applications on forensic				x				
2	pharmacognosy.								

Matrix II of Phytotherapy course

		Progra	Course			Teaching and learning methods			Method of assessment				
N	National Academic Reference Standards (NARS)		ILOs	Course contents	Source	Lecture	Practical session	Self- learning	Writte n exam	Practical exam	Periodical exam	Oral exam	
2.1	Principles of basic, pharmaceutical, medical, social, behavioral, management, health and environmental sciences as well as pharmacy practice.	A2	a1, a2	-Definition, history and forms of alternative medicine -Preparation of herbal medications.	Student book Essential books	x			x		x	x	
2.2	Physical-chemical properties of various substances used in preparation of medicines including inactive and active ingredients as well as biotechnology and radio- labeled products.	A5	a1, a2	 Herbal medicine versus conventional medicine -Identity, efficacy and standardization of herbal medications. 	Student book Essential books	x			x		x	x	

				-Herbal remedies for dermatologic use.	Student book Essential books	x			x	x
				-Herbal medications and nutraceuticals for renal problems.	Student book Essential books	x		x	x	x
2.1	 Pharmacological properties of drugs including mechanisms of action, therapeutic uses, dosage, contra- indications, ADRs and drug interactions. 	A22	a3, a5,	-Herbal medications and nutraceuticals for hepatic disorders.	Student book Essential books	x		x	x	x
3			a6	-Herbal medications and nutraceuticals for diabetes.	Student book Essential books	x		x	×	x
				-Drugs used for anxiety and as tranquilizers.	Student book Essential books	x		x	×	x
				-Herbal medications and nutraceuticals for arthritis.	Student book Essential books	x		x	x	x
2.1 5	Basis of complementary and alternative medicine.		a3, a5, a6	-Herbal medications and nutraceuticals for cancer (prevention/ treatment)	Student book Essential books	x		x	×	x
		A24		-Herbal remedies for respiratory tract problems.	Student book Essential	x		x	x	x

		-Herbal remedies for colds and flu		books							
	disorders.			Student book Essential books	x		x		x	x	
				-Narcotic drugs	Student book Essential books	x		x		x	x
3.5	Select medicines based on	В7		-Preparation of herbal medications.	Practical notes		x		x		
	and path physiology of diseases.		b1, b2	-Phytochemical screening of some herbal drug	Practical notes	x		x		x	x
				-Drugs used for dermatologic use.	Practical notes	x		 x		x	x
3.10	Advise patients and other		b3	-Drugs used for renal disorders.	Practical notes	x		x		x	x
	Advise patients and other health care professionals about safe and proper use of medicines	B16		-Drugs used for hepatic disorders.	Practical notes	x		x		x	x
				-Drugs used for diabetes.	Practical notes	X		×			x

									x	
				-Drugs used for anxiety and as tranquilizers	Practical notes	x		x	x	x
4.5	Select the appropriate methods of isolation, synthesis, purification, identification, and standardization of active substances from different origins.	C6		-Drugs used for arthritis. -Activity (case studies of renal, hepatic and diabetes disorders).	Practical notes, Recommende d books, Internet	x	x	x	x	x
4.1 1	Assess drug interactions, ADRs and pharmacovigilance.	C13	c1, c2 & c3	-Drugs used for cancer	Practical notes	x		x	×	x
4.1 4	Analyze and evaluate evidence-based information needed in			-Herbal remedies for respiratory tract problems	Practical notes	X		x	x	x
	pharmacy practice.	C16		-Drugs used for circulatory disorders. -Drugs used for digestive disorders	Practical notes	×		x	x	x
				-Applications on forensic pharmacognosy.	Practical notes	×		x	x	x
5.2	Retrieve and evaluate information from	D2			Recommende d books		х			

	different sources to improve professional competencies.		d1	Activity	Internet				
5.3	Work effectively in a team.	D4	d2	Activity	Recommende d books Internet		x		
5.9	Implement writing and presentation skills	D11	d3	Activity	Recommende d books Internet		x		
5.1 0	Implement writing and thinking, problem solving and decision-making abilities.	D12	d4	Activity	Recommende d books Internet		x		

Course Coordinators: Prof. Dr. Samih El-Dahmy

Head of department: Prof. Dr. Amal Al-Gendy

تم مناقشة و اعتماد توصيف المقرر من مجلس القسم بتاريخ :Date

9 /2019

COURSE SPECIFICATIONS

Pharmaceutical Analysis &

Quality Control Fourth

level –Semester 8

2019-2020

Course Specification Pharmaceutical Analysis & Quality Control

Faculty: Pharmacy

A- Course specifications:

University: Zagazig

Program (s) on which the course is given: Bachelor of pharmacy (Clinical pharmacy program) Major or Minor element of program: Major Department offering the program: Department offering the course: Pharmaceutical analytical chemistry department Academic year/Level: Fourth level/eighth semester Date of specification approval: **B- Basic information:** Title: Pharmaceutical analysis and quality control Code: PC 808 Credit Hours: • Lectures : 2 hrs/week • Practical: 1hrs/week • Tutorials: ---

• Total: 3hrs/week

C- Professional information:

-Overall Aims of the Course:

On completion of the course, students will be able to:

 Gain several competencies in the area of QC/QA of drugs that would enable them to perform as QC/QA pharmacist upon graduation. • Perform various laboratory tests for analysis of different pharmaceutical preparations.

2-Intended Learning Outcomes ofpharmaceutical analysis and Quality control

А-К	nowledge and Understanding
a1	Illustrate various analytical techniques for drug analysis.
a2	Describe principles of identification and appropriate methods of
	pharmaceutical calculation for pharmaceutical samples
a3	Illustrate GMP guidelines in pharmacy practice.
B-P	rofessional and Practical skills
b1	Handle basic laboratory equipment& chemicals effectively and safely.
b2	Identify active ingredients quantitatively.
b3	Perform practical method for determination of impurities in different
	formulations.
C-Ir	tellectual skills
c1	Apply GMP guidelines in pharmacy practice.
c2	Decide quantitative and qualitative methodology and assay of raw materials
с3	Select quantitative and qualitative methodology and assay of different
	pharmaceutical formulations including tables, semisolids, eye drops,
	injection, suppositories and aerosols inhalation.
d-G	eneral and Transferable skills
d1	Work as member of team
d2	Adopt safety guidelines

d	3	Manage time and perform a task within time limit
d	4	Write reports and present it.

D- Contents

Week	Lecture contents	Practical session
No.	(2hrs/week)	(1 hrs/week)
1	Drug registration and assessment.	Safety guidelines
2	Analytical Problem: sampling and experimental errors	Assay of Paracetamol tablets.
3	Analytical Problem: Choice of methods of an analysis and validation	Assay of Isoniazid tablets
4	Drug stability and degradation product	Assay of Glycerol
	Self learning(presentation)	suppositories
5	Drug stability and degradation product	Assay of Chloramphenicol
		capsules
6	Function group analysis Classical	Assay of Chloramphenicol eye
	analysis	drops
	Periodical exam	Activity(Report)
7	Function group analysis	
	Instrumental analysis	Revision
	Open discussion	
8	Automation in pharmaceutica ^{Fanalysis}	Assay of Lidocaine injection
9	Automation in pharmaceutical analysis	Assay of Furosemide

	- · · · ·	
10	Determination of active ingredients in	Assay of Sodium chloride
	Tablets semisolid and eye drops	intravenous infusion
	(homework assignment)	
11	Determination of active ingredients in	Assay of Salicylic acid
	injection and suppositories	ointment
		Activity (Report).
12	Determination of active ingredients in	Assay of Phenylephrine eye
	aerosols inhalation	drops
		Lab report and Presentation
13	Quality assurance of pharmaceuticals	Final Practical exam.
15	, ,	i mai riactical exam.
	G.M.P ,ISO and BSI	
14	Open discussion	
15	Final exam	

E- Teaching and Learning Methods:

- Lectures
- Practical sessions
- Self-learning (Internet search on method validation followed by open discussion)

F- Student Assessment Methods:

- 1. Written exam to assess: a1,a2,a3, c1,c2,c3
- 2. Practical exam to assess: b1,b2,b3, d2
- 3. Oral exam to assess: a1,a2,a3,c1,c2,c3
- 4. Activities to assess: d1,d2,d3,d4
- 5. Periodical exam to assess: a1,a3,c1,c2

Assessment schedule:

Assessment (1): Written exam	Week 15
Assessment (2): Practical exams	Week 13
Assessment (3): Activity	Week 11
Assessment (4): Oral exam	Week 15
Assessment (5): Periodical exam	Week 6

Weighting of Assessment:

Assessment method	Marks	Percentage
Written exam	50	50%
Periodical Exam.	10	10%
Practical exam and activities	25	25%
Oral exam	15	15%
TOTAL	100	100%

G- Facilities Required for Teaching and Learning:

- Black (white) boards, data show. internet
- Chemicals, glassware, instruments, Software, Digital balances, water bathes. Central lab.

