COURSE SPECIFICATIONS

Faculty of Pharmacy

(Clinical Pharmacy Program)

Fifth level – Semester 9

2019-2020

CONTENTS:

COURSE SPECIFICATIONS

Toxicology & forensic chemistry

Fifth level –Semester 9

2019-2020

Course specification of toxicology and forensic chemistry

University: Zagazig Faculty: Pharmacy

A- Course specifications:

Program (s) on which the course is given: Bachelor of Pharmacy (Clinical Pharmacy)

Major or Minor element of programs: Major

Department offering the program: -------

Department offering the course: pharmacology and toxicology Department

Academic year Level: Fifth year/ semester 9

Date of specification approval: October 2019

B- Basic information:

Title: Toxicology and forensic chemistry

Code: PO 904

Credit Hours: ---

Lectures: 2 hrs/week

Practical: 1 hr/week

Tutorials: ---

Total: 3 hrs/week

C- Professional information:

1-Overall aim of the course

Explain the mechanism of toxicity, target organ and treatment with different drug groups as well as forensic chemistry applications.

2- Intended Learning Outcomes of Toxicology and forensic chemistry (ILOs)

A- Knowledge and Understanding	
a1	Outline the basic mechanism of toxicity.
a2	Define forensic chemistry and its basic applications.
a3	Illustrate the response of different body systems to toxicity.
a4	Demonstrate the toxic effects of some drug groups and other agents.
a5	Describe the basic approach for the treatment of toxicity
B- Professional and Practical skills	
b1	Handle and dispose chemicals safely.
b2	Assess toxicity profiles of some xenobiotics.
b3	Detect the presence of poisons in purified samples.
b4	Monitor the toxic effects of some agents on blood and tissue samples.
C- Intellectual skills	
c1	Determine the risk of drug use according to the target organ of toxicity.
c2	Integrate information from different sources to solve forensic chemistry problems.
D-General and Transferable skills	
d1	Work effectively as a member of teamwork

D- Contents:

Week No.	Lecture contents (2 hrs/week)	Practical session (1 hr/week)
1	- Introduction to toxicology/ILOS	- Dermatology cases 1 (electrical burn, frost bite)
2	- Approach to treatment	- Dermatology cases 2 Allergic contact dermatitis, photo allegic contact dermatitis)
3	- Toxic effects of heavy metals-1	- case study on heavy metals 1 (lead, arsenic and cadmium)
4	- Toxic effects of heavy metals-2	- case study on heavy metals 2 (Iron, mercury and copper)
5	- Toxic effects of heavy metals-3	- Pesticides (case studies) 1 (Organophosphorous pesticides, pyrethroid type I & II)
6	- Toxic effects of pesticides - periodical exam	- - Pesticides (case studies) 2 (Organochlorine pesticides: Lindane and chlordane)
7	- Periodical exam	- case study on vapour (Carbon momoxide, cyanide and iodine)
8	- Toxic effects of solvents & vapors	
9	Toxic response of immune system/respiratory system	- case study on solvents (Ethanol and methanol)
10	- Toxic responses of the kidney/liver	- Blood spots
11	- Toxic responses of the heart & vascular system - Toxic responses of the visual system & the nervous systems	- Tissue spots
12	- Blood as a target organ	- Teratogenicity
13	- Food Poisoning & Animal poisons	- Practical exam 1
14	- Teratogenicity	- Practical exam 2
15	- Final exam	

E- Teaching and Learning Methods:

- Lectures
- Practical sessions
- Think/pair/share
- Case study

F- Student Assessment methods:

1- Written exams to assess: a1, a2, a3, a4, a5, c1,c 2

2- Practical exams to assess: b1,b 2,b 3,b 4,

3- Oral exam to assess: a1, a2, a3, a4, a5, c1,c 2

4-Activity to assess: c2, d1

Assessment schedule

Assessment (1): periodical exam	Week 7
Assessment (2): Practical exam	Week 13, 14
Assessment (3): Oral exam	Week 15
Assessment (4): Written exam	Week 15

Weighting of Assessment

Assessment method	Marks	Percentage
periodical exam	10	10%
Practical exam	25	25%
Oral exam	15	15%
Written exam	50	50%
TOTAL	100	100%

G- Facilities required for teaching and learning:

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

• For practical: Well-equipped labs, Laboratory equipment and Chemicals

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H- List of References:

1- Course Notes: Student book of Toxicology approved by Toxicology and Pharmacology department (2018)

- Practical notes of Toxicology (1) approved by Toxicology and Pharmacology department (2018)

2- Essential Books:

i- Goodman & Gilman's: The pharmacological basis of therapeutics (tenth edition); Hardman, Limbird, Gillman; McGraw-Hill Companies USA (2001).

ii- The Basic Science of Poison (fifth edition); Klassen C.; McGraw-Hill Companies USA (1996).

3- Recommended Books:

i- Integrated Pharmacology; Curtis, Suiter, Walker, Hottman; Mosby, London, UK (1997).

4- Periodicals and websites:

- Aquilina A. The extemporaneous compounding of paediatric medicines at Mater Dei Hospital. Journal of the Malta College of Pharmacy Practice. Issue 19, 28 – 30, 2013.

http://canadianpharmacistsletter.therapeuticresearch.com/ce/ceCourse.asp...

Course Coordinator: Ass.Prof.Dr. Shimaa El-Shazly

Head of Department: Prof.Dr. Mona Fouad

Date: م 2019/ 10 / تم مناقشة و اعتماد توصيف المقرر من مجلس القسم بتاريخ

Matrix I of Toxicology and forensic chemistry course

Course Contents		ILOs of Toxicology and forensic chemistry course										
		knowledge and understanding					Professional and practical skills			Intellectual skills		Transferable and general skills
Lectures		a1	a2	a3	a4	a5	b1	b2	b3	b4 c1	c2	d1
1	Introduction to toxicology/ILOS	X	x									
2	Approach to treatment	X	x									
3	Toxic effects of heavy metals-1	X	x	x	x	x				X	X	
4	Toxic effects of heavy metals-2	X	x	x	x	x				X	X	
5	Toxic effects of heavy metals-3	X	x	x	x	x				X	X	
6	Toxic effects of pesticides	X		X	x	x				x	X	
7	Periodical exam	X		x							X	
8	Toxic effects of solvents & vapors	X	X	x	x	x				x	x	

9	Toxic response of immune system/respiratory system	X	x	x	x	x				x	x	
10	Toxic responses of the kidney/liver	x	X	x	x	x				x	X	
11	Toxic responses of the heart & vascular system	x	x	x	x	x				X	X	
	Toxic responses of the visual system & the nervous systems											
12	Blood as a target organ	x	X	x	x	x				x	x	
Practical session												
1	Dermatology cases 1 (electrical burn, frost bite)			x	x	x				x	x	X
2	Dermatology cases 2 Allergic contact dermatitis, photo allegic contact dermatitis)			x	x	x					x	X
3	case study on heavy metals 1 (lead, arsenic and cadmium)			x	x	x				x	x	X
4	case study on heavy metals 2 (Iron, mercury and copper)			x	x	x					x	X
5	Pesticides (case studies) 1 (Organophosphorous pesticides, pyrethroid type I & II)			x	x	x				x	x	X
6	- Pesticides (case studies) 2			x	x	x				x	x	X

	(Organochlorine pesticides: Lindane and chlordane)											
7	- case study on vapour (Carbon momoxide, cyanide and iodine)			x	x	x				x	x	X
8	- case study on solvents (Ethanol and methanol)			x	x	x				x	x	X
9	Blood spots						x	x	x	x		X
10	Tissue spots						x	x	x	x		X
11	Teratogenicity									x	x	X
	Practical exam 1											

Matrix II of toxicology and forensic chemistry course

National Academic Reference Standards NARS		Program ILOs	Course ILOs	Course contents	Sources	Teaching and learning methods			Weighting of assessment			
						lecture	practical session	case study/ think-pair-share	written exam	practical exam	oral exam	Periodical exam
2.1	Principles of basic, pharmaceutical, medical, social, behavioral, management, health and environmental sciences as well as pharmacy practice.	A3	a1	- Introduction to toxicology/ILOS	Student book Essential books	X			x		x	x
			a2	- Approach to treatment	Student book Essential books	X			x		x	x
2.16	Toxic profile of drugs and other xenobiotics including sources, identification, symptoms,	A25	a3	- Toxic effects of heavy metals-1,2,3 Toxic effects of solvents & vapors	Student book Essential books	X			x		x	x
			a4	Toxic response of	Student book	X			x		x	x

	management control and first aid measures.		a5	immune system/respiratory system Toxic responses of the kidney/liver Toxic responses of the heart & vascular system Toxic responses of the visual system & the nervous systems Blood as a target organ	Essential books							
3.2	Handle and dispose chemicals and pharmaceutical preparations safely.	B2	b1	Blood spots Tissue spots	Practical notes		x	x		x		
3.7	Assess toxicity profiles of different xenobiotics and detect poisons in biological specimens	B12	b2		Practical notes		x	x		x		
		B13	b3		Practical notes		x	x		x		
			B4									

4.9	Utilize the pharmacological basis of therapeutics in the proper selection and use of drugs in various disease conditions.	C11	c1 c2	Dermatology cases 1 (electrical burn, frost bite) Dermatology cases 2 Allergic contact dermatitis, photo allegic contact dermatitis) case study on heavy metals 1 (lead, arsenic and cadmium) case study on heavy metals 2 (Iron, mercury and copper) Pesticides (case studies) 1 (Organophosphorous pesticides, pyrethroid type I & II) - Pesticides (case studies) 2 (Organochlorine pesticides: Lindane and chlordane) - case study on vapour (Carbon momoxide, cyanide and	Student book practical notes		x		x		x	x
5.3	Work effectively in a team.	D4	d1					x				

				iodine) - case study on solvents (Ethanol and methanol)									

Course Coordinator: Ass.Prof.Dr. Shimaa El-Shazly

Head of Department: Prof.Dr. Mona Fouad

Date: تم مناقشة و اعتماد توصيف المقرر من مجلس القسم بتاريخ / 10 /2019 م

COURSE SPECIFICATIONS

Therapeutics-1

Fifth level –Semester 9

2019-2020

Course specification of Therapeutics-1

University: **Zagazig** **Faculty:** **Pharmacy**

A- Course specifications:

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

Major or Minor element of programs: Major

Department offering the program: -------

Department offering the course: Pharmacology and Toxicology

Academic year Level: **Fifth Level – 9th semester**

Date of specification approval: October 2019

B- Basic information:

Title: Therapeutics-1 **Code :** **PO 905**

Credit Hours: ---

Lectures: 2 hrs/week

Practical: 1hr/week

Tutorials: ---

Total: 3 hrs/week

C- Professional information:

1- Overall aim of the course

On completion of the course, the student will be able to explain the basis of therapeutics including etiology, clinical features, diagnosis and treatment of different disease as liver, menstrual, pediatrics and GIT disorders.

