COURSE SPECIFICATIONS

Faculty of Pharmacy

Bachelor of pharmacy

(Clinical Pharmacy)

Second level – Semester 3

2019-2020

CONTENTS

COURSE SPECIFICATIONS

Pharmaceutical Organic Chemistry 3

Second level –Semester 3

2019-2020

Course Specification of Pharmaceutical Organic Chemistry-3 for (2019/2020)

University: Zagazig Faculty: Pharmacy

A- Course specifications:

Programme(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: Pharmaceutical Organic chemistry

Academic year Level: Level-2 /first semester

Date of specification approval: 8/2019

B- Basic information:

Title: Pharmaceutical organic Chemistry Code: PC 304

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, students will be able to:

- Acquire the fundamental bases of stereochemistry of organic compounds and the chemistry of carbohydrates, their identification, and their application in pharmaceutical compounds.

- Understand the chemistry of aromatic heterocyclic compounds as well as their importance in synthesis of drugs (in pharmaceutical industry).
- Develop skills in terms of identification and synthesis of organic compounds including some drugs.

2-Intended Learning Outcomes of The course (lLOs):

A- Knowledge and Understanding	
a1	Outline the basic principles of Stereochemistry of organic compounds; know the chemistry of Carbohydrates and their important chemical reactions.
a2	Name different aromatic heterocyclic compounds.
a3	Describe synthetic routes of different aromatic heterocyclic compounds.
B- Professional and Practical skills	
b1	Identify different carbohydrates.
b2	Perform synthetic experiments of aromatic heterocyclic compounds of pharmaceutical interest.
b3	Use laboratory reagents adequately, safely and successfully.
C- Intellectual skills	
c1	Identify the stereochemistry of organic compounds and drugs.
c2	Correlate the chemistry of carbohydrates to their important role in biological sciences and pharmaceutical compounds.
c3	Suggest methods for the synthesis of aromatic heterocyclic compounds of pharmaceutical interest.
C4	Correlate the structure of organic molecules with their chemical properties.
D- General and Transferable skills	
d1	Develop critical thinking and Problem solving skills.

D- Contents :

Week No.	Lecture contents (2 hrs/lec.)	Practical session (1 hrs/lab)
1	1- Stereochemistry *Definition, aim of study and classification *Structural isomerism	Lab. Safety
2	*Rotational isomerism *Geometrical isomerism	Identification of Carbohydrates (Monosaccharides) Identification of glucose and fructose
3	Optical isomerism Activity (QUIZ)	Identification of Carbohydrates (Disaccharides) Identification of sucrose, lactose and starch
4	* D, L and Erythro, Threo Nomenclature *R and S, Enantiomers , Diastereomers * Activity (QUIZ)	Synthesis of fructosasone
5	2- Carbohydrates Introduction Classification	Synthesis of β-penta-acetylglucose
6	*Monosaccharides i. Synthesis ii.Cyclic structure of Monosaccharides iii.Chemical reactions of Monosaccharides	Synthesis 3,5-dimethyl pyrazole
7	*Periodic exam	
8	*Disaccharides i.Nomenclature ii. Chemical reactions of Disaccharides *.Polysaccharides i.Nomenclature ii.Chemical reactions and determination of the type of glycosidic linkage.	Synthesis of 5-nitrosalicylic acid
9	3- Heterocyclic chemistry Nomenclature of heterocyclic & fused heterocyclic compounds	Synthesis of 3-methyl-1H-quinoxalin-2-one
10	*Activity (case study on nomenclature of heterocycles) Five member ring Furan, Pyrrole &Thiophene Synthesis	Synthesis of 1,2,3-benzotriazole
11	*Five membered ring Furan, Pyrrole&Thiophene Reactions *Five membered ring with two nitrogens Pyrazole& Imidazole Synthesis & Properties	Synthesis of ethyl 2-amino-4,5,6,7-tetrahydro benzo(b)thiophene-3-carboxylate
12	*Indole synthesis, reaction and serotonin (5HT)	Activity (Synthesis of certain drugs containing heterocycles)
13	*Six-membered ring Pyridine and its derivatives ,quinoline and isoquinoline. Synthesis & Reactions.	Revision
14	*Six-membered ring with two nitrogens. Pyrimidine, Pyrazine&Pyridazine Synthesis & Properties, purine nucleus	Practical exam
15	Final written exam	