H- List of References:

- **1- Course Notes:** Student book of Quality Control approved by analytical medicinal chemistry departments.
- Practical notes of Quality Control approved by analytical chemistry departments.
- 2- Essential Books:

- i- Stability of drugs and dosage forms Sumie Yoshioka, ValentinoJ. Stella (Pages:268 2000).
- ii- Chemical stability of pharmaceuticals: Kenneth A. Connors,Kenneth
- iii- Kenneth A. Connors, Kenneth Antonio Connors, GordonL.Amidon, Valentino J. Stella
- iv- Pharmaceutical process validation: Robert A. Nash, Alfred H.Wachter (2006)
- v- Photostability of drugs and drug formulations: Hanne HjorthTonnesen (2004)

3- Recommended books

- i- Halpern, A in "Experimental physical chemistry"
- ii- Oxtoby, D and Nachtrieb, N in "Principles of Modern chemistry"
- iii- Garfied, F.M., Klesta, E and Hirsch, J in" Quality Assurance
- iv- Principles for Analytical Laboratories"

4- Periodicals, Web Sites, etc

http://www.ncbi.nlm.nih.gov/sites/entrez

http://journals.tubitak.gov.tr/chem/index.php

http://www.pharmacopoeia.co.uk/

www.Pubmed.Com and www.sciencedirect.com

Course Coordinators: Prof. Dr.Hisham Ezzat Abdel latif

Head of department: Prof. Dr. Hisham Ezzat Abdel latif

تم مناقشة و اعتماد توصيف المقرر من مجلس القسم بتاريخ Date:

	Matrix 1 of C	uality	contr	ol an	d dru	g anal	ysis co	ourse						
			ILO	S of pl	harma	ceutica	al analy	vsis an	<mark>d qu</mark> a	lity co	ntrol	course	3	
	Course contents		wledge lerstand			ofessiona ractical s		Into	ellectua	l skills	Т	ransfer genera	able an al skills	-
	Lectures	a1	a2	a3	b1	b2	b3	c1	c2	c3	d1	d2	d3	d4
1	Drug registration and assessment	×												
2	Analytical problem: sampling and experimental errors	X												
3	Analytical problem: choice of method of an analysis and validation.		x											
4	Drug stability and degradation product	x							x					
5	Function group analysis (classical analysis)		x											
6	Function group analysis (instrumental analysis)		x											
7	Automation in pharmaceutical analysis		x										1	
8	Determination of active ingredients in Tablets semisolid and eye drops, injection, suppositories and aerosols		x											

	inhalation							x				
9	Quality assurance of pharmaceuticals G.M.P, ISO and BSI		x				x					
	Practical sessions											
1	Assay of:Paracetamol tablets, isonizaid tablets, glycerol suppositories, chloramphenicol capsules, chloramphenicol eye drops, lidocaine injection, furosemide, sodium chloride intravenous infusion, salicylic acid ointment & phenylephrine eye drops.			x	x	x				x		
2	Activities (reports)								x	X	x	X

	Matrix II of Quality control and drug analysis course												
National academic		Program	Course	Course	Sources	Teach	Teaching and learning methods			Weighting of assessment			
refe	rence standards NARS	ILOs	ILOS	contents	Lecture		Practical session	Self- learning	Written exam	Practical exam	Oral exam	Periodical exam	
2.2	Physico-chemical properties of various substances used in preparation of medicines including inactive and active ingredients as well as biotechnology and radio-labeled products.	A5	al	Drug stability and degradation product	Student book Essential books	x			x		x	x	
2.3	Principle of different analytic techniques using GLP guidelines and validation procedures.	Α7	a2	Function group analysis Analytical problem: choice of method of an analysis and validation Automation in pharmaceutical analysis	Student book Essential books	x			x		x		

2.7	Principles of various instruments and techniques including sampling, manufacturing, packaging, labeling, storing and distribution processes in pharmaceutical industry	A11	a3	Drug registration and assessment Quality assurance of pharmaceuticals G.M.P, ISO and BSI	Student book Essential books	x		x		x	x
3.2	Handle and dispose chemicals and pharmaceutical preparations safely	B2	b1	Safety guidelines	Practical notes		x		x		
3.4	Extract, isolate, synthesis purify, identify and / or stnadarize active substances from different origins.	В5	b2	Assay of: parcetamol tablets; isoniazid tablest. Glycerol suppositories, chloraphenicol	Practical notes		x		x		

			b3	capsules, chloraphenicol eye drops, lidocaine injection, furosemide, sodium chloride intravenous infusion, salicylic acid ointment & phenylephrine eye			x		x		
4.2	Comprehend and apply GLP GPMP, GSP and GCP guiltiness in pharmacy practice	C2	c1	Quality assurance of pharmaceuticals GMP ISO and BSI	Student book Essential books						
4.3	Apply qualitative and quantitative analytical and biological methods for QC and assay of raw	C3	c2	Determination of active ingredients in tablet semisolid	Student book Essential books	x		x		x	x

	materials as well as pharmaceutical preparations		c3	and eye drops					
5.3	Work effectively in a team.	D4	d1	Activities (reports)	Internet	x		x	
5.6	Adopt ethical, sales and safety guidelines.	D8	d2	Drug registration and assessment	Student book, essential books	x		x	
5.8	Demonstrate creativity and time management abilities.	D10	d3	Activities (reports)	Internet	x		x	
5.9	Implement writing and presentation skills.	D11	d4						

COURSE SPECIFICATIONS

Clinical biochemistry

Fourth level –Semester 8

2019-2020

Course Specification of Clinical Biochemistry								
University:			Pharmacy					
A- Course spec	ifications:							
Program (s) on w	hich the course is give	n: Bachelor of	pharmacy					
	(C	inical pharmad	cy)					
Major or Minor e	element of program:	Major						
Department offe	ring the program:							
Department offe	ring the course:	Biochemi	stry department					
Academic year/L	evel:	Fourth lev	el/eighth semester					
Date of specifica	tion approval:							
B- Basic inform	nation:							
Title: Clinical Bio	chemistry	Code: PB 8	803					
Credit Hours:								
 Lectures : 2 Practical: 1 I Tutorials: 	-							

• Total: 3 hrs/week

C- Professional information:

<u>1-Overall Aims of the Course:</u>

On completion of the course, students will be able to:

- Outline disorders of endocrine system, absorption and bilirubin metabolism.
- Illustrate diseases of different body organs and their diagnosis.

2-Intended Learning Outcomes of Clinical Biochemistry (ILOs):

A- Knowledge and Understanding							
a1	Describe different functions of body organs and different diseases.						
a2	Verify various enzymes changes in different diseases.						
a3	Outline disorders of absorption and bilirubin metabolism.						
a4	Illustrate etiology and clinical features of endocrine system diseases.						
a5	Identify the importance of some markers determination in diagnosis of diseases.						
B- Professional and Practical skills							
b1	Handle chemicals and biological samples safely.						
b2	Perform laboratory tests to identify various diseases.						
C- Intellectual skills							
c1	Apply good laboratory practice in pharmacy practice.						
c2	Assess different analytical methods used for different metabolites and biological samples.						
c3	Analyze and interpret quantitative data in a suitable form.						
c4	Integrate scientific information from different sources in clinical biochemistry practice.						
D- (General and Transferable skills						
d1	Develop both written and oral communication.						
d2	Evaluate information from different sources to improve professional abilities.						
d3	Work effectively as a member of a team.						
d4	Write reports and present it.						
d5	Develop critical thinking and problem solving abilities.						

Week	Lecture	Practical session
No.	(2hrs/week)	(1 hr/week)
1	- Liver anatomy	-PCR
	- Liver functions	
2	- Liver diseases	- liver function test
	- Metabolic disorders of the liver	(determination of total protein)
3	- Liver function tests	- liver function test
	- Inherited disorders of bilirubin metabolism	(determination of albumin)
4	-Gastrointestinal tract (GIT) normal	- liver function test
	functions	(determination of bilirubin)
	- Digestion and absorption of	
	carbohydrates, lipids, proteins, calcium, magnesium and vitamin B12	
5	- GIT diseases	- Urine analysis
	- Assay of GIT functions	
6	- Malabsorption, Heart function tests	- Case study 1 + activity
7	Periodical exam	-Case study 2
8	- Kidney normal functions (urine formation, clearance)	-Case study 3
9	- Kidney diseases (pathophysiology,	
	tubular dysfunction, fanconi syndrome, renal stones, acute renal failure, chronic	
	renal failure, management)	
10	- Kidney function tests (renal diseases	
	investigation, diagnosis)	(sheet + case)
11	- Types of hormones	- Activity + presentation
	- Transport of hormones	
	70	

	- Measurements of hormones	
	- Factors control hormone secretion	
12	- Diseases of different glands	- Practical exam (2)
	- Commonly used dynamic tests in the investigation of endocrine disease	
13	- Functions of bones (metabolism, minerals content, osteoblast, control of calcium balance)	
	-Common Bone diseases (osteoporosis, diagnosis, treatments, osteomalacia and rickets, Paget's disease)	
	- Markers of bone disorders (enzymes, vitamin D states assessment, biochemical tests in calcium disorders)	
14	Revision& Open discussion	
15	Final exam	

E- Teaching and Learning Methods:

- Lectures
- Practical sessions
- Case study
- Self-learning (Activities (reports), Open discussion...)