2- Intended Learning Outcomes (ILOs)

A- Knowledge and Understanding	
a1	Illustrate etiology, epidemiology and clinical features of disorders as liver, menstrual, pediatrics and GIT disorders.
a2	Outline the lab. diagnosis of disorders as liver, menstrual, pediatrics and GIT disorders.
a3	Specify therapeutic regimens of disorders as liver, menstrual, pediatrics and GIT disorders.
a4	Underline the bases of therapeutics, clinical pharmacology and evidence based medicine.
B- Professional and Practical skills	
b1	Select the drug of choice for different diseases according to the etiology and pathophysiology.
b2	Advise patients for rational and irrational use of drugs.
C- Intellectual skills	
c1	Suggest the suitable drugs for various diseases based on pharmacological basis.
c2	Identify drug-drug interactions
c3	Analyze and interpret the given data for diagnosis of different disease.
D-General and Transferable skills	
d1	Communicate effectively with patients and health care professional.
d2	Work as a team member.
d3	Develop computer and internet communication skills.
d4	Practice self-learning.
d5	Write and present reports.

D- Contents:

Week No.	Lecture contents (2 hrs/lec.)	Practical session (1hrs/lab)
1	Liver disorders	Case studies on liver disorders
2	Liver disorders	Case studies on liver disorders
3	Liver disorders	Case studies on liver disorders
4	Menstrual disorders	Case studies on menstrual disorders
5	Menstrual disorders	Case studies on menstrual disorders
6	Menstrual disorders	Case studies on menstrual disorders
7	Pediatrics (sepsis and meningitis, RSV, AOM) **Periodical exam**	Case studies on sepsis and meningitis, RSV, AOM
8	Pediatrics (Vaccinations and ADHD)	Case studies on Vaccinations and ADHD
9	GIT disorders (GERD)	Case studies on GERD
10	GIT disorders (Peptic Ulcer)	Case studies on Peptic Ulcer
11	GIT disorders (Upper GI bleeding)	Case studies on upper GI bleeding
12	GIT disorders (IBD)	Case studies on IBD
13	Revision	**Practical exam**
14	Revision	
15	Final exam	

E- Teaching and Learning Methods:

- Lectures
- Practical sessions
- Think/pair/share
- Case study, Open discussion, self-learning

F- Student Assessment methods:

1- Written exams (Periodical and final) to assess: a1 to a4 and c1 to c3.

2- Practical exam and lab activity to assess: b1 and b2 and d1 to d5.

3- Oral exam to assess: a1 to a4, c1 to c3, d1 and d5.

Assessment schedule

Assessment (1): Mid-term exam	**Week 7**
Assessment (2): Lab Activity	**Week 1 to 12**
Assessment (3): Practical exam	**Week 13**
Assessment (4): Final written exam	**Week 15**
Assessment (5): Oral exam	**Week 15**

Weighting of Assessment

Assessment method	Marks	Percentage
Mid-term exam	10	10%
Practical exam and lab activity	25	25%
Final written exam	50	50%
Oral exam	15	15%
TOTAL	100	100%

G- Facilities required for teaching and learning:

a. For lectures : Black (white) board, data show, air conditioned

classroom

b. For practical: Well-equipped labs

H- List of References:

1. **Course Notes:** Student book of therapeutics-1 approved by the Pharmacology and Toxicology department (201**9**) and practical notes of therapeutics-1 approved by the Pharmacology and Toxicology department (201**9**).
2. **Essential Books:**
   a. American collage of clinical pharmacy updates in therapeutics pharmacotherapy preparatory review and recertification course (2017)
3. **Recommended Books:** Pharmacotherapy, pathophysiological approach (tenth edition); DePero J., (2016).
4. **Periodicals and websites:** Medscape clinical guidelines updates

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Course Coordinator: Prof. Dr. Mona Fouad

Head of Department: Prof. Dr. Mona Fouad

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

Matrix I															
Course Contents		**ILOs of Therapeutics-1 course**													
		Knowledge and understanding				**Professional and practical skills**		**Intellectual skills**			**Transferable and general skills**				
Lectures		**a1**	**a2**	**a3**	**a4**	**b1**	**b2**	**c1**	**c2**	**c3**	**d1**	**d2**	**d3**	**d4**	**d5**
1	Liver disorders	**x**	**x**	**x**	**x**			**x**	**x**	**X**					
2	Liver disorders	**x**	**x**	**x**	**x**			**x**	**x**	**X**					
3	Liver disorders	**x**	**x**	**x**	**x**			**x**	**x**	**X**					
4	Menstrual disorders	**x**	**x**	**x**	**x**			**x**	**x**	**X**					
5	Menstrual disorders	**x**	**x**	**x**	**x**			**x**	**x**	**X**					
6	Menstrual disorders	**x**	**x**	**x**	**x**			**x**	**x**	**X**					
7	Pediatrics (sepsis and meningitis, RSV, AOM)	**x**	**x**	**x**	**x**			**x**	**x**	**X**					

	Periodical exam														
8	Pediatrics (Vaccinations and ADHD)	**x**	**x**	**x**	**x**			**x**	**x**	**X**					
9	GIT disorders (GERD)	**x**	**x**	**x**	**x**			**x**	**x**	**X**					
10	GIT disorders (Peptic Ulcer)	**x**	**x**	**x**	**x**			**x**	**x**	**X**					
11	GIT disorders (Upper GI bleeding)	**x**	**x**	**x**	**x**			**x**	**x**	**X**					
12	GIT disorders (IBD)	**x**	**x**	**x**	**X**			**x**	**x**	**X**					
Practical session															
1	Case studies on liver disorders, lab activity					**x**	**x**				**x**	**x**	**x**	**x**	**x**
2	Case studies on liver disorders, lab activity					**x**	**x**				**x**	**x**	**x**	**x**	**x**
3	Case studies on liver disorders, lab activity					**x**	**x**				**x**	**x**	**x**	**x**	**x**
4	Case studies on menstrual disorders, lab					**x**	**x**				**x**	**x**	**x**	**x**	**x**

	activity														
5	Case studies on menstrual disorders, lab activity					**x**	**x**				**x**	**x**	**x**	**x**	**x**
6	Case studies on menstrual disorders, lab activity					**x**	**x**				**x**	**x**	**x**	**x**	**x**
7	Case studies on sepsis and meningitis, RSV, AOM, lab activity					**x**	**x**				**x**	**x**	**x**	**x**	**x**
8	Case studies on Vaccinations and ADHD, lab activity					**x**	**x**				**x**	**x**	**x**	**x**	**x**
9	Case studies on GERD, lab activity					**x**	**x**				**x**	**x**	**x**	**x**	**x**
10	Case studies on Peptic Ulcer, lab activity					**x**	**x**				**x**	**x**	**x**	**x**	**x**
11	Case studies on upper GI bleeding, lab activity					**x**	**x**				**x**	**x**	**x**	**x**	**x**
12	Case studies on IBD, lab activity					**x**	**x**				**x**	**x**	**x**	**x**	**x**

Matrix II

National Academic Reference Standards NARS		Program ILOs	Course ILOs	Course contents	Sources	Teaching and learning methods		Method of assessment		
						Lecture	Practical session	Written exam	Practical exam and lab activity	Oral exam
2.12	Etiology, epidemiology, laboratory diagnosis and clinical features of different diseases and their pharmacotherapeutic approaches.	A20 and A21	a1 to a3	Disorders of liver, menstrual, pediatrics and GIT disorders	Student book and essential books	X		x		x
2.14	Principles of clinical pharmacology, pharmacovigilance and the rational use of drugs.	A23	a4	Disorders of liver, menstrual, pediatrics and GIT disorders	Student book and essential books	X		x		x

3.5	Select medicines based on understanding etiology and path physiology of diseases.	B7	b1	Case studies on liver, menstrual, pediatrics and GIT disorders	Practical note		x		x	
3.10	Advise patients and other health care professionals about safe and proper use of medicines	B16	b2	Case studies on liver, menstrual, pediatrics and GIT disorders	Practical note		x		x	
4.9	Utilize the pharmacological basis of therapeutics in the proper selection and use of drugs in various disease conditions.	C11	c1, c3	Disorders of liver, menstrual, pediatrics and GIT disorders	Student book, Essential books	X		x		x
4,11 5.1	Assess drug interactions, ADRs and Pharmacovigilance Communicate clearly by verbal and means.	C13 D1	c2 d1	Disorders of liver, menstrual, pediatrics and GIT disorders Lab activity	Student book, Essential books Different sources	X		x	 x	x

5.2	Retrieve and evaluate information from different sources to improve professional competencies	D2	d3 d4	Lab activity	Different sources				x		-
5.3	Work effectively in a team.	D4	d2	Lab activity	Different sources				x		
5.9	Implement writing and presentation skills	D11	d5	Lab activity	Different sources				x		

Course Coordinator: Prof. Dr. Mona Fouad

Head of Department: Prof. Dr. Mona Fouad Date:

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

COURSE SPECIFICATIONS

Clinical Pharmacokinetics

Fifth level –Semester 9

2019-2020

Course Specification of Clinical Pharmacokinetics

University: Zagazig Faculty: Pharmacy

A- Course specifications:

Program(s) on which the course is given: Clinical pharmacy program

Major or Minor element of programs: Major

Department offering the program: -------

Department offering the course: Pharmacy practice department

Academic year/Level: Fifth level /ninth semester

Date of specification approval September 2019

B- Basic information:

Title: Clinical Pharmacokinetics Code: PP 907

Credit Hours:

- Lectures : 2 hrs/week
- Practical: 1 hrs/week
- Tutorials: ---
- Total: 3 hrs/week

C- Professional information:

1-Overall Aims of the Course:

On completion of the course, students will be able to define clinical pharmacokinetics, linear and non linear pharmacokinetics, drug distribution and drug clearance mechanisms as well as concentration monitoring and application of pharmacokinetics in clinical situations. Students will be able to individualize drug therapy for drugs with narrow therapeutic index such as aminoglycosides, lithium, phenytoin and others.