E- Teaching and Learning Methods:

- Lectures
- Practical session
- Self learning (internet search on some stereochemistry of drugs)

F- Student Assessment Methods:

1- Written exams to assess: a1, a2, a3, c1, c2, c3, c4
2- Practical exams to assess: b1, b2, b3, d1
3- Activities to assess: a1, a2, a3, d1
4- Periodical exam to assess: a1, a2, a3, c1, c2, c3, c4

Assessment schedule:

Assessment (1): Final Written exam	Week 15
Assessment (2): Practical exam	Week 14
Assessment (3): Activity	Week 3, 4, 10, 12
Assessment (4): Periodical exams	Week 7
Assessment (5): Oral exam	Week 15

Section 1.01 Weighting of Assessment

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

G- Facilities Required for Teaching and Learning:

- **Black (white) board, Data show and software.**
- **Lab. Chemicals and glassware.**

H- List of references:

1- Course Notes: Student book of Pharmaceutical Organic chemistry approved by the department.

2- Essential books:

1-Alan.R.Katritzky, Christopher A. Ransden ,john.A.joule&viktor v. “ Handbook of Heterocyclic Chemistry ,3rd edition.2010.
2-John A.joule ,” Heterocyclic Chemistry” 5th edition .2010
3-Stereochemistry workbook , problems & solution 2006.

3- Recommended Books:

John A.joule ,” Heterocyclic Chemistry” 5th edition .2010
Topics in stereochemistry N.L.Allinger, E.L.Eliel & S.H.Wilen volume 14 Copyright 2000
Experimental Organic Chemistry Daniel R.Palleros 2000

4- Periodicals and websites:-

Course Coordinators: **Prof. Dr. Eatedal Hassan Abdel-aal**

Asst. Prof. Dr. Nermin awni

Head of department: **Prof. Dr. Hanan Abdel-Razek**

Date:

تم مناقشة و إعتماد توصيف المقرر من مجلس القسم بتاريخ 2019/8

Matrix I of Pharmaceutical Organic Chemistry-3 course

Course Contents		ILOs of Pharmaceutical Organic Chemistry-3 course										
		Knowledge and understanding			Professional and practical skills			Intellectual skills				General and transferable and skills
Lectures		a1	a2	a3	b1	b2	b3	c1	c2	C3	C4	d1
1	**1- Stereochemistry** ***Definition, aim of study, classification * Structural isomerism	x										
2	*Rotational isomerism *Geometrical isomerism	x										
3	*. Optical isomerism Activity (Quiz)	x										
4	* R and S, Enantiomers , Diastereomers * D, L and Erythro, threo Nomenclature Activity (Quiz)	x										
5	**2- Carbohydrates** * Introduction * Classification	x						x				
6	* Monosaccharides i. Synthesis ii.Cyclic structure of Monosaccharidesiii.Chemical reactions of Monosaccharides	x						x				
7	*Disaccharides i.Nomenclature ii. Chemical reactions of Disaccharides **Periodic exam**	x			x			x x		x	x	
8	*.Polysaccharides i.Nomenclature ii.Chemical reactions and determination of the type of glycosidiclinkage	x						x				
9	**3- Heterocyclic chemistry** * Nomenclature of heterocyclic & fused heterocyclic compounds		x	x					x			