F- Student Assessment Methods:

- 1. Written exam to assess:a1, a2, a3, a4, a5, c3, c4
- 2. Practical exam to assess:b1, b2, c1, c2, c3, d1, d2, d3, d4, d5
- 3. Activities to assess: d1, d2, d3, d4, d5

- 4. Oral exam to assess:a1, a2, a3, a3, a4, a5, c3, c4, d5
- 5. Periodical exam to assess:a1, a2, a3, a5, c3, c4

Assessment schedule:

Assessment (1): Written exam	Week 15
Assessment (2): Practical exam	Week 10,12
Assessment (3): Activity	Week 6,11
Assessment (4): Oral exam	Week 15
Assessment (5): Periodical exam	Week 7

Weighting of Assessment:

Assessment method	Marks	Percentage
Written exam	50	50%
Practical exam and activities	25	25%
Oral exam	15	15%
Periodical exam	10	10%
TOTAL	100	100%

G- Facilities Required for Teaching and Learning:

• Black (white) board, Data show, Laboratory equipment (spectrophotometer, water bath, centrifuge) and Chemicals.

H-List of References:

1- Course Notes:

Student book of Clinical Biochemistry approved by biochemistry department 2019.

- Practical notes of Clinical Biochemistry approved by biochemistry department 2019.

2- Essential books:

i- Clinical biochemistry: An illustrated colour text book (fourth edition); Murphy M.J., Cowan R.A., O'ReillyD. St. J., Stewart M.J, Shepherd J.; Churchil Livingstone Elsevier (2008).

ii- Text book of Biochemistry with clinical correlations (fifth edition); Devlin T.M.; AJohn Willey& Sons Inc. (2002).

iii- Medical Biochemistry (third edition); Baynes J.W., Domoiniczak M.H.;Mosby Elsevier (2009).

3- Recommended books:

i- Lippincott's Illustrated Review Biochemistry (fifth edition); Ferrier D.R., Harvey R.A.; Lippincott Williams & Wilkins (2010).

ii- Tietz Fundamentals of Clinical Chemistry Fundamentals (fifth edition); BurtisC.A., AshwoodE.R.; W.B. Saunders company (2005).

iii- Essentials of medical biochemistry with clinical cases; BahagavanN.V,Chung-Eun Ha; ElsevierInc. (2011).

4- Periodicals and websites:

Indian J. of Clinical Biochemistry

Egyptian J. of biochem. and molecular biology.

Annals of Clinical Biochemistry

Arab J. of Laboratory Medicine,

J. of Cardiovascular diseases.

www.Pubmed.Com

www.sciencedirect.com

Course Coordinators: Prof. Dr.Sousuo Ibrahim

Head of department: Prof. Dr. Sahar Elsweify

Date:

	Μ	atri	xlo	of Cli	inica	al bio	ochemi	stry cou	rse								
						I	LOs of c	linical bio	oche	mist	ry co	ours	е				
	Course Contents			wledg erstar	e and nding			ional and cal skills	Int	ellect	ual sl	cills	Gen	neral a	nd tra skills	ansfera	able
	Lectures	a1	a2	a3	a4	a5	b1	b2	c1	c2	c3	c4	d1	d2	d3	d4	d5
1	Liver anatomy- Liver functions	x															
2	Liver diseases- Metabolic disorders of the liver	x															
3	Liver function tests- Inherited disorders of bilirubin metabolism		x	x		x					x	x					
4	Gastrointestinal tract (GIT) normal functions- Digestion and absorption of carbohydrates, lipids, proteins, calcium, magnesium and vitamin B12	x															
5	GIT diseases- Assay of GIT functions	x	x			x					x	x					
6	Malabsorption	х		x													
7	Heart function tests		x			×					x	x					
8	Kidney normal functions(urine formation,	x															

	clearance)											
9	Kidney diseases(pathophysiology, tubular dysfunction, fanconi syndrome, renal stones, acute renal failure, chronic renal failure, management)	x										
10	Kidney function tests(renal diseases investigation, diagnosis)		x		x			x	x			
11	Types of hormones- Transport of hormones- Measurements of hormones- Factors control hormone secretion			x								
12	Diseases of different glands- Commonly used dynamic tests in the investigation of endocrine disease			×				×	×			
1:	 Functions of bones (metabolism, minerals content, osteoblast, control of calcium balance) -Common Bone diseases (osteoporosis, diagnosis , treatments, osteomalacia and rickets, Paget's disease) 	x										
14	Revision- Open discussion		x		x			x	x			
19	Final exam											×

	Practical sessions												
1				x		x			×				
2				x		x			×				
3					x		X	x	×				
4					x		x	x	x				
5					x		x	x	x				
6					x		x	x	x				
7					x		x	x	x				
8					x		x	x	x				
9					x		X	x	x				
10									x	×	x	x	x

	National Academic Reference	Program	Course	Course	Sources	Teach	ing and le methods	_	M	ethod of a	issessmen	t
	Standards (NARS) Principles of body function in	ILOs	ILOs	contents		Lecture	Practical session	Self learning	Written exam	Practical exam	Periodical exam	Oral exam
2.11	Principles of body function in health and disease states as well as basis of genomic and different biochemical pathways regarding their correlation with different diseases.	A16	a1	Liver anatomy- Liver functions- Liver diseases- Metabolic disorders of the liver- Gastrointestinal tract (GIT) normal functions- Digestion and absorption of carbohydrates, lipids, proteins, calcium, magnesium and vitamin B12- GIT diseases- Malabsorption	Student book Essential books	x			x		x	x

		Kidney normal functions- Kidney diseases- Functions of bones- Bone diseases-	Student book Essential books	x		x	x	x
	a2	Liver function tests- Assay of GIT functions- Heart function tests- Kidney function tests- Markers of bone disorders	Student book Essential books	x		x	x	x
A17	а3	Inherited disorders of bilirubin metabolism	Student book Essential books	x		x	x	x
		Malabsorption	Student book Essential books	x		x	x	x

		A19	a4	Types of hormones- Transport of hormones	Student book Essential books	x		x			x
	Etiology, epidemiology, laboratory			Diseases of different glands	Student book Essential books	x		x			x
2.12	diagnosis and clinical features of different diseases and their pharmaco- therapeutic			Liver function tests- Inherited disorders of bilirubin metabolism	Student book Essential books	x		×		x	x
	approaches	A20	a5	Assay of GIT functions- Heart function tests- Kidney function tests- Markers of bone disorders	Student book, essential books	x		x		x	x
3.2	Handle and dispose chemicals and pharmaceutical preparations safely	В2	b1	Clinical biochemistry- Good laboratory practice	Practical notes		x		x		

3.6	Monitor and control microbial growth and carry out laboratory tests for identification of infectious and non- infections in biological specimens.	B11	b2	Determination of plasma HDL-C, TAG- Calculation of plasma LDL-C - Determination of blood hemoglobin- Pathological disorders of iron metabolism- Determination of serum iron- Oxidative stress- Lipid peroxidation- Determination of serum malondialdehyde (MDA)- Antioxidant defense system- Determination of glutathione (GSH)	Practical notes	X		x	
4.2	Comprehend and apply GLP,GPMP, GSP and GCP guidelines in	C2	c1	Clinical biochemistry- Good laboratory practice	Practical notes	x		x	

	pharmacy practice			Determination of					
4.3	Apply qualitative and quantitative analytical and biological methods for QC and assay of raw materials as well as pharmaceutical preparations	C3	c2	plasma HDL-C, TAG- Calculation of plasma LDL-C - Determination of blood hemoglobin- Pathological disorders of iron metabolism- Determination of serum iron- Oxidative stress- Lipid peroxidation- Determination of serum malondialdehyde (MDA)- Antioxidant defense system- Determination of glutathione (GSH)	Practical notes	×		x	