2-Intended Learning Outcomes of Clinical Pharmacokinetics (lLOs):

3. Intended learning outcomes (ILOs):

Knowledge and Understanding	
a1	Define various terms related to basic pharmacokinetics including linear and nonlinear pharmacokinetics, clearance, volume of distribution, drug elimination, bioavailability, bioequivalence and concentration monitoring
a2	Describe clinical pharmacokinetic variabilities related to different diseases including renal and hepatic dysfunction, obesity, heart failure, inflammatory disease, etc
a3	List the equations used to calculate drug clearance, elimination rate constant, volume of distribution and half life, creatinine clearance, drug dosage
a4	Outline therapeutic ranges and pharmacokinetic parameters for drugs with narrow therapeutic index which need therapeutic drug monitoring .e.g. aminoglycoside antibiotics, lithium, theophylline, digoxin and others
Professional and practical skills	
b1	Perform proper therapeutic monitoring of drugs with narrow therapeutic index .e.g. aminoglycoside antibiotics, lithium, theophylline, digoxin and others
b2	Calculate loading and maintenance dose of aminoglycoside antibiotics, lithium, theophylline, digoxin and others using the pharmacokinetic parameters method
Intellectual skills	
c1	Investigate the effect of age and disease state on pharmacokinetics of digoxin, aminoglycoside, phenytoin, and theophylline, etc….
c2	Explain the change in drug pharmacokinetics using the graph technique
General and Transferable Skills	
d1	Develop problem solving and critical thinking skills
d2	Develop life long learning skills

D- Contents:

Week No.	Lecture contents (2 hrs/lec.)	Practical session (1 hr/w)
1	Course orientation Basic concepts: ➢ Linear & nonlinear pharmacokinetics ➢ Clearance ➢ Volume of distribution ➢ Bioavailability	Calculate: clearance elimination half-life bioavailability
2		
3	Drug dosing in special populations: renal and hepatic disease ➢ Dialysis ➢ heart failure ➢ obesity ➢ drug interactions	Calculate: - creatinine clearance - child pugh score
4		
5		TDM of aminoglycosides
6	Aminoglycosides clinical pharmacokinetics	
7	Periodical exam	TDM of digoxin
8	Digoxin clinical pharmacokinetics	
9	Phenytoin clinical pharmacokinetics	TDM of phenytoin
10	Lithium clinical pharmacokinetics	TDM of lithium
11	Phenobarbital clinical pharmacokinetics	TDM of phenobarbital
12	Clinical pharmacokinetics and concentration monitoring	TDM of theophylline
13	Application of pharmacokinetics in clinical situation	Delivery of activity report
14	Discussion of Reseach papers about pharmacokinetics of different drugs	Practical exam
15	Final written exam	

E- Teaching and Learning Methods:

- Lectures
- Case discussion
- Problem solving
- Think-pair-share
- Self learning

F- Student Assessment Methods:

1- Written exams to assess a1, a2, a3, a4, c1, c2

2- Practical exam to assess b1, b2, d1

3-Students are asked to prepare a complete report about the pharmacokinetics and dose adjustment of a selected drug to assess c1, d2

4- Oral exam to assess a1, a2, a3, a4, c1, c2

Assessment schedule:

Assessment (1): Periodical exam	Week 7
Assessment (2): Practical exam	Week 14
Assessment (3): report delivery	Week 13
Assessment (4): Oral exam	Week 15
Assessment (5): final written exam	Week 15

Weighting of Assessment:

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

G- Facilities Required for Teaching and Learning:

Black (white) boards, data show, air conditioned classroom equipped with sound system

H- List of References:

1- Course Notes: Student book of clinical pharmacokinetics approved by pharmacy practice department, 2019.

2- Essential books:

i- Basic clinical pharmacokinetics, Ed., M. Winter. Applied Therapeutics, Inc. 5th Edition, October (2009).

3- Recommended books:

i- Applied Clinical Pharmacokinetics, Larry A. Bauer, McGraw-Hill, (2008).

4- Periodicals and websites:

Journal of clinical pharmacokinetics; Amitabh Prakash (Editor).

Websites:http://adisonline.com/pharmacokinetics/pages/aboutthejournal.aspx

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Course Coordinator: Assistant Prof. Gehan Fathy Attia
Course Instructors: Drs: Prof. Fakhar Ghazi, Gehan Fathy, Eman Gomaa
Head of department: Dr Gehan Fathy

Matrix I of Clinical Pharmacokinetics

	Course Contents	ILOs									
		Knowledge and Understanding				Professional and practical skills		Intellectual skills		General Transferable skills	
		a1	a2	a3	a4	b1	b2	c1	c2	d1	d2
1	- Basic concepts: ➢ Linear & nonlinear pharmacokinetics ➢ Clearance ➢ Volume of distribution • Bioavailability	x									
2	• Clinical pharmacokinetic equations and calculations	x									
3	• Drug dosing in special populations: renal and hepatic disease, Dialysis, heart failure, obesity and drug interactions		x	x				x	x		
4	• TDM of Aminoglycosides		x	x	x			x	x		
5	• TDM of Digoxin		x	x	x			x	x		
6	• TDM of Phenytoin		x	x	x			x	x		
7	• TDM of Lithium		x	x	x			x	x		

8	• Clinical pharmacokinetics and concentration monitoring		x	x	x			x	x		
9	• Application of pharmacokinetics in clinical situation		x	x	x			x			x
10	• Discussion of Research papers about pharmacokinetics of different drugs		X					x			x
Practical											
10	• Pharmacokinetics calculations (applications relevant to the theoretical part)					x	x			x	
11	• Evidence based report (Activity)	x	x	x	x			x			x

Matrix II of Clinical Pharmacokinetics course

National Academic Reference Standards (NARS)		Program ILOs	Course ILOs	Course contents	Sources	Teaching and learning methods			Method of assessment			
						Lecture	Practical session (problem solving/ case study)	Self learning	Written exam	Practical exam	Periodical exam	Oral exam
2.8	Principles of pharmacokinetics and biopharmaceutics with applications in therapeutic drug monitoring, dose modification and bioequivalence studies.	A12	a1	Basic concepts: □ Linear & nonlinear pharmacokinetics □ Clearance □ Volume of distribution □ Bioavailability	Student book Essential books	x	x		x	x	x	x
				Drug dosing in special populations: □ renal and hepatic disease □ Dialysis □ heart failure □ obesity □ drug interactions								
				- TDM of Gentamicin-								
				- TDM of Phenytoin-1								
			a2	Clinical pharmacokinetics and concentration monitoring Application of pharmacokinetics in clinical situation								
			a3	- TDM of Lithium								
				- TDM of Digoxin								
			a4	- TDM of Theophylline								

				Drug dosing in special populations: □ renal and hepatic disease □ Dialysis □ heart failure □ obesity □ drug interactions								
3.5	Select medicines based on understanding etiology and path physiology of diseases	B8	b1	TDM of aminoglycosides	Practical notes		x			x		
				TDM of phenytoin			x			x		
				TDM of theophylline								
				TDM of digoxin			x			x		
				TDM of lithium								
			b2	TDM of phenobarbital			x x			x x		
4.10	Calculate and adjust dosage and dose regimen of medications.	C12	c1	- TDM of aminoglycosides - TDM of lithium - TDM of Phenytoin - TDM of Digoxin	Student book Essential books	x	x		x	x	x	x
			c2	-TDMof Theophylline Drug dosing in special populations	Practical notes							
5.5	Practice independent learning needed for continuous professional development.	D7	d2	- Activity (Report) - Discussion of Research papers about pharmacokinetics of different drugs	Recommended books Internet			x				
5.10	Implement writing and thinking, problem- solving	D12	d1	- TDM of aminoglycosides - TDM of lithium - TDM of Phenytoin	Practical notes		x			x		
							x			x		
							x			x		
							x			x		

	and decision-making abilities			- TDM of Digoxin -TDMof Theophylline Drug dosing in special populations			x			x		

Course Coordinator: Assistant Prof. Gehan Fathy Attia

COURSE SPECIFICATIONS

Oncology

Fifth level –Semester 9

2019-2020

Course Specification of Oncology

University: Zagazig Faculty: Pharmacy

A- Course specifications:

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

Major or Minor element of programs: Major

Department offering the program:

Department offering the course: Clinical Oncology department

Faculty of Medicine

Academic year/Level: Fifth level/Ninth semester

Date of specification approval September 2019

B- Basic information:

Title: Oncology Code: PP 908

Credit Hours:

Lectures : 2 hrs/week

Practical: 1 hrs/week

Tutorials: ---

Total: 3 hrs/week

C- Professional information:

1-Overall Aims of the Course:

On completion of the course, students will be able to explain the etiology, pathogenesis, genetics, clinical features, diagnosis of different types of tumors as well as their treatment.

2-Intended Learning Outcomes of Oncology (ILOs):

A- Knowledge and Understanding	
a1	Outline the principles of cancer disease.
a2	Illustrate the basics of oncogenesis and molecular biology of cancer.
a3	Demonstrate etiology, risk factors and consequences of cancer development.
a4	Describe epidemiology, pathology, clinical signs and symptoms of cancer.
a5	Define prognostic factors, diagnosis and staging of various tumor types.
a6	Determine fundamentals of treatment of the most common types of cancer and supportive care therapies.
B- Professional and Practical skills	
b1	Use proper medical terms and abbreviation of oncology.
b2	Choose appropriate treatment of various kinds of tumor according to disease etiology and pathophysiology.
b3	Determine the stage of cancer disease.
C- Intellectual skills	
c1	Interpret information needed in pharmacy practice.
c2	Evaluate both scientific and library based information in the field of oncology.
D- General and Transferable skills	
d1	Work effectively as a member of a team.
d2	Practice independent learning needed for continuous professional
d3	Write and present reports.
d4	Implement critical thinking and decision making skills.

D- Contents

Week No.	Lecture	Practical session
1	- Introduction: definition and common terminology of oncology - Etiology and risk factors of cancer	- Introduction to clinical oncology - Round for radiotherapy machines and to chemotherapy clinic and inpatient wards
2	- Oncogenesis: pathogenesis of cancer, cardinal features of cancer cell, metastatic cascade	- Projector slides for: Cell cycle
3	- Clinical signs and symptoms of different types of cancer - Basics of cancer diagnosis and staging	- Projector slides for: Major signs of cancer X- ray and CT showing tumors of different sites
4	- Treatment of various tumor types: surgery, radiotherapy and chemotherapy	- Projector slides for: Treatment of various tumor types
5	- Epidemiology, risk factors, pathology, clinical presentation, prognostic factors, diagnosis, staging and treatment of breast cancer	- Projector slides and case study for: A patient with locally advanced
6	- Epidemiology, risk factors, pathology, clinical presentation, prognostic factors, diagnosis, staging and treatment of hematopoietic malignancies (leukemia and lymphoma)	- Projector slides and case study for: A patient with AML and a patient
7	- Epidemiology, risk factors, pathology, clinical presentation, prognostic factors, diagnosis, staging and treatment of lung cancer **- Periodical exam**	- Projector slides and case study for: A patient with locally advanced lung cancer
8	- Epidemiology, risk factors, pathology, clinical presentation, prognostic factors, diagnosis, staging and treatment of GIT	- Projector slides and case study for:
9	- Epidemiology, risk factors, pathology, clinical presentation, prognostic factors, diagnosis, staging and treatment of gynecologic cancer	- Projector slides and case study for:
10	- Epidemiology, risk factors, pathology, clinical presentation, prognostic factors, diagnosis, staging and treatment of urinary tract cancer	- Projector slides and case study for:
11	- Epidemiology, risk factors, pathology, clinical presentation, prognostic factors, diagnosis, staging and treatment of neurological tumors	- Projector slides and case study for:
12	- Epidemiology, risk factors, pathology, clinical presentation, prognostic factors, diagnosis, staging and treatment of pediatric tumors	- Projector slides and case study for: A pediatric patient with ALL

13	- Complications of cancer - Oncological emergencies	- Projector slides and case study for: A patient with an oncological emergency (hypercalcemia) - Projector slides for: Unit of bone marrow transplantation - Projector slides and case study for: A patient with an oncological
14	- Supportive care in cancer therapy - Hematopoietic stem cell transplantation	**- Practical exam**
15	**Final written exam**	

E- Teaching and Learning Methods:

Lectures

Practical sessions

Self learning (activity, reports, internet search, group discussion…)

Case studies and problem solving

F- Student Assessment Methods:

1- Written exam to assess a1, a2, a3, a4, a5, a6, c1, c2

2- Practical exam to assess b1, b2, b3, d4

3- Activities to assess c2, d1, d2, d3

4- Oral exam to assess a1, a2, a3, a4, a5, a6, c1, c2

5- Periodical exam to assess a1, a2, a3, a4, c1, c2

Assessment schedule:

Assessment (1): Written exam	Week 15
Assessment (2): Practical exam	Week 14
Assessment (3): Activity	Week 7
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 activity	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.