10	Five membered rings * Furan, Pyrrole & Thiophene *. Reactions & Synthesis Activity (Case study on nomenclature of heterocycles)		x	x					x			
11	Five membered ring with two nitrogens *Pyrazole & Imidazole *Synthesis & Properties		x	x					x			
12	*Indole synthesis, reaction and serotonin (5HT)		x	x					x			
13	* Six-membered ring Pyridine and its derivatives ,quinoline and isoquinoline. Synthesis & Reactions.		x	x					x			
14	*Six-membered ring with two nitrogens. Pyrimidine, Pyrazine&Pyridazine Synthesis & Properties, purine nucleus		x	x					x			
15	* Final written exam	x	x	x				x	x	x	x	

Practical sessions												
1	-Lab. Safety.				x		x					
2	- Identification of Carbohydrates (Monosaccharides) Identification of glucose and fructose				x		x					
3	- Identification of Carbohydrates (Disaccharides) Identification of sucrose, lactose and starch				x		x					
4	- Synthesis of fructosasone				x		x					
5	Synthesis of β-penta-acetylglucose					x	x					
6	- Synthesis 3,5-dimethyl pyrazole					x	x					
7	- Periodic exam											
8	- Synthesis of 5-nitrosalicylic acid					x	x					
9	- Synthesis of 3-methyl-1H-quinoxalin-2-one					x	x					
10	Synthesis of 1,2,3-benzotriazole					x	x					
11	Synthesis of ethyl 2-amino-4,5,6,7-tetrahydro benzo(b)thiophene-3-carboxylate					x	x					
12	Activity (Synthesis of certain drugs containing heterocycles)					x						
13	Revision					x						
14	Practical exam					x						X

Matrix II of Pharmaceutical Organic Chemistry-3 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	Oral exam	Periodical exam
2.1	Principles of basic, pharmaceutical, medical, social, behavioral, management, health and environmental sciences as well as pharmacy practice	A1	a1	**1- Stereochemistry** ***Definition, aim of study, classification * Structural isomerism *Rotational isomerism *Geometrical isomerism *. Optical isomerism * R and S, Enantiomers , Diastereomers * D, L and Erythro, threo Nomenclature **2- Carbohydrates** * Introduction * Classification * Monosaccharides i. Synthesis ii.Cyclic structure of Monosaccharidesiii.Chemical reactions of Monosaccharides *Disaccharides i.Nomenclature ii. Chemical reactions of Disaccharides *.Polysaccharides i.Nomenclature ii.Chemical reactions and	Departmental book	x			x		x	x

				determination of the type of glycosidic linkage								
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	a2	**3- Heterocyclic chemistry** * Nomenclature of heterocyclic & fused heterocyclic compounds <u>Five membered rings</u> * Furan, Pyrrole & Thiophene *. Reactions & Synthesis Periodical exam <u>Five membered rings with two nitrogens</u> *Pyrazole & Imidazole *Synthesis & Properties <u>Six-membered ring</u> *Pyridine and its derivatives. * Synthesis &Reactions. <u>Six-membered ring with two nitrogens.</u> *Pyrimidine, Pyrazine & Pyridazine *Synthesis & Properties <u>Fused system</u> *Quinoline, Isoquinoline & Indole *Synthesis & chemistry *Heterocyclic compounds in Pharmaceutical Industry	Departmental book	x			x		x	x
				3- Heterocyclic chemistry * Nomenclature of heterocyclic & fused heterocyclic compounds <u>Five membered ring</u> * Furan, Pyrrole &	Departmental book	x			x		x	x

2.4	Principles of isolation, synthesis, purification, identification and standardization methods of pharmaceutical compounds	A8	a3	Thiophene *. Reactions & Synthesis Periodical exam Five membered ring with two nitrogens *Pyrazole & Imidazole *Synthesis &Properties Six-membered ring *Pyridine and its derivatives. * Synthesis & Reactions. Six-membered ring with two nitrogens. *Pyrimidine, Pyrazine & Pyridazine *Synthesis & Properties Fused system *Quinoline, Isoquinoline & Indole *Synthesis & chemistry *Heterocyclic compounds in Pharmaceutical Industry								
3.2	Handle and dispose chemicals and pharmaceutical preparations safely	B2	b3	-Melting point determination -Crystalization -Synthesis of Nitrobenzene - Synthesis of Nitro-naphthalene - Synthesis of m-Nitro-benzoic acid - Activity -Synthesis of Picric acid- - Synthesis of Monophenyl urea - Synthesis of Dibenzal acetone - Synthesis of Tribromophenol	Practical note		x			x		