				Liver function tests- Inherited disorders of bilirubin metabolism- Assay of GIT functions- Heart function tests- Kidney function tests-Diseases of different glands- Markers of bone disorders	Student book, essential books	x		x	x	x
4.14	Analyze and evaluate evidence-based information needed in pharmacy practice	C16	c4	Liver function tests- Inherited disorders of bilirubin metabolism- Assay of GIT functions- Heart function tests- Kidney function tests-Diseases of different glands- Markers of bone disorders	Student book, essential books	x		x	x	x

5.1	Communicate clearly by verbal and written means	D1	d1	Clinical biochemistry- Good laboratory practice- Determination of plasma HDL-C, TAG- Calculation of plasma LDL-C - Determination of blood hemoglobin- Pathological disorders of iron metabolism- Determination of serum iron- Oxidative stress- Lipid peroxidation- Determination of serum malondialdehyde (MDA)- Antioxidant defense system- Determination of glutathione (GSH)- Activity	Practical notes Recommended books Internet		x	X		X			
-----	--	----	----	---	---	--	---	---	--	---	--	--	--

				(Case study)						
5.2	Retrieve and evaluate information from different sources to improve professional competencies	D2	d2	Activity (Case study- Report)	Recommended books Internet		x	x	x	
5.3	Work effectively in a team	D4	d3	Activity (Case study- Report)	Recommended books Internet		x	x	×	
5.9	Implement writing and presentation skills	D11	d4	Activity (Case study- Report)	Recommended books Internet		x	x	x	
5.10	Implement writing and thinking, problem- solving and decision- making abilities.	D12	d5	Revision- open discussion	Student book Essential books Recommended books Internet	x		x		x

		Activity (Case study- Report)	Recommended books Internet		x	x		x			
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COURSE SPECIFICATIONS

Drug marketing

Fourth level –Semester 8

2019-2020

Course Specification of Drug Marketing

_____ Faculty: Pharmacy University: Zagazig A- Course specifications: Program (s) on which the course is given: Bachelor of pharmacy (Clinical pharmacy) Major or Minor element of program: Major Department offering the program: _____ Department offering the course: Business administration department (Faculty of Commerce) Academic year/Level: Fourth level /eighth semester Date of specification approval: **B- Basic information:** Title: Drug marketing Code: PP 806 Credit Hours: • Lectures : 1 hr/week • Practical: • Tutorials: ---• Total: 1 hr/week **C- Professional information:**

<u>1-Overall Aims of the Course:</u>

On completion of the course, students will be able to:

Outline principles of marketing including definitions, planning, marketing environment, market, pricing and promotion strategies

2-Intended Learning Outcomes of drug marketing (ILOs)

A- I	Knowledge and Understanding								
a1	Describe marketing process, strategic planning process, market segmentation and market targeting as well as product and service branding								
a2	Outline the environmental forces affecting marketing decision as well as factors affecting consumer/business buyer behavior								
a3	Outline the steps in marketing research process								
a4	Explain different pricing strategies, promotion strategies and importance of marketing channels								
B- F	B- Professional and Practical skills								
C- I	ntellectual skills								
c1	Explain customer relationship management and strategies for building lasting customer relationships								
c2	Discuss how to design business portfolios								
c3	Develop growth strategies								
D- (General and Transferable skills								
d1	Develop both written and oral communication.								
d2	Evaluate information from different sources to improve professional abilities.								

Week	Lecture
No.	(1 hr/week)
1	Marketing definition
2	Marketing planning
3	Marketing environment
4	Managing marketing information
5	Consumer and business buyer behavior
6	Consumer and business buyer behavior (cont.)
7	Periodical exam
8	Market segmentation, targeting and positioning
9	Products, services and branding strategy
10	Pricing strategies
11	Pricing strategies
12	marketing channels
13	Promotion strategies
14	Revision& Open discussion
15	Final exam

E- Teaching and Learning Methods:

• Lectures

F- Student Assessment Methods:

Written exam to assess:a1, a2, a3, a4, c1,c2, c3, d1, d2

Assessment schedule:

Assessment (1): final Written exam	Week 15
Assessment (2): Periodical exam	Week 7

Weighting of Assessment:

Assessment method	Marks	Percentage
Final Written exam	90	90%
Periodical exam	10	10%
TOTAL	100	100%

G- Facilities Required for Teaching and Learning:

• Black (white) board, Data show

H- List of References:

1- Course Notes:

Student book of Drug marketing, 2019

3- Essential books:

Ross Mullner, Pharmaceutical marketing, vol.22 (7), 2005.

3- Recommended books:

Smith, Pharmaceutical Marketing-Principals, ISBN: 9780789015839, Informa Healthcare

Course Coordinators: Prof. Sherif A. El-Aasi

Prof. Mohammud G. Elshawadfy

	Matrix I of drug marketing course											
					ILO	s of d	rug m	arket	ing co	urse		
	Course Contents			Knowledge and and understanding practic skills			nd tical	Intel	lectual	skills	transf	ral and ferable kills
Lectures			a2	a3	a4			c1	c2	с3	d1	d2
1	Marketing definition	x						x			×	
2	Marketing planning	x						x			x	
3	Marketing environment		x						x		x	
4	Managing marketing information			x				x	x	x	x	x
5	5 Consumer and business buyer behavior									x	x	
6	Market segmentation, targeting and positioning	×									x	

7	Products, services and branding strategy		x			x	x
9	Pricing strategies		x			×	x
10	marketing channels		x			x	x
11	Promotion strategies		x			×	x

	Matrix II of drug marketing course												
Nat	ional Academic Reference	Ŭ		Course	Sources	Teach	ing and le methods	_	Me	Method of assessment			
Sta	ndards (NARS)	ILOs		contents		Lecture	Practical session	Self learning	Written exam	Practical exam	Periodical exam	Oral exam	
	 Principles of basic, pharmaceutical, medical, social, behavioral, management, health and environmental sciences as well as pharmacy practice. 	I, I, A4 a2 as		Marketing definition Marketing	Student book Essential books	x			x		x		
			a1	planning Market segmentation, targeting and positioning	Student book Essential books	x			x		x		
2.1			a2	Marketing environment Consumer and business buyer behavior	Student book Essential books	x			x		x		
			a3	Managing marketing information	Student book Essential books	x			x		x		

					Student book Essential books	x		x	x	
	Principles of drug promotion, sales			Products, services and branding strategy	Student book Essential books	x		x		
2.19	and marketing, business administration, accounting and pharmacoeconomics	A29	a4	Pricing strategies marketing channels Promotion strategies	Student book Essential books	x		x		
4.13	Analyze and interpret experimental results as well as published literature	C15	c1 c2 c3	Marketing definition Marketing planning Marketing environment Managing marketing information	Student book Essential books	x		x	x	

5.1	Communicate clearly by verbal and means			Marketing definition Marketing planning Marketing environment Managing marketing information						
5.2	Retrieve and evaluate information from different sources to improve professional competencies.	D1 D2	d1 d2	Consumer and business buyer behavior Market segmentation, targeting and positioning Products, services and branding strategy Pricing strategies marketing channels	Student book, essential books	x		x	x	

		strategies				

Course Coordinators: Prof. Sherif A. El-Aasi

Prof. Mohammud G. Elshawadfy

COURSE SPECIFICATIONS

Drug interactions

Fourth level –Semester 8

2019-2020

Course Specification of Drug interaction

University:	Zagazig	Faculty:	Pharmacy							
A- Course specifications:										
Program(s) on which the course is given: Bachelor of pharmacy (Clinical pharmacy)										
Major or Minor e	element of programs:	Major								
Department offer	ing the program:									
Department offer	ing the course: Pha	armacology and Toxico	ology department							
Academic year / I	Level: Level 4/ se	mester 8								
Date of specificat	ion approval:	2019								
B- Basic inform	mation:									
Title: Drug intera	ction		Code: PO803							
Credit Hours:										
Lectures: 2 hr/we	ek									
Practical:										
Tutorials:										
Total: 2 hrs/week										
C. Duefersione	1 : f or									

C-Professional information:

1-Overall Aims of the Course

On completion of the course, the student will be able to understand drug interactions and to identify, evaluate, and manage drug interactions in an evidence-based, patientspecific manner. Given real-world patient case scenarios, students were expected to determine whether a given interaction was clinically significant or required pharmacist intervention, and make rational, scientifically sound, practical recommendations for the management of drug interactions.