H- List of References:

1- Course Notes: Student book of Oncology approved by Clinical Oncology department 2019.

- Practical notes of Oncology approved by Clinical Oncology department 2012.

2- Essential books:

i- Manual of clinical oncology (sixth edition) by Casciato D.A., Lippincott Williams& Wikins (2009).

ii- Cancer management: a multidisciplinary approach (twelfth edition) (2010).

iii- American Joint Committee on cancer staging Manual (seventh edition) Edge SB, Byrd DR, Compton CC, et al (Eds) Springer, New York 2010.

iv- General pathology of cancer by El Bolkainy MN, Nouh MA, El

Bolkainy TN, NCI, Cairo University (third edition) (2005).

3- Recommended books:

i- De Vita, Hellman and Rosenberg's Cancer: Principles& practice of oncology (cancer: principles& practice) De Vita (ninth edition) (2012).

ii- Physicians' cancerchemotherapy drug manual (Jones& Bartlett learning oncology) (twelfth edition) (2011).

iii- Pocket Guide to Chemotherapy Protocols (seventh edition) (2011).

4- Periodicals and websites:

American journal of clinical oncology

Annals of oncology

Anticancer drugs

www.Pubmed.org

www.nccn.org

www.ncbi.nih.gov

Course Coordinators: **Prof. Dr. Maher Edarous**

Matrix I of Oncology course

Course Contents		ILOs of Oncology course														
		Knowledge and understanding						Professional and practical skills			Intellectual skills		General and transferable skills			
Lectures		a1	a2	a3	a4	a5	a6	b1	b2	b3	c1	c2	d1	d2	d3	d4
1	- Introduction: definition and common terminology of oncology	x		x												
2	- Oncogenesis: pathogenesis of cancer, cardinal features of cancer cell, metastatic cascade		x									x				
3	- Clinical signs and symptoms of different types of cancer				x							x				
4	- Treatment of various tumor types: surgery, radiotherapy and chemotherapy						x					x				
5	- Epidemiology, risk factors, pathology, clinical presentation, prognostic factors, diagnosis, staging and treatment				x	x	x				x					
6	- Epidemiology, risk factors, pathology, clinical presentation, prognostic hematopoietic malignancies (leukemia and lymphoma)				x	x					x					
7	- Epidemiology, risk factors, pathology,				x	x	x				x					

	diagnosis, staging and treatment of lung cancer															
8	- Epidemiology, risk factors, pathology, clinical presentation, prognostic factors, diagnosis, staging and treatment of GIT cancer				x	x	x				x					
9	- Epidemiology, risk factors, pathology, clinical presentation, prognostic factors, diagnosis, staging and treatment of gynecologic cancer				x	x	x				x					
10	- Epidemiology, risk factors, pathology, clinical presentation, prognostic factors, diagnosis, staging and treatment of urinary tract cancer				x	x					x					
11	- Epidemiology, risk factors, pathology, clinical presentation, prognostic factors, diagnosis, staging and treatment of				x	x	x				x					
12	- Epidemiology, risk factors, pathology, clinical presentation, prognostic factors, diagnosis, staging and treatment of pediatric tumors				x	x	x				x					
13	- Complications of cancer - Oncological emergencies			x							x					
14	- Supportive care in cancer therapy - Hematopoietic stem cell transplantation						x				x					
Practical sessions																
1	- Introduction to clinical oncology - Round for radiotherapy machines and							x								

2	- Projector slides for: Cell cycle pathology of cancer and common tumor types									x						
3	- Projector slides for: Major signs of cancer X- ray and CT showing tumors of different sites Cancer staging illustrations								x							
4	- Projector slides for: Treatment of various tumor types								x							
5	- Projector slides and case study for: A patient with locally advanced breast cancer									x						x
6	- Projector slides and case study for: A patient with AML and a patient with HD									x						x
7	- Projector slides and case study for: A patient with locally advanced lung cancer - Activity (report and presentation)									x	x	x	x	x	x	x
8	- Projector slides and case study for: A patient with colon cancer									x						x

9	- Projector slides and case study for: A patient with locally advanced ovarian cancer									x						x
10	- Projector slides and case study for: A patient with locally advanced urinary bladder cancer									x						x
11	- Projector slides and case study for: A patient with brain tumor									x						x
12	- Projector slides and case study for: A pediatric patient with ALL									x						x
13	- Projector slides and case study for: A patient with an oncological emergency (hypercalcemia) - Projector slides for: Unit of bone marrow transplantation - Projector sildes and case study for: (neutropenic fever) - General discussion for medicolegal and ethical consideration A patient with an oncological emergency							x	x	x						x

Matrix II of Oncology course

National Academic Reference Standards		Program ILOs	Course ILOs	Course contents	Sources	Teaching and learning methods			Method of assessment			
						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	A16	a1	- Introduction: definition and common terminology of oncology	Student book Essential books	x			x		x	x
		A17	a2	- Oncogenesis: pathogenesis of cancer, cardinal features of cancer cell, metastatic cascade	Student book Essential	x			x		x	x
			a3	- Introduction: definition and common terminology of oncology	Student book Essential books	x			x		x	x
				- Complications of cancer	Student book Essential	x			x		x	x
2.12	Etiology, epidemiology, laboratory diagnosis and	A19	a4 a5	- Clinical signs and symptoms of different types of cancer - Basics of cancer diagnosis and staging	Student book Essential books	x			x		x	x

clinical features of different diseases and their pharmaco-therapeutic approaches			- Epidemiology, risk factors, pathology, clinical presentation, prognostic factors, diagnosis, staging and treatment of breast cancer	Student book Essential books Recommended books Internet	x		x	x		x	x
			- Epidemiology, risk factors, pathology, clinical presentation, prognostic factors, diagnosis, staging and treatment of hematopoietic malignancies (leukemia and lymphoma)	Student book Essential books Recommended books Internet	x			x		x	x
			- Epidemiology, risk factors, pathology, clinical presentation, prognostic factors, diagnosis, staging and treatment of lung cancer	Student book Essential books Recommended books Internet	x			x		x	x
			- Epidemiology, risk factors, pathology, clinical presentation, prognostic factors, diagnosis, staging and treatment of GIT cancer	Student book Essential books	x			x		x	x
			- Epidemiology, risk factors, pathology, clinical presentation, prognostic factors, diagnosis, staging and treatment of gynecologic cancer	Student book Essential books	x			x		x	x
			- Epidemiology, risk factors, pathology, clinical presentation, prognostic factors, diagnosis, staging and treatment of urinary tract cancer	Student book Essential books Recommended books Internet	x			x		x	x

			- Epidemiology, risk factors, pathology, clinical presentation, prognostic factors, diagnosis, staging and treatment of neurological tumors	Student book Essential books Recommended books Internet	x			x		x	x
			- Epidemiology, risk factors, pathology, clinical presentation, prognostic factors, diagnosis, staging and treatment of pediatric tumors	Student book Essential books Recommended books Internet	x			x		x	x
			- Epidemiology, risk factors, pathology, clinical presentation, prognostic factors, diagnosis, staging and treatment of breast cancer								
			- Epidemiology, risk factors, pathology, clinical presentation, prognostic factors, diagnosis, staging and treatment of hematopoietic malignancies (leukemia and lymphoma)								
			- Epidemiology, risk factors, pathology, clinical presentation, prognostic factors, diagnosis, staging and treatment of lung cancer								
			- Epidemiology, risk factors, pathology, clinical presentation, prognostic factors, diagnosis, staging and treatment of GIT cancer								

			- Epidemiology, risk factors, pathology, clinical presentation,								
			prognostic factors, diagnosis, staging and treatment of gynecologic cancer								
			- Epidemiology, risk factors, pathology, clinical presentation, prognostic factors, diagnosis, staging and treatment of urinary								
			- Epidemiology, risk factors, pathology, clinical presentation, prognostic factors, diagnosis, staging and treatment of								
			- Epidemiology, risk factors, pathology, clinical presentation, prognostic factors, diagnosis, staging and treatment of pediatric								
			- Treatment of various tumor types: surgery, radiotherapy and chemotherapy - Supportive care therapies	Student book Essential books							
			- Epidemiology, risk factors, prognostic factors, diagnosis, staging and treatment of breast cancer								
			- Epidemiology, risk factors, prognostic factors, diagnosis, staging and treatment of								

		A21	a6	hematopoietic malignancies (leukemia and lymphoma) - Epidemiology, risk factors,		x		x		x		x
				prognostic factors, diagnosis, staging and treatment of lung								
				- Epidemiology, risk factors, pathology, clinical presentation, prognostic factors, diagnosis, staging and treatment of GIT								
				- Epidemiology, risk factors, pathology, clinical presentation, prognostic factors, diagnosis, staging and treatment of gynecologic cancer								
				- Epidemiology, risk factors, pathology, clinical presentation, prognostic factors, diagnosis, staging and treatment of urinary								
				- Epidemiology, risk factors, pathology, clinical presentation, prognostic factors, diagnosis, staging and treatment of neurological tumors								
				- Epidemiology, risk factors, pathology, clinical presentation, prognostic factors, diagnosis, staging and treatment of pediatric								
				- Supportive care in cancer therapy - Hematopoietic stem cell transplantation								
3.1	Use the proper pharmaceutical and medical terms, abbreviations and symbols in pharmacy practice.	B 1	b1	- Introduction to clinical oncology Practical notes - Round for radiotherapy		x		x				

				machines and to chemotherapy clinic and inpatient wards								
3.5	Select medicines based on understanding etiology and path physiology of diseases	B7	b2	- Projector slides for: Treatment of various tumor types	Practical notes		x			x		
							x			x		
				- Projector slides for: Unit of bone marrow transplantation			x			x		
							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	b3	- Projector slides for: Cell cycle	Practical notes		x			x		
				- Projector slides for: Major signs of cancer X- ray and CT showing tumors of different sites								
				- Projector slides and case study for:								
				- Projector slides and case study for:								
				- Projector slides and case study for:								
				- Projector slides and case study								

				for: A patient with colon cancer						
				- Projector slides and case study for: A patient with locally advanced						
				- Projector slides and case study for: A patient with locally advanced						
				- Projector slides and case study for:						
				- Projector slides and case study for:						
				- Projector slides and case study for: A patient with an oncological emergency (hypercalcemia) Unit of bone marrow transplantation						
				- Projector sildes and case study for: A patient with an oncological - General discussion for medicolegal and ethical consideration						
4.13	Analyze and interpret experimental results as well as published	C15	c1	- Epidemiology, risk factors, pathology, clinical presentation, prognostic factors, diagnosis, staging and treatment of breast cancer	Student book Essential books	x		x		
				tumors						
				- Complications of cancer						