				- Activity - Identification of Carbohydrates- - Synthesis of Glucosasone -Revision lab for identification of unknown - Revision lab for synthetic methods Final Practical Exam I								
3.4	Extract, isolate, synthesize, purify, identify and standerdize active substances from different arigins	B6	b1 b2	-Melting point determination -Crystalization -Synthesis of Nitrobenzene - Synthesis of Nitro-naphthalene - Synthesis of m-Nitro-benzoic acid - Activity -Synthesis of Picric acid- - Synthesis of Monophenyl urea - Synthesis of Dibenzal acetone - Synthesis of Tribromophenol - Activity - Identification of Carbohydrates- - Synthesis of Glucosasone -Revision lab for identification of unknown - Revision lab for synthetic methods Final Practical Exam I	Practical note		x			x		
4.5	Select the	C6	c1	**2- Carbohydrates** * Introduction	Deartmental	x		x	x		x	

	appropriate methods of isolation, synthesis, purification, identification, and standardization of active substances from different origins			* Classification	book and internet							
				* Monosaccharides i. Synthesis ii.Cyclic structure of Monosaccharidesiii.Chemical reactions of Monosaccharides								
				*Disaccharides i.Nomenclature ii. Chemical reactions of Disaccharides								
				*.Polysaccharides i.Nomenclature ii.Chemical reactions and determination of the type of glycosidic linkage								
			c2 c3 c4	**3- Heterocyclic chemistry** * Nomenclature of heterocyclic & fused heterocyclic compounds	Deartmental book and internet	x		x	x		x	
				Five membered rings * Furan, Pyrrole & Thiophene *. Reactions & Synthesis Periodical exam								
				Five membered rings with two nitrogens *Pyrazole & Imidazole *Synthesis & Properties								
				Six-membered ring *Pyridine and its derivatives. * Synthesis & Reactions.								
				Six-membered ring with two nitrogens. *Pyrimidine, Pyrazine &								

				Pyridazine *Synthesis & Properties <u>Fused system</u> *Quinoline, Isoquinoline & Indole *Synthesis & chemistry *Heterocyclic compounds in Pharmaceutical Industry							
5.10	Implement writing and thinking, problem-solving and decision-making abilities	D12	d1	Activity	Departmental book and internet	x		x	x		x	

COURSE SPECIFICATIONS

Pharmaceutical Analytical Chemistry 2

Second level –Semester 3

2019-2020

Course specification of Pharmaceutical Analytical Chemistry-2

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: Analytical chemistry department

Academic year / Level: Second level / semester 3

Date of specification approval: Sep 2019

B- Basic information:

Title: Pharmaceutical Analytical Chemistry-2 Code: PC 306

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, students will be able to

- Illustrate the principles and the application of oxidation-reduction complexometric titration reactions
- Apply studied quantitative methods for determination of different pharmaceutical compounds.
- Outline the proper steps of statistical analysis and analytical method validation.

2-Intended Learning Outcomes of Pharmaceutical Analytical Chemistry-2 (ILOs):

A- Knowledge and Understanding	
a1	Outline principles of oxidation-reduction and complexometric reactions.
a2	Illustrate the use of oxidation-reduction and complexometric titration reactions in pharmaceutical assay.
a3	Explain the required validation parameters for analytical procedures.
B- Professional and Practical skills	
b1	Handle and dispose chemicals safely.
b2	Apply redox and complexometric titration assay for determination of some compounds.
C- Intellectual skills	
c1	Interpret results obtained from different methods applied for determination of different pharmaceutical compounds
c2	Select the most appropriate standardization method for different compounds.
D- General and Transferable skills	
d1	Work as member of team
d2	Develop time management skills.