2-Intended Learning Outcomes (ILOS)

A-I	Knowledge and Understanding
a1	Describe common mechanisms of drug interactions
a2	Determine the clinical significance of a given drug interaction
a3	Explain different drug interactions (drug-drug, drug-food, drug-herb,
as	drug-disease and drug-environment)
B- I	Professional and Practical Skills
b1	Use the proper pharmaceutical and medical terms, abbreviations and
UI	symbols in pharmacy practice.
b2	Solve clinical problems that may result from drug interactions.
C-I	ntellectual Skills
c 1	Differentiate between pharmacokinetic and pharmacodynamics drug
C1	interactions
c2	Differentiate between adverse and beneficial interactions of drugs
c3	Criticize and evaluate any new drug combination.
c4	Recommend appropriate management of a given drug interaction for a
04	specific patient.
D- (General and Transferable Skills
d 1	Manage time to meet targets within deadlines.
d2	Demonstrate critical thinking and decision making

D- Contents:

Week No.	Lecture (2 hr/week)					
1	Overview of drug interactions					
2	Mechanisms of drug interactions					
3	Drug-food and drug-herb interactions					
4	Drug interaction of CVS acting agent (1)					
5	Drug interaction of CVS acting agent (2)					
6	Drug interaction of antibiotics (1)					
7	Drug interaction of antibiotics (2)					
	Periodical exam					
8	Drug interaction of NSAIDs, DMARDs and antigout agents					
9	Drug interaction of respiratory system- acting agents					
10	Drug interaction of GI tract- acting agents					
11	Drug interaction of CNS- acting agents					
12	Drug-environment interactions					
13	Drug interactions for specific population					
14	Revision					
15	Final exam					

E- Teaching and Learning Methods:

- Lectures
- Think/pair/share
- Case study

F- Student Assessment Methods:

- 1- Written exam to assess: a1,a2,a3, b1, c1,c2,c3,c4
- 2- Mid-term exam to assess : a1,a2,a3, b1, b2, c1,c2, d1, d2
- 3- Oral exam to assess: a1,a2,a3,b1, c1,c2, c3, c4, d1, d2

Assessment Schedule:

Assessment (1): Final written exam	15 Week

Assessment (2): Oral exam	15	Week
Assessment (3): Mid-term exam	7	Week

Weighting of Assessment:

Assessment method	Marks	Percentage
Written exam	75	75%
Oral exam	15	15%
Periodical exam	10	10%
TOTAL	100	100%

F- Facilities required for teaching and learning:

• Black (white) board, Data show.

H- List of References:

1- Course Notes: Student book of Pharmacology I approved by Pharmacology

department

2- Essential Books:

- Richard A. Harvey, Michelle A. Clark, Lippincott's Illustrated Reviews Pharmacology 5th ed. Lippincott Williams & Wilkins, 2012.

3- Recommended Books

- i- H.P.Rang,M.M.Dale,J.M.Ritter& R.J. Flower ed. RANG & DALE Pharmacology 6th 2008 Churchill 2. Livingstone Elsevier London.
- ii- Katzung, B.G., ed. Basic and Clinical Pharmacology. 9th ed. New York : McGraw Hill, 2006.
- iii-Bennet P.N., and M.J. Brown, eds. Clinical Pharmacology. 10th ed. London : Churchil Livingstone, 2006.
- iv-Hardman J.G., L.E. Limbrid, and A.G. Gilman, eds. Goodman & Gilman's the Pharmacological Basis of Therapeutics. 10th ed. New York : McGraw Hill, 2006.
- v- Luellmann H., L. Hein, K. Mohr, and D. Bieger. Color Atlas of Pharmacology.3rd ed. Stuttgart : Thieme, 2005.
- vi-Brenner, G.M. and Steven, C.W., Pharmacology, 3rd ed., 2010

4- Periodicals and websites:

- British J Pharmacol,
- European J Pharmacol,
- Pharmacology,
- Pharmacology and Toxicology

Pubmed.com

www.medconsult.com/www.pharmanet.com

Course Coordinator: Prof. Dr. Hany El-Bassossy

Head of Department: Prof. Dr. Mona Fouad

تم مناقشة و اعتماد توصيف المقرر من مجلس القسم بتاريخ / Date: 2019

	Matrix I of Drug Interaction course												
			ILOs of the course										
	Course Contents	Knowledge and understanding			Practic	Practical skills		Intellectual skills				ral and ferable skills	
	Lectures	a1	a2	a3	b1	b2	c1	c2	c3	c4	d1	d2	
1	Overview of drug interactions	\checkmark			\checkmark		\checkmark	\checkmark			\checkmark		
2	Mechanisms of drug interactions				\checkmark			\checkmark					
3	Drug-food and drug-herb interactions		\checkmark		\checkmark	\checkmark			\checkmark	\checkmark	\checkmark	\checkmark	
4	Drug interaction of CVS acting agent (1)		\checkmark		\checkmark	\checkmark			\checkmark	\checkmark	\checkmark	\checkmark	
5	Drug interaction of CVS acting agent (2)		\checkmark		\checkmark	\checkmark			\checkmark	\checkmark	\checkmark	\checkmark	
6	Drug interaction of antibiotics (1)		\checkmark		\checkmark	\checkmark			\checkmark	\checkmark	\checkmark	\checkmark	
7	Drug interaction of antibiotics (2)		\checkmark		\checkmark	\checkmark			\checkmark	\checkmark	\checkmark	\checkmark	
8	Drug interaction of NSAIDs, DMARDs and antigout agents		\checkmark		\checkmark	\checkmark			\checkmark	\checkmark	\checkmark	\checkmark	
9	Drug interaction of respiratory system- acting agents		\checkmark		\checkmark	\checkmark			\checkmark	\checkmark	\checkmark	\checkmark	
10	Drug interaction of GI tract- acting agents		\checkmark		\checkmark	\checkmark			\checkmark	\checkmark	\checkmark	\checkmark	
11	Drug interaction of CNS- acting agents		\checkmark		\checkmark	\checkmark			\checkmark	\checkmark	\checkmark	\checkmark	
12	Drug-environment interactions Drug interactions for specific population		\checkmark		\checkmark	\checkmark			\checkmark	\checkmark		\checkmark	
13			\checkmark		\checkmark	\checkmark			\checkmark	\checkmark		\checkmark	
14	Revision		\checkmark		\checkmark	\checkmark			\checkmark	\checkmark	\checkmark	\checkmark	
15	Final exam		\checkmark						\checkmark	\checkmark	\checkmark	\checkmark	

Γ					Matrix II of Drug interaction	n course						
	Nat	ional Academic	Program	Course				ing and methods	Weigh	Weighting of assessment		
		rence Standards (NARS)	ILOs	ILOs	Course contents	Sources	Lecture	Think- pair- share	Written exam	Mid- term exam	Oral exam	
	2.13	Pharmacological properties of drugs including mechanisms of action, therapeutic uses, dosage, contra- indications, ADRs and drug interactions.	A22	a1	Overview of drug interactions, Mechanisms of drug interaction	Student book Essential books	\checkmark		\checkmark	\checkmark	\checkmark	
	2.14	Principles of clinical pharmacology, pharmacovigilance and the rational use of drugs.	clinical pharmacology,	A23	a2	Drug-food and drug-herb interactions, Drug interaction of CVS acting agent, Drug interaction of antibiotics, Drug interaction of NSAIDs, DMARDs and antigout agents, Drug interaction of	Student book Essential books Internet	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark
2.14			A23	a3	respiratory system- acting agents, Drug interaction of GI tract- acting agents, Drug interaction of CNS- acting agents, Drug- environment interactions, Drug interactions for specific population	Student book Essential books Internet	\checkmark	\checkmark	\checkmark		\checkmark	

3	.1	Use the proper pharmaceutical and medical terms, abbreviations and symbols in pharmacy practice.	B1	b1	All lectures	Student book Essential books Internet	V	\checkmark	\checkmark	\checkmark	\checkmark
3.	10	Advise patients and other health care professionals about safe and proper use of medicines.	B16	b2	Drug-food and drug-herb interactions, Drug interaction of CVS acting agent, Drug interaction of antibiotics, Drug interaction of NSAIDs, DMARDs and antigout agents, Drug interaction of respiratory system- acting agents, Drug interaction of GI tract- acting agents, Drug interaction of CNS- acting agents, Drug- environment interactions, Drug interactions for specific population	Student book Essential book Internet		V		\checkmark	
4	.9	Utilize the pharmacological basis of	C11	c3	Drug-food and drug-herb interactions, Drug interaction of CVS acting agent,	Student book Essential	\checkmark	\checkmark	\checkmark		

		therapeutics in the proper selection and use of drugs in various disease conditions.			Drug interaction of antibiotics, Drug interaction of NSAIDs, DMARDs and antigout agents, Drug interaction of respiratory system- acting agents, Drug interaction of GI tract- acting agents, Drug interaction of CNS- acting agents, Drug- environment interactions, Drug interactions for specific population	book Internet					
	4.11	Assess drug interactions, ADRs	DRs C13	c1	Overview of drug interactions, Mechanisms of drug interaction	Student book Essential book Internet	\checkmark	\checkmark	\checkmark	\checkmark	
4.		and pharmacovigilance	015	c2		Student book Essential book Internet	\checkmark	\checkmark	\checkmark	\checkmark	
	4.14	Analyze and evaluate evidence- based information needed in pharmacy practice.	C16	C3	Drug-food and drug-herb interactions, Drug interaction of CVS acting agent, Drug interaction of antibiotics, Drug interaction of NSAIDs, DMARDs and	Student book Essential book Internet	V	\checkmark	\checkmark		