				- Oncological emergencies - Supportive care in cancer therapy - Hematopoietic stem cell transplantation						
4.14	Analyze and evaluate evidence-based information needed in pharmacy practice.	C16	c2	- Oncogenesis: pathogenesis of cancer, cardinal features of cancer cell, metastatic cascade - Clinical signs and symptoms of different types of cancer - Basics of cancer diagnosis and - Treatment of various tumor types: surgery, radiotherapy and chemotherapy	Student book Essential books Recommended books Internet	x x x		x x x	x x x	
5.3	Work effectively in a	D4	d1	- Activity (report and presentation)	Recommended books			x		x
5.5	Practice independent learning needed for continuous professional development	D7	d2	- Activity (report)	Recommended books Internet			x x x		x x x

5.9	Implement writing and presentation skills	D11	d3	Activity (report)	Recommended books Internet		x	x		x
5.10	Implement writing and thinking, problem-solving and decision-making abilities.	D12	d4	Activity (report)	Recommended books Internet	x	x		x	

Course Coordinators: **Prof. Dr. Maher Edarous**

COURSE SPECIFICATIONS

Clinical nutrition

Fifth level –Semester 9

2019-2020

Course Specifications of Clinical Nutrition 2019-2020

University: **Zagazig** **Faculty:** **Pharmacy**

A- Course specifications:

Program(s) on which the course is given: Bachelor of Pharmacy

(Clinical Pharmacy Program)

Major or Minor element of programs: Major

Department offering the program: -------

Department offering the course: Biochemistry department

Academic year/Level: Fifth level /ninth semester

Date of specification approval: 8/2019

B- Basic information:

Title: Clinical Nutrition Code: PP 909

Credit Hours:

- Lectures : 1 h/week
- Practical: 1 h/week
- Tutorials: ---
- Total: 2 hrs/week

C- Professional information:

1-Overall Aims of the Course:

On completion of the course, students will be able to explain the principles of clinical nutrition, pathophysiology, diet therapy and management of different diseases.

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

A- Knowledge and Understanding	
a1	Outline the principles of clinical nutrition and types of nutrients.
a2	Illustrate the body energetics, electrolytes, pH in health and disease state.
a3	Demonstrate the etiology and clinical features of obesity, diabetes, hypertension, cardiovascular diseases, electrolytes and acid base imbalances.
a4	Discuss the principles of diet therapy and management of different diseases.
a5	Illustrate drug-food interaction and food allergies
B- Professional and Practical skills	
b1	Specify therapeutic and dietary interventions of obesity, diabetes, hypertension, cardiovascular diseases, electrolytes and acid base imbalances.
b2	Recommend laboratory tests for diagnosis of different diseases.
b3	Advise patients about balanced diet to promote the efficiency of medication.
C- Intellectual skills	
c1	Suggest life style modifications to prevent obesity, diabetes, hypertension, cardiovascular diseases, electrolytes and acid base imbalances.
c2	Select the appropriate drugs and dietary regimens for various disease conditions.
D- General and Transferable skills	
d1	Develop communications skills with public, patients and other health care professionals.
d2	Work effectively as a member of a team.
d3	Use numeracy and computation in determination of body mass index, body weight and atherogenic index.
d4	Practice independent learning needed for continuous professional development.
d5	Write and present reports.
d6	Implement critical thinking and decision making skills.

D- Contents:

Week No.	Lecture (1 h/ week)	Practical session (1 h/week)
1	- Types of nutrients of balanced diet (macronutrients, micronutrients)	- Introduction to clinical nutrition - Calculation of BMR- TEE
2	- Energy requirement and energy expenditure - Diet and therapy - Nutritional assessment and food pyramids	- Obesity - Case studies for obesity
3	- Obesity (Definition, assessment, factors affecting obesity)	- Determination of body mass index - Suggestion of life style modification
4	- Management of obesity - Drugs of choice for treatment of obesity	- Metabolic syndrome - Case study - Calculation of atherogenic index
5	- Diabetes mellitus (DM) -Nutrition therapy and recommendation for DM - Drug of choice for treatment of DM	- Diabetes - Case study
6	- Definition and types of cardiovascular diseases (CVD) - Risk factors for CVD - Drug of choice for treatment of CVD	**- Activity (report)**
7	- Management of CVD - Diet for hypertensive patients	- Electrolytes - Case study for electrolytes

	- Drugs of choice for treatment of hypertension **- Periodical exam**	imbalance
8	- Electrolytes importance - Sodium (functions, homeostasis)	- Case study for acid base imbalance
9	-Sodium imbalances: Hypernatremia (signs , symptoms, Pathophysiology, diagnosis, treatment, management) Hyponatremia (signs, symptoms, pathophysiology, diagnosis, treatment, management)	- Case study for hyoertension
10	- Potassium imbalances (hyperkalemia, hypokalemia)	- Case study for myocardial infarction
11	- Calcium imbalances (hypercalcemia, hypocalcemia) - Magnesium imbalances (hypermagnesemia, hypomagnesemia)	- Collective case studies
12	- The body and pH - pH control (control of acids, control of bases) - Acidosis (respiratory acidosis, metabolic acidosis, signs, symptoms, compensation, treatment)	**-Revision**
13	- Alkalosis (respiratory alkalosis, metabolic alkalosis , signs, symptoms, compensation, treatment)	**- Activity (report)**
14	- Revision& Open discussion	**- Practical exam**
15	- Final exam	

E- Teaching and Learning Methods:

- Lectures
- Practical sessions
- Case study
- Self learning (activity, reports, internet search, group discussion…)

F- Student Assessment Methods:

1- Written exam to assess a1, a2, a3, a4, c1, c2, d3, d6

2- Practical exam to assess b1, b2, b3, d1, d2, d3, d6

3- Activities to assess d4, d5

4- Oral exam to assess a1, a2, a3, a4, c1, c2, d1, d3, d4, d6

5- Periodical exam to assess a1, a2, c1, c2, d3, d6

Assessment schedule:

Assessment (1): Written exam	Week 15
Assessment (2): Practical exam	Week 14
Assessment (3): Activity	Week 6,13
Assessment (4): Oral exam	Week 15
Assessment (5): Periodical exam	Week 7

Weighing 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 equipments and chemicals.

H- List of References:

1- Course Notes:

- Student book of Clinical Nutrition approved by biochemistry department 2019-2020.
- Practical notes of Clinical Nutrition approved by biochemistry department 2019-2020.

2- Essential books:

- Public health nutrition, Buttriss, Judith; Kearney, John M.; Lanham-New, Susan; Welch, Ailsa, 2018
- Food and Nutrition : What Everyone Needs to Know, P. K. Newby, 2018.

3- Recommended books:

- Integrative Nutrition: A Whole-Life Approach to Health and Happines, Joshua Rosenthal, 2018
- Nutrition in the prevention and treatment of abdominal obesity, Ronald Watson, 2018
- Nutrition in Lifestyle Medicine, James M. Rippe, 2017

4- Periodicals and websites:

- Egyptian J. of biochem. and molecular biology.
- British J. of nutrition
- Arab J. of Laboratory Medicine,
- J. of Cardiovascular diseases.
- www.Pubmed.Com
- www.sciencedirect.com.

Course Coordinators: **Prof. Dr Sousou Ibrahim**

Head of Department: **Prof. Dr. Sahar Elswefy**

Date: **تم مناقشة و إعتماد توصيف المقرر من مجلس القسم بتاريخ 8-2019**

Matrix I of Clinical Nutrition course

Course Contents		ILOs of Clinical Nutrition course															
		Knowledge and understanding					Professional and practical skills			Intellectual skills		General and transferable skills					
Lectures		a1	a2	a3	a 4	a 5	b1	b2	b3	c1	c2	d1	d2	d3	d4	d5	d6
1	Types of nutrients of balanced diet (macronutrients, micronutrients)	x				x											
2	Energy requirement and energy expenditure- Diet and therapy- Nutritional assessment and food pyramids		x		x					x				x			x
3	Obesity (Definition, assessment, factors affecting obesity)			x										x			
4	Management of obesity- Drugs of choice for treatment of obesity				x					x	x						
5	Diabetes mellitus (DM)-Nutrition therapy and recommendation for DM- Drug of choice for treatment of DM			x	x					x	x						

6	Definition and types of cardiovascular diseases (CVD)- Risk factors for CVD- Drug of choice for treatment of CVD			x	x						x						
7	Management of CVD- Diet for hypertensive patients- Drugs of choice for treatment of hypertension				x					x	x						
8	Electrolytes importance- Sodium (functions, homeostasis)		x														
9	Sodium imbalances: Hypernatremia (signs, symptoms, pathophysiology)- Hyponatremia (signs, symptoms, pathophysiology, diagnosis, treatment, management)		x	x	x					x	x						
10	Potassium imbalances (hyperkalemia, hypokalemia)		x	x													
11	Calcium imbalances (hypercalcemia, hypocalcemia)- Magnesium imbalances (hypermagnesemia, hypomagnesemia)		x	x													
12	The body and pH- pH control (control of acids, control of bases)		x														
13	Acidosis (respiratory acidosis, metabolic acidosis, signs, symptoms, compensation, treatment)		x	x	x					x	x						
14	Alkalosis (respiratory alkalosis, metabolic alkalosis		x	x	x					x	x						

	, signs, symptoms, compensation, treatment)																
15	Revision- Open discussion													x			
Practical sessions																	
1	Introduction to clinical nutrition Calculation of BMR - TEE						x							x			
2	Obesity and cases							x	X					x			x
3	Determination of BMI Suggestion of life style modification							x	X					x			
4	Metabolic syndrome and case study Calculation of atherogenic index							x	X					x			
5	Activity (report)											x	x		x	x	
6	Diabetes and case study							x	X					x			
7	Electrolyte and case study							x	X					x			
8	Case study for acid base imbalance							x	X					x			
9	Case study for hypertension							x	X					x			x
10	Case study for myocardial infarction							x	X					x			x