D- Contents:

Week No.	Lecture (2hrs/week)	Practical Session (1 hr/week)
1	Introduction to oxidation-reduction reactions(definition, oxidation number-balancing redox equation)	- Safety guidelines Determination of soluble oxalates.
2	Electrode potential E.	Determination of cations that form insoluble oxalates.
3	Oxidation potential	Determination of iron (ferrous-ferric).
4	Titration curves.	Determination Of iron (metallic-ferrocyanide).
5	Detection of end-point in redox titration	Determination Of peroxides
6	Redox reactions involving iodine	Periodical exam (no labs).
7	Application of redox reactions	Determination of aldehydes .
8	Complex formation titration.	Determination of calcium and magnesium in samples.
9	-Types of ligand -Chelation	Determination of mercury in samples.
10	-Factors affecting on the stability of complex -Titration with aminopolycarboxylic acid	Determination of copper metal in samples
11	Stability constant of EDTA complex -Titration of metal ion with ligands	Determination of zinc metal in samples.
12	-Metal indicators -Application of complexometric titration	Determination of manganese metal in samples.
13	-Titration with EDTA -Cyanometric titration - Mercuremetric titration	Revision
14	-What is method validation -Steps of method validation according to USP	**Practical exam**
15	Final Exam	

E- Teaching and Learning Methods:

- Lectures (overhead projector, data show, board)
- Practical sessions
- Problem solving

F- Student Assessment Methods:

1- Written exam to assess a1,a2,a3, c1,c2,d2

2- Practical exam to assess b1,b2,c1.c2, d1,d2

3- Oral exam to assess a1,a2,a3, c1,c2,d2

4- Periodical exam to assess a1, a2,c2

Assessment schedule:

Assessment (1): Written exam	Week 15
Assessment (2): Practical exam	Weeks 14
Assessment (3): Oral exam	Week 15
Assessment (4): Periodical exam	Weeks 6

Weighting of Assessment:

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

G- Facilities Required for Teaching and Learning:

- Lectures (Computer, data show, board)
- Practical sessions (Chemicals and Glassware)
- Open discussion

H- List of References:

1- Course Notes

Lecture notes and department notes

2- Essential Books (Text Books)

i- J. Mendham, et al., Vogel's Textbook of Quantitative Chemical Analysis (6^{th} edition);, Addison Wesley Publishing Co., 2000

ii-Daniel C. Harris, Quantitative Chemical Analysis (6^{th}Edition);. (2002).

3- Recommended Books

1. F D. C. Harris, Quantitative Analytical Chemistry (9^{th} edition), W. H. Freeman and Co. (2015)
2. D. Chowrasia, N. Sharma, Analytical Chemistry. A Qualitative & Quantitative Approach (General Techniques) Knoc education (2015).

4- Periodicals, Web Sites, etc

https://www.ekb.eg/

http://chemwiki.ucdavis.edu/

http://en.wikipedia.org/

www.Pubmed.Com and

www.sciencedirect.com

Course Coordinator: Prof. Dr. Magda El Henawee

Head of department: Prof. Dr. Magda El Henawee

Date:: تم مناقشة و إعتماد توصيف المقرر من مجلس القسم بتاريخ سبتمبر 2019

Matrix I of Pharmaceutical Analytical Chemistry-2 (PC306)

Course Contents		ILOs of the course								
		Knowledge and understanding			Knowledge and understanding		Knowledge and understanding		Knowledge and understanding	
Lectures		a1	a2	a3	b1	b2	c1	c2	d1	d2
1	Introduction to oxidation-reduction reactions(definition, oxidation number-balancing redox equation)	x								
2	Electrode potential E.	x								
3	Oxidation potential	x								
4	Titration curves.	x	x							
5	Detection of end-point in redox titration	x	x							
6	Redox reactions involving iodine		x				x	X		
7	Application of redox reactions		x				x	X		
8	Complex formation titration.	x								
9	Types of ligand -Chelation	x								