			C4	antigout agents, Drug interaction of respiratory system- acting agents, Drug interaction of GI tract- acting agents, Drug interaction of CNS- acting agents, Drug- environment interactions, Drug interactions for specific population	Student book Essential book Internet	\checkmark	\checkmark	\checkmark		\checkmark
5.	B Demonstrate creativity and time management abilities.	D10	d1	All lectures	Recommended book Internet	\checkmark	\checkmark		\checkmark	\checkmark
5.1	Implement writing and thinking, problem- solving and decision- making abilities.	D12	d2	Drug-food and drug-herb interactions, Drug interaction of CVS acting agent, Drug interaction of antibiotics, Drug interaction of NSAIDs, DMARDs and antigout agents, Drug interaction of respiratory system- acting agents, Drug interaction of GI tract- acting agents, Drug interaction of CNS- acting agents, Drug-	Recommended book Internet	V	\checkmark		\checkmark	N

	environment interactions, Drug interactions		
	for specific population		

 Course Coordinator:

 Head of Department:

 Date:

 تم مناقشة و اعتماد توصيف المقرر من مجلس القسم بتاريخ

COURSE SPECIFICATIONS Cosmetic (elective) Fourth level –Semester 8 2019-2020

Course specification of Cosmetics

University:	Zagazig	Faculty:	Pharmacy	
A- Course speci	fications:			
Program (s) on w pharmacy)	hich the course is	given: Bachelor	of Pharmacy (Cl	inical
Major or Minor el	ement of programs	5:	Major	
Department offeri	ing the program:	-		
Department offeri	ing the course:	Pharmac	eutics departmen	t
Academic year / Le	evel:	Level 4 – 8	th semister	
Date of specificati	on approval:	/11/2019		
B- Basic informa	ation:			
Title: Cosmetics	Code: P	Г Е13		
Credit Hours: 3hrs	;			
 Lectures : 2 h Practical: 1 h Tutorials: Total: 3 hrs/w C- Professional 	rs/week veek			

<u>1-Overall Aims of the Course: at the end of the course the student</u> will be able to describe:

hair, bath, fragrance, and make up preparations, nail lacquers, shaving, and after-shave preparations, skin care, and hygiene products, antiperspirant and deodorants, quality control test and evaluation of cosmetic products.

2-Intended Learning Outcomes (ILOs):

A- k	Knowledge and Understanding
a1	Describe the structure and properties of hair fibers (hair follicle, dermal papillae) as well as hair problems
a2	Outline the composition of the skin and skin problems
a3	classify different ingredients used in formulations of skin care and cosmetic products according to their chemistry and function
a4	Describe the properties of different cosmetic preparations including skin and hair products.
B- P	Professional and Practical skills
b1	Calculate ingredients amounts in cosmetic preparations.
b2	Prepare different formulations for skin, hair, scalp
b3	Handle the cosmetics preparation and chemicals safely
b4	Evaluate quality of the prepared formulations based on its physical properties.
C- I	ntellectual skills
c1	Select the appropriate ingredients used in preparation of different cosmetics preparations.
c2	Recommend the appropriate cosmetic preparations according to customer needs.
D- (General and Transferable skills
d1	Communicate properly in an oral way.
d2	Work effectively as a team member.

D- Contents:

Week	Lecture	Practical session			
No.	(2hrs/week)	(1 hr/week)			
	- Definition and Classifications of cosmetics	Cold cream			
1	- Skin, functions, structure. Glands, Skin				
	types and Skin color				
2	- Hair structure and color	Cleansing Cream			
2	- Creams. uses, classification	Formula			
	Skin cleansing creams: Cold cream, Sorbitan	Vanishing Cream			
	fatty acid ester cream, Acid containing				
3	cleansing cream, Detergent cleansing cream,				
	Antibacterial cleansing cream				
	- Vanishing and foundation creams				
	- Shaving preparations: Preshaving				
4	preparation, Shaving creams and gels:	Shaving Creams			
	brushless shaving creams lather shaving				
	creams, soap, foaming shaving products,				
	shaving gels.				
	- Commonly used additives added to creams				
5	- Past: types, preparation, difference between	Acne Cream Formula			
	past and ointment.				

	Tooth paste			
6	Hair care products (Hair shampoo, hair conditioner, styling aid, hair dyes , hair tonic and depilatories)	Shampoo		
7	- Periodical exam			
8	 Bath preparations and baby cosmetics Cosmetics FOR NAILS, Nail Lacquers And Removers; Basic components 	Toothpaste		
9	Colour cosmetic and Face makeup(toilet powder, lip sick, mascara, eye liner and eye shadow)	Type Eye Shadow		
10	Antiperspirant & Deoderant materials and formulations, Fragrance preparations (Perfumes)	Lipstick		
11	Sunscreen, sun block and sun protection factors, Sun Tanning, Sunless tanning	Deodorant stick		
12	Skin whiting product	Sunscreen Cream		
13	- Antiaging&Antiwrinkles and Antiacne products	Final practical exam		
14	 Comparison between Facial Masks and Facial Packs Quality Control Test For Cosmetics 			
15	- Written exam			

E- Teaching and Learning Methods:

• Lectures

- Practical session
- Video demonstration.
- Assignments (prepare power point presentations about some marketed cosmetics products)

F- Student Assessment Methods:

- Periodical exam to assess: a1, a2, a3, a4, c1, c2
- Written exam to assess: a1, a2, a3, a4, c1, c2
- Practical exams to assess: b1, b2, b3 and b4
- Oral exam to assess: a1, a2, a3,a4, c1, c2, b3, b4, d1
- PowerPoint presentation **to assess:** d1, d2

Assessment schedule:

Assessment (1): Written exam	Week 15
Assessment (2): Practical exams	Weeks 13
Assessment (3): Oral exam	Week 15
Assessment (4): Activity	Weeks 13
Assessment (5): Periodical exam	Weeks 7

Weighting of Assessment:

Assessment method	Marks	Percentage

Written exam	50	50%
Practical exam and activities	25	25%
Oral exam	15	15%
Periodical exam	10	10%
TOTAL	100	100%

G- Facilities Required for Teaching and Learning:

- For lectures : Black (white) boards, data show
- For labs: Chemicals, glass ware, instruments, digital balance, water bathes

H- List of References:

- **1- Course Notes:**
- 2- Essential books:
 - COSMETICS ADDITIVES: An Industrial Guide
 - Ansel's Pharmaceutical Dosage Forms and Drug Delivery Systems, ninth edition "Loyd V. Allen Jr. PhD, Nicholas G. Popovich PhD, Howard C. Ansel PhD ", 720, 2010.
 - Remington's Pharmaceutical Sciences, 2393, 2005.
 - <u>Cosmetic and Toiletry Formulations (Second Edition)</u>, 1992, Ernest W. Flick
 - <u>Manufacturing Cosmetic Ingredients according to Good Manufacturing Practice</u> <u>Principles</u>, <u>Global Regulatory Issues for the Cosmetics Industry</u>, 2009, Pages 79-92
- **3- Recommended books:**

4- Periodicals and websites:

Course Coordinators: Prof. Dr. Hanan El Nahas

Course Staff:

Prof. Dr. Hanan El Nahas

Ass. Prof. Dr. Azza Ali Hasan

Dr. Eman Gomaa

Head of department: Prof. Dr. Nagia Ahmed Al-Amin Almegrab

تم مناقشة و اعتماد توصيف المقرر من مجلس القسم بتاريخ :Date

/11/2019

		Ma	atrix I o	f Co	sme	tic cou	urse						
		ILOs of First term course											
	Course Contents		Knowledge and understanding				Professional and practical skills				ual skills	Transferable and general skills	
	Lectures	a1	a2	a 3	a4	b1	b2	b3	b4	c1	c2	d1	d2
1	Cleansing creams (definition, types)	x	x	x	x					x	x		
2	Cleansing creams (definition, types)	x	x	×	x					x	x		
3	Cold and Vanishing cream	x	x	x	×					x	x		
4	Foundation cream	x	x	X	x					x	x		
5	Toilet powders "cosmetic Posers"	x	x	x	x					x	x		
6	Toilet powders "cosmetic Posers"	x	x	×	x					х	x		
7	Deodorants	x	x	×	x					x	x	1	
8	Shampoos	x	x	x	x					x	x		