11	Collective case study							x	X					x			x	
12	Revision						x	x	X			x	x	x			x	
13	Activity (Report)														X	x		

Matrix II of Clinical nutrition course

National Academic Reference Standards (NARS)	Program ILOs	Course ILOs	Course contents	Sources	Teaching and learning methods			Method of assessment			
					Lecture	Practical session	Self learning	Written 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.	A3	a1	Types of nutrients of balanced diet (macronutrients, micronutrients)	Student book Essential books	x			x		x	x
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	a2	Energy requirement and energy expenditure- Diet and therapy- Nutritional assessment and food pyramids	Student book Essential books	x			x		x	x
				Electrolytes importance- Sodium (functions, homeostasis)	Student book Essential books	x			x		x	x
				Sodium imbalances: Hypernatremia (signs, symptoms, pathophysiology)- Hyponatremia (signs,	Student book Essential books	x			x		x	x

				symptoms, pathophysiology, diagnosis, treatment, management)								
				Potassium imbalances (hyperkalemia, hypokalemia)	Student book Essential books	x			x		x	x
				Calcium imbalances (hypercalcemia, hypocalcemia)- Magnesium imbalances (hypermagnesemia, hypomagnesemia)	Student book Essential books	x			x		x	x
				The body and pH- pH control (control of acids, control of bases)	Student book Essential books	x			x		x	x
				Acidosis (respiratory acidosis, metabolic acidosis, signs, symptoms, compensation, treatment)	Student book Essential books	x			x		x	x

				Alkalosis (respiratory alkalosis, metabolic alkalosis , signs, symptoms, compensation, treatment)	Student book Essential books	x			x		x	x
2.12	Etiology, epidemiology, laboratory diagnosis and clinical features of different diseases and their pharmaco-therapeutic approaches	A19	a3	Obesity (Definition, assessment, factors affecting obesity)	Student book Essential books	x			x			x
				Diabetes mellitus (DM)- Nutrition therapy and recommendation for DM- Drug of choice for treatment of DM	Student book Essential books Recommended books Internet	x		X	x			x
				Definition and types of cardiovascular diseases (CVD)- Risk factors for CVD- Drug of choice for treatment of CVD	Student book Essential books Recommended books Internet	x		X	x			x

				Sodium imbalances: Hypernatremia (signs, symptoms, pathophysiology)- Hyponatremia (signs, symptoms, pathophysiology, diagnosis, treatment, management)	Student book Essential books Recommended books Internet	x		x	x			x
				Potassium imbalances (hyperkalemia, hypokalemia)	Student book Essential books	x			x			x
				Calcium imbalances (hypercalcemia, hypocalcemia)- Magnesium imbalances (hypermagnesemia, hypomagnesemia)	Student book Essential books	x			x			x
				Acidosis (respiratory acidosis, metabolic acidosis, signs, symptoms, compensation, treatment)	Student book Essential books Recommended	x		X	x			x

					books Internet							
				Alkalosis (respiratory alkalosis, metabolic alkalosis , signs, symptoms, compensation, treatment)	Student book Essential books Recommended books Internet	x		X	x			x
2.15	Basis of complementary and alternative medicine	A24	a4 a5	Energy requirement and energy expenditure- Diet and therapy- Nutritional assessment and food pyramids	Student book Essential books	x			x			x
				Management of obesity- Drugs of choice for treatment of obesity	Student book Essential books Recommended books Internet	x		X	x			x
				Diabetes mellitus (DM)- Nutrition therapy and recommendation for DM- Drug of choice for treatment of DM		x		X	x			x
				Definition and types of cardiovascular diseases (CVD)- Risk factors for		x		X	x			x

				CVD- Drug of choice for treatment of CVD								
				Management of CVD- Diet for hypertensive patients- Drugs of choice for treatment of hypertension		x		X	x			x
				Sodium imbalances: Hypernatremia (signs, symptoms, pathophysiology)- Hyponatremia (signs, symptoms, pathophysiology, diagnosis, treatment, management)	Student book Essential books Recommended books Internet	x		X	x			x
				Acidosis (respiratory acidosis, metabolic acidosis, signs, symptoms, compensation, treatment)	Student book Essential books Recommended books Internet	x		X	x			x
				Alkalosis (respiratory alkalosis, metabolic alkalosis , signs, symptoms, compensation, treatment)	Student book Essential books Recommended books	x		x	x			x

					Internet							
3.5	Select medicines based on understanding of etiology and pathophysiology of diseases	B9	b1	Case study for obesity	Practical notes		x			x		
				Case study for Diabetes mellitus			x			x		
				Case study for CVD			x			x		
				Case study for hypertension			x			x		
				Case study for electrolytes imbalance			x			x		
				Case study for acid-base imbalance			x			x		
3.6	Monitor and control microbial growth and carry out laboratory tests for identification of infectious and non-infectious diseases	B8	b2	Calculation of athergenic index	Practical notes		x			x		
							x			x		
							x			x		
							x			x		
3.10	Advise patients	B16	b3	Case study for obesity	Practical notes		x			x		

	and other health care professionals about safe and proper use of medicines.			Case study for Diabetes mellitus			x			x		
				Case study for CVD			x			x		
				Case study for hypertension			x			x		
				Case study for electrolytes imbalance			x			x		
				Case study for acid-base imbalance			x			x		
4.9	Utilize the pharmacological basis of therapeutics in the proper selection and use of drugs in various disease conditions.	C11	c1 c2	Management of obesity- Drugs of choice for treatment of obesity	Student book Essential books Recommended books Internet	x		x	x		x	x
				Diabetes mellitus (DM)- Nutrition therapy and recommendation for DM- Drug of choice for treatment of DM		x		x	x		x	x
				Definition and types of cardiovascular diseases (CVD)- Risk factors for CVD- Drug of choice for treatment of CVD		x		x	x		x	x

				Management of CVD- Diet for hypertensive patients- Drugs of choice for treatment of hypertension		x		x	x		x	x
				Sodium imbalances: Hypernatremia (signs, symptoms, pathophysiology)- Hyponatremia (signs, symptoms, pathophysiology, diagnosis, treatment, management	Student book Essential books Recommended books Internet	x		x	x		x	x
				Acidosis (respiratory acidosis, metabolic acidosis, signs, symptoms, compensation, treatment)		x		x	x		x	x
				Alkalosis (respiratory alkalosis, metabolic alkalosis , signs, symptoms, compensation, treatment)		x		x	x		x	x
5.1	Communicate clearly by verbal and written	D1	d1	Case study for obesity	Practical notes		x			x		
				Case study for Diabetes mellitus			x			x		

	means			Case study for CVD			x			x		
				Case study for hypertension			x			x		
				Case study for electrolytes imbalance			x			x		
				Case study for acid-base imbalance			x			x		
5.3	Work effectively in a team	D4	d2	Activity	Practical notes		x			x		
							x			x		
							x			x		
5.4	Use numeracy, calculation and statistical methods as well as information technology tools	D5	d3	Energy needed (energy requirement and energy expenditure)	Student book Essential books	x			x		x	x
				Determination of body mass index	Practical notes		x			x		
							x			x		
				Calculation of athergenic index			x			x		
5.5	Practice independent	D7	d4	Revision- Open discussion	Student book Essential books	x		x				x

	learning needed for continuous professional development				Recommended books	x		x				x
					Internet	x		x				x
				Activity (report)	Recommended books Internet		x	x		x		
5.9	Implement writing and presentation skills	D11	d5	Activity (report)	Recommended books Internet		x	x		x		
5.10	Implement writing and thinking, problem- solving and decision-making abilities.	D12	d6	Energy needed (energy requirement and energy expenditure)	Student book Essential books	x			x		x	x
				Case study for obesity	Practical notes		x			x		
				Case study for Diabetes mellitus	Practical notes		x			x		
				Case study for CVD	Practical notes		x			x		

				Case study for hypertension	Practical notes		x			x		
				Case study for electrolytes imbalance	Practical notes		x			x		
				Case study for acid-base imbalance	Practical notes		x			x		

Course Coordinators: **Prof. Dr Sousou Ibrahim**

Head of Department: **Prof. Dr. Sahar Elsweify**

Date: **تم مناقشة و إعتماد توصيف المقرر من مجلس القسم بتاريخ -8-2019**

COURSE SPECIFICATIONS

Clinical Pharmacology

Fifth level –Semester 9

2019-2020

Course specification of Clinical Pharmacology

University: **Zagazig** **Faculty:** **Pharmacy**

A- Course specifications:

Program (s) on which the course is given: Bachelor of Pharmacy (Clinical Pharmacy)

Major or Minor element of programs: Major

Department offering the program: -------

Department offering the course: Pharmacology and Toxicology department

Academic year Level: **Fifth level/ninth semester**

Date of specification approval: October 2019

B- Basic information:

Title: Clinical Pharmacology **Code :** **PO 906**

Credit Hours: ---

Lectures: 2 hrs/week

Practical: 1hr/week

Tutorials: ---

Total: 3 hrs/week

C- Professional information:

1-Overall aim of the course

On completion of the course, the student will be able to explain the basis of clinical pharmacology including etiology, clinical features, diagnosis and treatment of different disease as geriatrics, critical care and kidney.

2- Intended Learning Outcomes (ILOs)

A- Knowledge and Understanding	
a1	Illustrate etiology, epidemiology and clinical features of disorders as geriatrics, critical care and kidney.
a2	Outline the lab. diagnosis of disorders as geriatrics, critical care and kidney.
a3	Specify therapeutic regimens of disorders as geriatrics, critical care and kidney.
a4	Underline the bases of clinical pharmacology and evidence based medicine.
B- Professional and Practical skills	
b1	Select the drug of choice for different diseases according to the etiology and pathophysiology.
b2	Advise patients for rational and irrational use of drugs.
C- Intellectual skills	
c1	Suggest the suitable drugs for various diseases based on pharmacological basis.
c2	Specify drug interactions
c3	Analyze and interpret the given data for diagnosis of different disease.
D-General and Transferable skills	
d1	Communicate effectively with patients and health care professional.

d2	Work as a team member.
d3	Develop computer and internet communication skills.
d4	Practice self-learning.
d5	Write and present reports.

D- Contents:

Week No.	Lecture contents (2 hrs/lec.)	Practical session (1hrs/lab)
1	Critical care (Shock, acid base disturbances)	Case studies on shock and acid base disturbances
2	Critical care (Cardiac arrest, pain, sedation and delirium)	Case studies on cardiac arrest, pain, sedation and delirium
3	Critical care (stress ulcer, VTE, Nutrition, ICH)	Case studies on stress ulcer, VTE, Nutrition and ICH
4	Geriatrics (introduction and dementia)	Case studies on dementia
5	Geriatrics (Urinary incontinence, BPH)	Case studies on Urinary incontinence and BPH
6	Geriatrics (Osteoarthritis and rheumatoid arthritis)	Case studies on osteoarthritis and rheumatoid arthritis.
7	Nephrology (acute kidney injury), **Periodical exam**	Case studies on acute kidney injury
8	Nephrology (acute kidney injury)	Case studies on acute kidney injury
9	Nephrology (chronic kidney diseases)	Case studies on chronic kidney diseases
10	Nephrology (chronic kidney diseases)	Case studies on chronic kidney diseases
11	Nephrology (drug induced kidney injury)	Case studies on drug induced kidney injury
12	Nephrology (complications of chronic kidney diseases)	Case studies on complications of chronic kidney diseases
13	Revision	**Practical exam**
14	Revision	
15	Final exam	

E- Teaching and Learning Methods:

- Lectures
- Practical sessions

- Think/pair/share
- Case study, Open discussion, self-learning

F- Student Assessment methods:

1- Written exams (Periodical and final) to assess: a1 to a4 and c1 to c3.