10	Factors affecting on the stability of complex -Titration with aminopolycarboxylic acid	x	x				x	X		
11	Stability constant of EDTA complex -Titration of metal ion with ligands	x	x				x	X		
12	-Metal indicators -Application of complexometric titration	x	x				x	X		
13	-Titration with EDTA -Cyanometric titration and mercuremetric titration		x				x	X		
14	-What is method validation -Steps of method validation according to USP			x			x			
Practical sessions										
1	- Safety guidelines Determination of soluble oxalates.				x	x	x	X	x	x
2	Determination of cations that form insoluble oxalates.					x	x	X	x	x
3	Determination of iron (ferrous-ferric).					x	x	X	x	x
4	Determination Of iron (metallic- ferrocyanide).					x	x	X	x	x
5	Determination Of peroxides					x	x	X	x	x
6	Periodical exam (no labs).									

7	Determination of aldehydes .					x	x	X	x	x
8	Determination of calcium and magnesium in samples.					x	x	X	x	x
9	Determination of mercury in samples.					x	x	X	x	x
10	Determination of copper metal in samples					x	x	X	x	x
11	Determination of zinc metal in samples.					x	x	X	x	x
12	Determination of manganese metal in samples.					x	x	X	x	x
13	Revision				x	x	x	X	x	x

Matrix II of Pharmaceutical Analytical Chemistry-2 (PC306)

National Academic Reference Standards NARS		Program ILOs	Course ILOs	Course contents	Sources	Teaching and learning methods			Weighting of assessment			
						lecture	practical session	self learning	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	A1	a1	• Introduction to oxidation-reduction reactions(definition, oxidation number-balancing redox equation) • Electrode potential E. • Oxidation potential • Titration curves • Detection of end-point in redox titration • Complex formation titration. • Types of ligand –Chelation • Factors affecting on the stability of comple • Stability constant of EDTA comple • Metal indicators	Student book Essential books Recommended books	x			X		x	x

2.3	Principles of different analytical techniques using GLP guidelines and validation procedures.	A7	a3	• What is method validation • Steps of method validation according to USP	Student book Essential books Recommended books	x			X		x	
2.17	Methods of biostatistical analysis and pharmaceutical calculations	A27	a2, a3	• Titration curves. • Detection of end-point in redox titration • Redox reactions involving iodine • Application of redox reactions • Titration with aminopolycarboxylic acid • Titration of metal ion with ligands • Application of complexometric titration • Titration with EDTA • Cyanometric titration and mercuremetric titration • What is method validation • Steps of method validation according to USP	Student book Essential books Recommended books	x			X		x	x
3.2	Handle and dispose chemicals and pharmaceutical preparations safely	B2	b1	• Safety guidelines	Practical notebook		x			x		

3.4	Extract, isolate, synthesize, purify, identify, and/or standardize active substances from different origins.	B5	b2	• Determination of soluble oxalates. • Determination of cations that form insoluble oxalates. • Determination of iron (ferrous-ferric). • Determination Of iron (metallic- ferrocyanide). • Determination Of peroxides • Determination of aldehydes • Determination of calcium and magnesium in samples. • Determination of mercury in samples. • Determination of copper metal in samples • Determination of zinc metal in samples. • Determination of manganese metal in samples.	Practical notebook		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	c1 c2	• Redox reactions involving iodine • Application of redox reactions • Titration with aminopolycarboxylic acid • Titration of metal ion with ligands • Application of complexometric titration • Titration with EDTA • Cyanometric titration • Mercuremetric titration • Practical sessions.	Student book Practical notebook	x	x		X	x	x	