9	Lipstick	x	x	x	x					x	x		
10	Nail lacquers	x	x	×	x					x	x		
11	Lacquers removal	x	x	×	x					x	x		
12	Hair removers (Depilatories and Depilatories)	x	x	x	x					x	x		
	Practical Session												
1	Preparation of cold cream + Lab evaluation					x	x	x	x			x	x
2	Preparation of vanishing cream + Lab evaluation					x	x	x	x			x	x
3	Preparation of shaving cream + Lab evaluation					х	x	x	x			x	x
4	Preparation of sunscreen cream + Lab evaluation					x	x	x	x			x	x
5	Revision on preparation of creams					х	x	Х	x			x	X
6	Preparation of calamine lotion + Lab evaluation					x	x	Х	x			x	x
7	Preparation of sulfur ointment+ Lab evaluation					x	x	X	x			x	x

8	Preparation of white field ointment+ Lab evaluation			x	x	x	x	x	X
9	Revision on Lotions			x	X	Х	x	X	x
10	Preparation of lipstick + Lab evaluation			x	x	X	x	X	X
11	Preparation of powders+ Lab evaluation			x	X	X	X	x	X
12	Preparation of powders+ Lab evaluation			x	X	X	X	х	X

				Matrix	k II of Cos	metic	course		
Ac Re Sta	ational ademic ference andards NARS	Program ILOs	Course Course ILOs contents		Sources	Teaching and learning methodslecturepractical sessionself- learning			
2.1	Principles of basic, pharmaceut ical, medical, social, behavioral, manageme nt, health and environmen tal sciences as well as pharmacy practice.	A2	a1 a2	Cleansing creams (definition, types) Cold and Vanishing cream Foundation cream Toilet powders "cosmetic Posers" Deodorants Shampoos Lipstick Nail lacquers Hair removers (Depilatories and Depilatories)	Student book Essential books	x		1	
2.2	Physical- chemical properties of various substances used in preparation of medicines including inactive and active ingredients as well as biotechnolo gy and radio- labeled products.	A6	a3	Toilet powders "cosmetic Posers" Lipstick Nail lacquers	Student book Essential books	x			
2.6	Properties of different pharmaceut	A10	a4	Cold and Vanishing cream Foundation	Student book Essential	x			:

	ical dosage forms including novel drug delivery systems.			cream Toilet powders "cosmetic Posers" Deodorants Shampoos Hair removers (Depilatories and Depilatories) Lipstick Nail lacquers	books		
3.2	Handle and dispose chemicals in a safe way.	В2	b3	Preparation of cold cream + Lab evaluation Preparation of vanishing cream + Lab evaluation Preparation of shaving cream + Lab evaluation Preparation of sunscreen cream + Lab evaluation Revision on preparation of creams	Practical notes	x	
3.3	Compound, dispense, label, store and distribute medicines effectively	B3	b1 b2 b4	Preparation of calamine lotion + Lab evaluation Preparation of sulfur ointment+ Lab evaluation Preparation of white field ointment+ Lab evaluation Revision on			

	and safely.			Lotions Preparation of lipstick + Lab evaluation Preparation of powders+ Lab evaluation Preparation of powders+ Lab evaluation				
4.1	Apply pharmaceut ical knowledge in the formulation of safe and effective medicines as well as in dealing with new drug delivery systems.	C1	c1 c2	Preparation of cold cream + Lab evaluation Preparation of vanishing cream + Lab evaluation Preparation of shaving cream + Lab evaluation Preparation of calamine lotion + Lab evaluation Preparation of sulfur ointment+ Lab evaluation Preparation of white field ointment+ Lab evaluation Revision on Lotions Preparation of lipstick + Lab evaluation Cold and Vanishing cream	Student book Essential bookspractic al notes	x		
5.1	Communica te clearly by verbal and means.	D1	d1	Market search internet search			x	

5.3	Work effectively D4 in a team.	d2			
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Course Coordinators: Prof. Dr. Hanan El Nahas

Course Staff:

Prof. Dr. Hanan El Nahas

Ass. Prof. Dr. Azza Ali Hasan

Dr. Eman Gomaa

Head of department: Prof. Dr. Nagia Ahmed Al-Amin Almegrab

تم مناقشة و اعتماد توصيف المقرر من مجلس القسم بتاريخ :Date

/11/2019

COURSE SPECIFICATIONS

Chromatography and

separation techniques

(elective)

Fourth level –Semester 8

Course Specification of: Chromatography and separation techniques

University:ZagazigFaculty:PharmacyA- Course specifications:Program(s) on which the course is given:Bachelor of Pharmacy,(clinical pharmacy)Major or Minor element of programs:MajorDepartment offering the program:Department offering the course:Pharmacognosy Department.Academic year/Level:Fourth level /eighth termDate of specification approval:30/9/2019B- Basic information:Title:Chromatography and separation techniques

Code: PG E10

Credit Hours: ---

Lectures : 2 hrs/week

Practical: **1 hr/week**

Tutorials: ---

Total: 3 hrs/week

C- Professional information:

1-Overall Aims of the Course:

On completion of the course, the student will be able to:

Illustrate different modes of separation, gel filtration and permeation, ion exchange and non-ion exchange manifestation and applications. High

pressure liquid chromatography, gas liquid chromatography and their applications

2-Intended Learning Outcomes (ILOs):

A-	Knowledge and Understanding									
a1	Outline the principles of different chromatographic separation techniques.									
a2	Illustrate the applications of different chromatographic techniques.									
a3	Identify suitable chromatographic techniques for qualitative and quantitative determination of drugs in body fluids									
B- Professional and Practical skills										
b1	Handel basic laboratory equipments effectively and safely.									
b2	Perform laboratory techniques for extraction, isolation and identification of different classes of drugs from natural origin, dosage forms and body fluids.									
b3	Construct a research study about different chromatographic techniques.									
C- 2	Intellectual skills									
c1	Predict different analytical tools used for determination of chemicals qualitatively and quantitatively.									
c2	Select appropriate chromatographic methods for isolation and identification of different classes of compounds in the body and in different dosage forms									
D-	General and Transferable skills									
d1	Work effectively as a member of a team.									
d2	Write reports and present it.									
d3	Develop communications skills with systematic and creative thinking individually or among a team									

D- Contents:

week No.	Lecture contents (2 hrs/lec.)	Practical session (2hrs/lab)
1	-Introduction, classification, and	Laboratory safety measures
	terminology and mode of	Extraction of herbal drugs.
	chromatographic separation.	Demonstration on soxhlet apparatus
2	- Classical chromatographic techniques	Extraction and detection of caffeine
	(Column chromatography)	in tea powder, tablets and power

		drinks by TLC.				
3	- Con. classical chromatographic	Extraction and detection of atropine				
	techniques (TLC and paper)	in hyoscyamus powder, atropine				
	New election developments and his	ampoules using standard by TLC				
4	Non classical chromatographic techniques (HPLC chromatography)	Activity (1): Write a report on: Using any chromatographic techniques, how can you perform qualitative and quantitative analysis of a medicinal plant metabolites or a toxic plant metabolite in body fluid (group discussion, 3 weeks for preparation)				
5	- Applications of HPLC chromatography	Demonstration of HPLC in the faculty analytical central lab				
6	-Gas chromatography, principle, mobile phase, stationary phase.	Demonstration of GC in the faculty analytical central lab				
7	Periodica	l exam				
8	Gas chromatography, detectors, quantification and application.	Report presentation and group discussion on activity (1).				
9	 Retention parameters in GC Hyphenated techniques 	Trouble shooting in GC and HPLC				
10	-Ion exchange chromatography	Videos on the operation of gel and ion exchange chromatography				
11	- Gel chromatography	Extraction and analysis of a drug in urine samples				
12	- Analysis of drugs in body fluids (Sample preparation and extraction)	Practical exam				
13	 Analysis of drugs in body fluids (Applications) 					
14	- Revision					
15	Written exam					

E- Teaching and Learning Methods:

- Lectures
- Practical sessions
- Videos for machines not available for actual demonstration (Gel

chromatography and ion exchange)

• Self learning (group discussion, research activity)

F- Student Assessment Methods:

1- Written exam (periodic, final) to assess (a1, a2, a3, c1, c2)

2- Activity (1): a research about a specific chromatographic technique and its application in the field of natural products **to assess** (b3, d1, d2, d3)

3- Practical exam to assess (b1, b2)

Assessment schedule:

Assessment (1): Periodic exam	Week 7
Assessment (2): Activity	Week 4, 8
Assessment (3): Practical exam	Week 12
Assessment (4): Final written exam	Week 15

Weighting of Assessment:

Assessment method	Marks	Percentage
Periodic exam	10	10%
Practical exam	25	25 %
Final written exam	50	50 %
Oral exam	15	15%
TOTAL	100	100%

G- Facilities Required for Teaching and Learning:

- Black (white) board, Data show.
- Laboratory equipment (soxhlet apparatus, Clevenger, TLC plates, glass columns, sprayers, capillaries, jars, separating funnels)
- HPLC and GC machines in the faculty central lab.
- Chemicals (organic solvents, silica for column and TLC, spraying reagents, Plant powders, alkaloids, and flavonoids).