2- Practical exams and lab activities to assess: b1, b2 and d1 to d5.

3- Oral exam to assess: a1 to a4, c1 to c3, d1 and d5.

Assessment schedule

Assessment (1): Mid-term exam	**Week 7**
Assessment (2): Lab activities	**Week 1 to 12**
Assessment (3): Practical exam	**Week 13**
Assessment (4): Final written exam	**Week 15**
Assessment (5): Oral exam	**Week 15**

Weighting of Assessment

Assessment method	Marks	Percentage
Mid-term exam	10	10%
Practical exam and lab activities	25	25%
Final written exam	50	50%
Oral exam	15	15%
TOTAL	100	100%

G- Facilities required for teaching and learning:

c. For lectures : Black (white) board, data show, air conditioned classroom

d. For practical: Well-equipped labs

H- List of References:

5. **Course Notes:** Student book of pharmacotherapy approved by the Pharmacology and Toxicology department (201**9**) and practical notes of pharmacotherapy approved by the Pharmacology and Toxicology department (201**9**).
6. **Essential Books:**
   b. American collage of clinical pharmacy updates in therapeutics pharmacotherapy preparatory review and recertification course (2017)
7. **Recommended Books:** Pharmacotherapy, pathophysiological approach (tenth edition); DePero J., (2016).
8. **Periodicals and websites:** Medscape clinical guidelines updates

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Course Coordinator: Prof. Dr. Mona Fouad

Head of Department: Prof. Dr. Mona Fouad

Date: م 2019/ 10 / **تم مناقشة و اعتماد توصيف المقرر من مجلس القسم بتاريخ**

Matrix I																
Course Contents		**ILOs of Clinical Pharmacology course**														
		Knowledge and understanding				**Professional and practical skills**		**Intellectual skills**			**Transferable and general skills**					
Lectures		**a1**	**a2**	**a3**	**a4**	**b1**	**b2**	**c1**	**c2**	**c3**	**d1**	**d2**	**d3**	**d4**	**d5**
1	Critical care (Shock, acid base disturbances)	**x**	**x**	**x**	**x**			**x**	**x**	**X**					
2	Critical care (Cardiac arrest, pain, sedation and delirium)	**x**	**x**	**x**	**x**			**x**	**x**	**X**					
3	Critical care (stress ulcer, VTE, Nutrition, ICH)	**x**	**x**	**x**	**x**			**x**	**x**	**X**					
4	Geriatrics (introduction and dementia)	**x**	**x**	**x**	**x**			**x**	**x**	**X**					

5	Geriatrics (Urinary incontinence, BPH)	**x**	**x**	**x**	**x**			**x**	**x**	**X**					
6	Geriatrics (Osteoarthritis and rheumatoid arthritis)	**x**	**x**	**x**	**x**			**x**	**x**	**X**					
7	Nephrology (acute kidney injury), **Periodical exam**	**x**	**x**	**x**	**x**			**x**	**x**	**X**					
8	Nephrology (acute kidney injury)	**x**	**x**	**x**	**x**			**x**	**x**	**X**					
9	Nephrology (chronic kidney diseases)	**x**	**x**	**x**	**x**			**x**	**x**	**X**					
10	Nephrology (chronic kidney diseases)	**x**	**x**	**x**	**x**			**x**	**x**	**X**					
11	Nephrology (drug induced kidney injury)	**x**	**X**	**x**	**x**			**x**	**x**	**X**					
12	Nephrology (complications of chronic kidney diseases)	**x**	**X**	**x**	**X**			**x**	**x**	**X**					
Practical session															

1	Case studies on shock and acid base disturbances, lab activity					**x**	**x**				**x**	**x**	**x**	**x**	**x**
2	Case studies on cardiac arrest, pain, sedation and delirium, lab activity					**x**	**x**				**x**	**x**	**x**	**x**	**x**
3	Case studies on stress ulcer, VTE, Nutrition and ICH, lab activity					**x**	**x**				**x**	**x**	**x**	**x**	**x**
4	Case studies on dementia, lab activity					**x**	**x**				**x**	**x**	**x**	**x**	**x**
5	Case studies on Urinary incontinence and BPH, lab activity					**x**	**x**				**x**	**x**	**x**	**x**	**x**
6	Case studies on osteoarthritis and rheumatoid arthritis, lab activity					**x**	**x**				**x**	**x**	**x**	**x**	**x**
7	Case studies on acute kidney injury, lab activity					**x**	**x**				**x**	**x**	**x**	**x**	**x**

8	Case studies on acute kidney injury, lab activity					**x**	**x**				**x**	**x**	**x**	**x**	**x**
9	Case studies on chronic kidney diseases, lab activity					**x**	**x**				**x**	**x**	**x**	**x**	**x**
10	Case studies on chronic kidney diseases, lab activity					**x**	**x**				**x**	**x**	**x**	**x**	**x**
11	Case studies on drug induced kidney injury, lab activity					**x**	**x**				**x**	**x**	**x**	**x**	**x**
12	Case studies on complications of chronic kidney diseases, lab activity					**x**	**x**				**x**	**x**	**x**	**x**	**x**

Matrix II

National Academic Reference Standards NARS		Program ILOs	Course ILOs	Course contents	Sources	Teaching and learning methods		Method of assessment		
						Lecture	Practical session	Written exam	Practical exam and lab activity	Oral exam
2.12	Etiology, epidemiology, laboratory diagnosis and clinical features of different diseases and their pharmacotherapeutic approaches.	A19 A20 and A21	a1 to a3	Disorders of critical care, geriatrics and kidney disorders	Student book and essential books	X		x		x
2.14	Principles of clinical	A23	a4	Disorders of						

	pharmacology, pharmacovigilance and the rational use of drugs.			critical care, geriatrics and kidney disorders	Student book and essential books	X		x		x
3.5	Select medicines based on understanding etiology and path physiology of diseases.	B7	b1	Case studies on critical care, geriatrics, kidney disorders	Practical note		x		x	
3.10	Advise patients and other health care professionals about safe and proper use of medicines	B16	b2	Case studies on critical care geriatrics and kidney disorders	Practical note		x		x	
4.9	Utilize the pharmacological basis of therapeutics in the proper selection and use of drugs in various disease conditions.	C11	c1, c3	Disorders of critical care, geriatrics and kidney disorders	Student book, Essential books	X		x		x

4,11	Assess drug interactions, ADRs and pharmacovigilance	C13	c2	Disorders of critical care, geriatrics and kidney disorders	Student book, Essential books	X		x		x
5.1	Communicate clearly by verbal and means.	D1	d1	Lab activity	Different sources	x		x		x
5.2	Retrieve and evaluate information from different sources to improve professional competencies	D2	d3, d4	Lab activity	Different sources				x	
5.3	Work effectively in a team.	D4	d2	Lab activity	Different sources				x	
5.9	Implement writing and presentation skills	D11	d5	Lab activity	Different sources				x	

Course Coordinator: Prof. Dr. Mona Fouad

Head of Department: Prof. Dr. Mona Fouad Date:

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

COURSE SPECIFICATIONS

Sociology

Fifth level –Semester 9

2019-2020

Course Specification of Sociology

University: Zagazig Faculty: Pharmacy

A- Course specifications:

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

Major or Minor element of programs: Major

Department offering the program: -------

Department offering the course: Sociology dept. Faculty of Art

Academic year/Level: Fifth year/ninth semester

Date of specification approval: September 2019

B- Basic information:

Title: Sociology Code: HU 903

Credit Hours:

Lectures : 1 hr/week

Practical: ----------

Tutorials: -- ---

Total: 1 hr/week

C- Professional information:

1-Overall Aims of the Course:

On completion of the course, students will be able to explain human society's relationships and social interaction.

2-Intended Learning Outcomes of Sociology (ILOs):

A- Knowledge and Understanding	
a1	Illustrate principles of sociology and culture ethnicity.
a2	Describe social structure and processes.
a3	Discuss the social changes and stability of life.
a4	Determine communication skills within groups.
C- Intellectual skills	
c1	Evaluate different forms of social relationships and competition.
c2	Apply sociological knowledge to understand human lives and their participation in society.
D- General and Transferable skills	
d1	Develop social interaction and cooperation with others.
d2	Work effectively as a member of team.
d3	Appraise ethics of social relationships and processes.
d4	Implement critical thinking and decision- making abilities.

D- Contents:

Week No.	Lecture (1 hr/ week)
1	- What is sociology?
2	- Basic concepts of sociology
3	- Social system and culture
4	- Social interaction and status
5	- Social Processes
6	- Socialization, conflict, competition and cooperation
7	**- Periodical exam**
8	- Culture
9	- Personality
10	- Social groups and classes
11	- Social changes
12	- Social stability
13	- Communication
14	- Revision and goup discussion
15	- final written exam

E- Teaching and Learning Methods:

Lectures

Self learning (group discussion…)

F- Student Assessment Methods:

1- Written exam to assess a1, a2, a3, a4, c1, c2, d1, d2, d3, d4

2- Periodical exam to assess a1, a2, a3, c1, c2, d1, d2, d3, d4

Assessment schedule:

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

Weighting of Assessment:

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

G- Facilities Required for Teaching and Learning:

Black (white) board, overhead projectors, Data show.

H- List of References:

1- Course Notes: Student book of Sociology approved by Sociology department 2018.