4.5	Select the appropriate methods of isolation, synthesis, purification, identification, and standardization of active substances from different origins.	C6	c2	• Redox reactions involving iodine • Application of redox reactions • Titration with aminopolycarboxylic acid • Titration of metal ion with ligands • Application of complexometric titration • Titration with EDTA • Cyanometric titration • Mercuremetric titration • Practical sessions.	Student book Practical notebook	x	x		X	x	x	x
5.3	Work effectively in a team	D4	d1	• Practical sessions	Practical notebook		x			x		
5.8	Demonstrate creativity and time management abilities .	D10	d2	• Practical sessions	Practical notebook		x		X	x	x	

Course Coordinator: **Prof. Dr. Magda El Henawee**
Head of Department: **Prof. Dr. Magda El Henawee**
Date: **2019 سبتمبر** **تم مناقشة و إعتماد توصيف المقرر من مجلس القسم بتاريخ**

COURSE SPECIFICATIONS

Pharmacognosy 2

Second level –Semester 3

2019-2020

Course Specification of Pharmacognosy -2

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: Pharmacognosy Department

Academic year/Level: Second level / Third semester

Date of specification approval: 30/9/ 2019

B- Basic information:

Title: Pharmacognosy - 2 Code: PG 303

Credit Hours: ---

Lectures: 2 hrs/week

Practical: 1 hrs/week

Tutorials: ---

Total: 3 hrs/week

C- Professional information:

1-Overall Aims of the Course to:

- Describe morphological, histological characters and uses of medicinal fruits, seeds and subterranean organs as well as identification of different active constituents and adulteration, in addition to identification of some medicinally important unorganized and animal drugs.
- Examine and determine the active constituents of the studied drugs. Differentiate between drugs in entire and powdered form from different plant organs

2-Intended Learning Outcomes of Pharmacognosy - 2

A- Knowledge and Understanding	
a1	Describe Morphological and Histological characters and uses of medicinal fruits, seeds, and subterranean organs.
a2	Outline adulteration of different medicinal fruits, seeds and subterranean organs.
a3	Mention different active constituents of fruits, seeds and subterranean organs and unorganized plant and animal drugs.
B- Professional and Practical skills	
b1	Handel and dispose chemicals in a safe way.
b2	Examine drugs of plant origin in entire and powdered form.
b3	Determine the active constituents of the studied drugs.
C- Intellectual skills	
c1	Differentiate between drugs in entire and powdered form.
D- General and Transferable skills	
d1	Work as a member of a team.
d2	Develop internet search and communications skills.
d3	Manage time and plan of work.

D- Contents:

Week No.	Lecture (2hrs/week)	Practical session (1 hr/week)
1	-General introduction for what will be taught all over the term -Introduction for the seeds and giving the students the possible references, web sites, text books	-Laboratory Safety Measures -Dealing with Microscope. -Morphology of some important seeds
2	Description including Macro- and micro-morphological study for entire drug and for powdered Linseed, Fenugreek, Psyllium, Nut meg, Pumpkin and Strophanthus.	Fenugreek: Macro- and micro-morphological study for entire drug.
3	Evening primrose, Colchicum and mustard macro-and, micro-morphology of the entire and powdered drugs, chemical identification.	Linseed: Macro- and micro-morphological study for entire drug.
4	Introduction to the fruits.	Mustard and nuxvomica:macro-, and Micro-morphology, powders and chemical identification.
5	Anise, fennel and caraway: macro-and; micro morphology -, powder and chemical identification	-Morphology of some important fruits. **-Activity:** Research about pharmaceutical preparation containing seeds, fruits or subterranean organs.
6	Ammivisnaga, Ammimajus and Capsicum: macro-and; micro-morphology - powder and chemical identification.	Anise and caraway: macro-and Micro-morphology, powder and chemical identification.
7	-Lemon and orange peel and other medicinally used berries fruits: macro-and; micro-morphology - powder and chemical identification. **-Periodical exam.**	Senna pods (Morphology, histology, powder and chemical test, when it is possible.
8	-Introduction to subterranean organs.	Ammivisnaga and Capsicum (Morphology, histology for entire drug powder and chemical test.
9	Liquorice and Ipeca: macro-morphology; micro-morphology powder and chemical identification.	Liquorice: macro-morphology; micro-morphology powder and chemical identification.
10	Ginger, curcuma: macro-morphology; micro-morphology powder and	Ginger, curcuma: macro-morphology; micro-morphology