H- List of References:

1- Course Notes: Student book for chromatography and separation

techniques, approved by Pharmacognosy Department 2019

2- Essential Books:

- Preparative Chromatography Techniques, Kurt Hostettmann, Maryse Hostettmann, Andrew Marston; Springer Science & Business Media (2013).
- Sample Preparation of Pharmaceutical Dosage Forms (Challenges and Strategies for Sample Preparation and Extraction), Beverly Nickerson, Springer Science & Business Media (2011).
- Basics of gas chromatography, Harold M. Mcnair and James M. Miller, Second edition, John Wiley and sons, INC publication (2009).
- Chromatography: Fundamentals and Applications by E.
 Heftmann (2004) 6th ed, ELSEIVIER Inc., San Diego, CA
 92101-4495, USA.
- Application of High Performance Liquid Chromatography. A. Pryde and M. T. Gilbert (1980) Chapman and Hall. London, New York.

3- Recommended Books

- Drogenanalyse II: "Inhaltsstoffe und Isolierungen" E. Stahl and
 W. Schild (1981) Gustav Fischer Verlag. Stuttgart, New York.
- Advances in Chromatography. Edited by J. C. Giddings, E. Grushka, J. Cazes and P. R. Brown (1983) Volume 22. Marcel Dekker Inc., New York and Basel.

- The Essence of Chromatography by C. F. Poole (2003) 1st, ELSEIVIER Inc., San Diego, CA 92101-4495, USA.
- Chromatographic Analysis of Pharmaceuticals. Edited by J.
 A. Adamovics (1997) 2nd ed.,. Marcel Dekker Inc., New York,
 Basel, Hong Kong.
- GLC and HPLC Determination of Therapeutic Agents. Part 1, edited by K. Tsuji and W. Morazowich (1978). Marcel Dekker Inc., New York and Basel.

4- Periodicals and websites:

Phytochemistry, J. of Natural Products, Die Pharmazie and journal of chromatography.

http:// www.elsevier.com/phytochem

http:// www.elsevier.com/phytomed

http:// www.wiley.co.uk.

http:// bioweb@cellbiol.com

Course Coordinator: Prof. Dr. Assem El-Shazly **Head of Department:** Prof. Dr. Amal Al-Gendy

تم مناقشة و اعتماد توصيف المقرر من مجلس القسم بتاريخ 2019 /9 /30 م :Date

Matrix I of Chromatography and separation techniques Course

	Course Contents	ILOs of Chromatography and separation techniques Course											
		Knowledge and understanding			Professional and practical skills			Intelle ski		Transferable and general skills			
			a2	a3	b1	b2	b3	c1	c2	d1	d2	d3	
	Lectures												
1	- Introduction, classification, and terminology and mode of chromatographic separation	×											
2	- Classical chromatographic techniques (Column chromatography)	×											
3	- Con. classical chromatographic techniques (TLC and paper)	×											
4	Non classical chromatographic techniques (HPLC chromatography)	×											
5	- Applications of HPLC chromatography		×					×					
6	-Gas chromatography, principle, mobile phase, stationary phase.	×											
7	Gas chromatography, detectors, quantification and application.		×					×					

8	Retention parameters in GCHyphenated techniques	×	×					×			
9	-Ion exchange chromatography	×	×								
10	- Gel chromatography	×	×								
11	- Analysis of drugs in body fluids (Sample preparation and extraction)			×			×	×			
12	Analysis of drugs in body fluids(Applications)			×			×	×			
	Practical sessions										
13	- Laboratory safety measures				×						
14	- Extraction of herbal drugs.					×					
15	Demonstration on soxhlet apparatus				×	×					
16	Extraction and detection of caffeine in tea powder, tablets and power drinks by TLC.				×	×			;	<	×
	ILC.										

	using standard by TLC								
18	Activity (1): Write a report on: Using any chromatographic techniques, how can you perform qualitative and quantitative analysis of a medicinal plant metabolites or a toxic plant metabolite in body fluid (group discussion, 3 weeks for preparation)				×		×	×	×
19	Demonstration of HPLC in the faculty analytical central lab			×	×	×			
20	Demonstration of GC in the faculty analytical central lab			×	×				
21	Report presentation and group discussion on activity (1).		×	×	×		×	×	×
22	Trouble shooting in GC and HPLC		×	×					
23	Videos on the operation of gel and ion exchange chromatography		×	×					
24	Extraction and analysis of a drug in urine samples		×	×			×		

Matrix II of chromatography and separation techniques

	National Academic Reference Standards NARS		n ILOs	Course contents Sou		Sources		eaching a ning met		Weighting of assessment		
			Program ILOs	Course ILOs	course contents	Sources	Lecture	Practical session	Self learning	Written exam	Practical exam	Oral exam
				1		Lectures	1			I		
	2.1	Principles of basic, pharmaceutical, medical, social, behavioral, management, health and environmental sciences as well as pharmacy practice.	A2	al	 Introduction, classification, and terminology and mode of chromatographic separation Classical chromatographic techniques (Column chromatography) Con. classical chromatographic techniques (TLC and paper) Non classical chromatographic techniques (HPLC chromatography) Gas chromatography, principle, mobile phase, stationary phase. Retention parameters in 	Student book	x			X		х

				GC - Hyphenated techniques -Ion exchange chromatography - Gel chromatography						
			a2	Gas chromatography, principle, mobile phase, stationary phase. - Retention parameters in GC - Hyphenated techniques -Ion exchange chromatography - Gel chromatography	Student book	X		X		x
2.4	Principles of isolation, synthesis, purification, identification, and standardization methods of pharmaceutical compounds.	A8	a3	 Analysis of drugs in body fluids (Sample preparation and extraction) Analysis of drugs in body fluids (Applications) 	Student book	X		X		x
3.4	Extract, isolate, synthesize, purify, identify, and /or	B6	b1	- Laboratory safety measures	Practical note		X		X	

	standardize active substances from different origins.		b2	 Extraction of herbal drugs. Demonstration on soxhlet apparatus Extraction and detection of caffeine in tea powder, tablets and power drinks by TLC. Extraction and detection of atropine in hyoscyamus powder, atropine ampoules using standard by TLC Trouble shooting in GC and HPLC Videos on the operation of gel and ion exchange chromatography Extraction and analysis of a drug in urine samples 	Practical notes Videos	Х		X	
3.11	Conduct research studies and analyze the results.	B17	b3	Demonstration of HPLC in the faculty analytical central lab Demonstration of GC in the faculty analytical central lab	practical notes, field visit	X	x	x	

4.3	Apply qualitative and quantitative analytical and biological methods for QC and assay of raw materials as well as pharmaceutical preparations.	C3	c2	 Retention parameters in GC Hyphenated techniques- Analysis of drugs in body fluids (Sample preparation and extraction) Analysis of drugs in body fluids (Applications) 	Student book , practical notes			
4.5	Select the appropriate methods of isolation, synthesis, purification, identification, and standardization of active substances from different origins.	C5 C6	c1	 Applications of HPLC chromatography Gas chromatography, detectors, quantification and application. Analysis of drugs in body fluids Analysis of drugs in body fluids (Sample preparation and extraction) 	Student book , practical notes			

5.3	Work effectively in a team Demonstrate creativity and time management abilities.	D4 D10	d1,d3	Extraction and detection of caffeine in tea powder, tablets and power drinks by TLC. Extraction and detection of atropine in hyoscyamus powder, atropine ampoules using standard by TLC Activity (1): Write a report about: Using any chromatographic techniques, how can you perform qualitative and quantitative analysis of a medicinal plant metabolites or a toxic plant metabolite in body fluid (group discussion, 3 weeks for preparation)Report presentation and group discussion on activity (1). Extraction and analysis of a drug in urine samples	Student book , practical notes, internet							
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5.9	Implement writing and presentation skills.	D11	d2	Activity (1): Write a report about: Using any chromatographic techniques, how can you perform qualitative and quantitative analysis of a medicinal plant metabolites or a toxic plant metabolite in body fluid (group discussion, 3 weeks for preparation)Report presentation and group discussion on activity (1).	Internet, essential and recommended books.						
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Course Coordinator: Prof. Dr. Assem Al-Shazly

Head of Department: Prof. Dr. Amal Al-Gendy

تم مناقشة و اعتماد توصيف المقرر من مجلس القسم بتاريخ 30/ 9 /2019 م :Date