Course Coordinators: **Prof. Dr. Hamid Abdou Elhady (Faculty of Art)**

Matrix I of Sociology course

Course Contents		ILOs of Sociology									
		Knowledge and understanding				Intellectual skills		General and transferable skills			
Lectures		a1	a2	a3	a4	c1	c2	d1	d2	d3	d4
1	- What is sociology?	x									
2	- Basic concepts of sociology	x									
3	- Social system and culture	x	x				x				
4	- Social interaction and status		x			x		x	x	x	
5	- Social Processes		x							x	
6	- Socialization, conflict, competition and cooperation		x			x	x	x	x	x	x
7	- Culture		x								
8	- Personality		x								
9	- Social groups and classes				x	x		x	x	x	
10	- Social changes			x							x
11	- Social stability			x							x
12	- Communication				x	x		x	x	x	x

Matrix II of sociology course

National Academic Reference Standards		Program ILOs	Course ILOs	Course contents	Sources	Teaching and learning methods		Method of assessment	
						Lecture	Self learning	Written exam	Periodical exam
2.1	Principles of basic, pharmaceutical, medical, social, behavioral, management, health and environmental sciences as well as pharmacy practice.	A4	a1	- What is sociology? - Basic concepts of sociology - Social system and culture	Student book	x		x	x
			a2	- Social system and culture - Social interaction and status - Social Processes - Socialization, conflict, competition and cooperation - Culture - Personality	Student book	x		x	x
			a3 a4	- Social changes - Social stability- Social groups and	Student book	x		x	x

4.14	Analyze and evaluate evidence-based information needed in pharmacy practice.	C16	c1	- Social interaction and status - Socialization, conflict, competition and cooperation - Social groups and classes - Communication	Student		x		x
			c2	- Basic concepts of sociology	Student book	x		x	x
				- Socialization, conflict, competition and cooperation		x		x	x
5.1	Communicate clearly by verbal and means.	D 1	d1	- Social interaction and status cooperation - Social groups and classes - Communication	Student book	x		x	x
5.3	Work effectively in a team.	D 4	d2	- Social interaction and status - Socialization, conflict, competition and cooperation - Social groups and classes - Communication	Student book		x		x

5.6	sales and safety guidelines.	D8	d3	- Social interaction and status - Social processes competition and cooperation - Social groups and classes - Communication	Student book	x		x	x
5.10	Implement writing and thinking, problem-solving and decision-making abilities.	D12	d4	- Socialization, conflict, competition and cooperation - Social groups and classes - Social stability - Communication	Student book	x		x	x

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Course Coordinators: Prof. Dr. Hamid Abdou Alhady (Faculty of Art)

COURSE SPECIFICATIONS

Quality Assurance and GMP

Fifth level –Semester 9

2019-2020

Course specification of Quality Assurance and GMP

University: Zagazig Faculty: Pharmacy

A- Course specifications:

- Program (s) on which the course is given: Bachelor of Pharmacy (Clinical pharmacy)

- Major or minor element of programs : Major

- Department offering the course : Pharmaceutics

- Academic year level : Fifth level– ninth semester

- Date of specification approval : November 2019

B- Basic information:

- Title : QualityAssurances and GMP

- Credit Hours : 3 h Code : PT E10

- Lectures : 2 hrs/ week

- Practical :1 hr / week

- Tutorials : ---------

- Total :3 hrs/week

C- Professional information:

1-Overall aim of the course

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

- Describe guidelines of manufacturing of different dosage forms
- Determine good practices that should be followed during sampling, packaging, storing and labeling of different dosage forms

2-Intended Learning Outcomes

	ILOs
	A- Knowledge and Understanding:
	a1: Outline the history of GMP development within years
	a2: Enumerate the minimum requirements for GMP
	a3: Outline the guidelines for proper sampling, packaging, labeling and storage of pharmaceutical products a4: Recognize the importance of qualification and validation of products during manufacturing process
	B- Professional and Practical skills:
	b1: Identify the required documentation during manufacturing process
	b2: Demonstrate the good practices regarding cleaning of equipment and accessories and personal hygiene
	C- Intellectual skills:
	c1: Judge the good and bad manufacturing processes
	D-General and Transferable skills:
	d1: Develop critical thinking skills

D- Contents

Week No.	Lecture contents	Practical session
1	Introduction of pharmaceutical industry and GMP	--
2	History of GMP development within years	Introduction of various definitions and abbreviations concerning GMP
3	Therapeutic good regulators	Demonstration of receiving raw, printed and packaging materials
4	Safety and quality regulations of therapeutic good regulators	Description of batch documents and batch documentation checklist
5	Guidelines of GMP towards premises and production areas	Control of air flow in production areas with diagrams
6	Airlocks and air cleanliness levels	Identification of contents of batch manufacturing records
7	Periodical exam	Periodical exam
8	Types, causes and prevention of products contamination	Representations and evaluation of batch manufacturing records
9	Documentation	Videos about different cleaning of equipment and accessories sheets
10	Steps of production process and following processing operations	Display sheets of standard operating procedure on personal hygiene
11	Proper control of packaging	Discussion about contents of sheets of standard operating procedure on cleaning of equipment and accessories and personal hygiene
12	Qualification and validation of production process	Practical exam
13	Personal training and hygiene	--

14	Complaints, Recalls and Product quality review	--
15	Final written exam	--

E- Assessment schedule:

Assessment task	Week due
Assessment (1): Written exam	Week 15
Assessment (2): Practical exam	Week 12
Assessment (3): Periodical exam	Week 7
Assessment (4): Oral exam	Week 15

F- Weighting of assessment:

Assessment task	Marks	Proportion of total assessment
Assessment (1): Written exam	50	50%
Assessment (2): Periodical exam	10	10%
Assessment (3): Practical exam	25	25%
Assessment (4): Oral exam	15	15%
Total	100	100%

G- Teaching and Learning Methods:

- Lectures
- Practical session
- Demonstrative videos

H- Student Assessment methods:

1- Written exams to assess: a1, a2, a3, a4, b1, b2, c1, and d1

2- Practical exams to assess: a1, a2, a3, a4, b1, b2, c1, and d1

I- Facilities required for teaching and learning:

1- For lectures: boards, data show

2- For labs: data show

J- List of References:

1. The Inspection and Standards Division of the Medicines and Healthcare products Regulatory Agency, Rules and Guidance for Pharmaceutical Manufacturers and Distributors (the "OrangeGuide"), Pharmaceutical Press, 2007.

2. Gero Beckmann; WilfriedBellack; Helmut Bender; and others, GMPMANUAL; Good Manufacturing Practice & Implementation, Maas &Peither AG – GMP Publishing, 2007.

3. World Health Organization, Quality Assurance of Pharmaceuticals; A compendium of guidelines and related materials; Volume 2, 2nd updated edition; Good manufacturing practices and inspection, WHO Press, 2006.

4. WHO Expert Committee on Specifications for Pharmaceutical Preparations, WHO Technical Report Series 937, WHO Press, 2006.

5. Gillian Chaloner-Larsson; Roger Anderson; Anik Egan; Manoel Antonio da Fonseca Costa Filho; Jorge F. Gomez Herrera, A WHO guide to good manufacturing practice (GMP) requirements; Part 1: Standard operating procedures and master formulae, World Health Organization; Global Programme for Vaccines and Immunization, 1997.

6. Gillian Chaloner-Larsson; Roger Anderson; Anik Egan; Manoel Antonio da Fonseca Costa Filho; Jorge F. Gomez Herrera, A WHO guide to good manufacturing practice (GMP) requirements; Part

2: Validation, World Health Organization; Global Programme for Vaccines and Immunization, 1997.

7. Office of Women's Health, FDA Milestones in Women's Health: Looking Back as We Move into the New Millennium (FDA, Rockville, MD, 2000), www.fda.gov/womens/milesbro.html.

8. FDA History: FDA Commissioners and Their Predecessors, U.S. Food and Drug Administration, Rockville, MD, rev. 6 April 2000, www.fda.gov/opacom/morechoices/comm1.html.

9. "Jonas Salk, MD — Biography" (American Academy of Achievement, 2000), www.achievement.org/autodoc/halls/sci.

10. Code of Federal Regulations, Food and Drugs, "Current Good Manufacturing Practice in Manufacturing, Processing, Packing, or Holding of Drugs," revised April 2000, Title 21 Part 210–211 (U.S. Printing Office, Washington, DC).

www.Pubmed.com - www.Sciencedirect.com

Course Coordinators: Prof. Dr. Mahmoud Abdel GhanyMahdy

Head of Department: Prof. Dr. Nagia Ahmed El-Amin El-Megrab

Date: تم مناقشة و اعتماد توصيف المقرر من مجلس القسم بتاريخ -2019-11

Matrix I of GMP course

Course Contents		ILOs of GMP course							
		Knowledge and understanding				Professional and practical skills		Intellectual skills	Transferable and general skills
		a1	a2	a3	a4	b1	b2	c1	d1
Lectures									
1	Introduction of pharmaceutical industry and GMP	x		x					
2	History of GMP development within years	x							
3	Therapeutic good regulators	x	x	x					x
4	Safety and quality regulations of therapeutic good regulators	x	x						
5	Guidelines of GMP towards premises and production areas	x							
6	Airlocks and air cleanliness levels	x					x	x	
7	Types, causes and prevention of products contamination		x		x	x			

8	Documentation	x							
9	Steps of production process and following processing operations	x	x	x				x	
10	Proper control of packaging	x	x	x			x	x	
11	Qualification and validation of production process			x					
12	Personal training and hygiene	x	x						
13	Complaints, Recalls and Product quality review			x	x				
	Practical sessions								
1	Introduction of various definitions and abbreviations concerning GMP	x							
2	Demonstration of receiving raw, printed and packaging materials			x					

3	Description of batch documents and batch documentation checklist		x			x			
4	Control of air flow in production areas with diagrams		x					x	
5	Identification of contents of batch manufacturing records		x					x	
6	Representations and evaluation of batch manufacturing records								x
7	Videos about different cleaning of equipment and accessories sheets		x	x					
8	Display sheets of standard operating procedure on personal hygiene						x	x	
9	Discussion about contents of sheets of standard operating procedure on cleaning of equipment and accessories and personal hygiene		x					x	x

Matrix II for GMP

NARS		Program ILOS	Course ILOS	Course content	Sources	Teaching and learning methods			Method of assessment	
						Lecture	Practical session	Self learning	Written exam	Practical exam
2.1	Principles of basic, pharmaceutical, medical, social, behavioral, management, health and environmental sciences as well as pharmacy practice.	A2	a1.	Pharmaceutical History History of GMP Good Manufacturing Practice Production Documentation Personnel hygiene Personnel Training qualification and validation Complaints, Recalls and Product quality review Therapeutic Goods Regulators	notebook	x		x	x	

			a2	Production Quality assurance Documentation Personnel hygiene , qualification and validation Therapeutic Goods Regulators	notebook	x	x		x	x
2.3	Principles of different analytical techniques using GLP guidelines and validation procedures	A7	a3 .	Pharmaceutical History Production Documentation Personnel hygiene Personnel Training Complaints, Recalls and Product quality review	notebook	x			x	x
2.7	Principles of various instruments and techniques including sampling, manufacturing, packaging, labeling, storing and distribution processes in pharmaceutical industry.	A11	a4.	Complaints, Recalls and Product quality review	notebook	x			x	
3.8	3.8 Apply techniques used in operating pharmaceutical	B14.	b1	required documentation during manufacturing process	practical notebook		x			x

	equipment and instruments									
			b2	personal training and hygeine	practical notebook		x	x		x
4.2	4.2Comprehend and apply GLP,GPMP, GSP and GCP guidelines in pharmacy practice	C2	C1	Personal hygiene and required documentation during manufacturing process	practical notebook& notebook			x	x	x
5.10	5.10 Demonstrate critical thinking, problem-solving and decision-making abilities	D12	d1	Personal hygiene and required documentation during manufacturing process Good Manufacturing Practice	practical notebook& notebook	x			x	x

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