	chemical identification.	powder and chemical identification
11	Ginseng, valerian, garlic and Echinacea: macro-morphology; micro-morphology powder and chemical identification.	Identification of unorganized drugs
12	-Introduction to Unorganized drugs -Medicinal plants used as unorganized drugs: Myrrh, aloe, gum and opium.	**Practical exam**
13	Animal drugs: Introduction, Medicinal plants used as animal drug: gelatin, agar, insulin and heparin	**Practical exam**
14	Revision	
15	**Final written exam**	

*Activities in practical session cover the general and transferable skills (Use information from different natural product sources, operate effectively as a member of a team, write reports and present it

E- Teaching and Learning Methods:

- Interactive lectures
- Practical sessions
- Self-learning (group discussion, presentation skills)
- Net research

F- Student Assessment Methods:

1- Written exam (periodic, final) to assess a1, a2, a3, c1
2- Activity to assess d1,d2,d3
3- Practical exam to assess b1,b2,b3
4- Oral exam to assess a1, a2, a3, c1

Assessment schedule:

Assessment (1): Periodic exam	Week 7
Assessment (2): Activity	Week 5
Assessment (3): Practical exam	Week 12, 13
Assessment (4): Final written exam	Week 15
Assessment (5): Oral exams	Week 15

Weighting of Assessment:

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

G- Facilities Required for Teaching and Learning:

- For lectures: Black (white) boards, data show.
- For Labs: Chemicals, glassware, microscopes
- Farm of Faculty of Pharmacy.

H- List of References:

1- Course Notes: Student book of Pharmacognosy -2 approved by pharmacognosy department.

2- Essential books

- Trease G.E. (a text book of pharmacognosy) 16th Ed. London., New York 2017.

3- Recommended books:

- Biren S. (Textbook of Pharmacognosy & Phytochemistry), Elsevier, India, 2013.
- Janice, Glimn-Lacy and Peter B. Kaufman, Botany Illustrated, Introduction to plants, major groups, flowering plants families, 2nd ed. Springer 2006

4- Periodicals and websites:

- A. Fahan, Plant Anatomy, Pergamon Press. 2002.
- http://www.scribd.com/doc/75980088/Atlas-of-Medicinal-Plants-II
- http://pharmacystudent-prep.blogspot.com
- http://www.pharma-board.com/board/fopgal/index.php

Course Coordinator: Prof. Dr. Afaf El-Sayed
Head of Department: Prof. Dr. Amal Amin El-Gendy
Date: 30/ 9/2019 **تم مناقشة و اعتماد توصيف المقرر من مجلس القسم بتاريخ**

Matrix I of Pharmacognosy – 2 course

Course Contents		ILOs of Pharmacognosy - 2 course								
		Knowledge and understanding			Professional and practical skills			Intellectual skills	General and transferable skills		
Lectures		a1	a2	a3	b1	b2	b3	c1	d1	d2	d3
1	-General introduction for what will be taught all over the term -Introduction for the seeds and giving the students the possible references, web sites, text books	x	x	**x**				**x**			
2	Description including Macro- and micro-morphological study for entire drug and for powdered Linseed, Fenugreek, Psyllium, Nut meg, Pumpkin and Strophanthus.	x	x	**x**				**x**			
3	Evening primrose, Colchicum and mustard macro-and, micro-morphology of the entire and powdered drugs, chemical identification.	x	x	**x**				**x**			
4	Introduction to the fruits.	x	x	**x**				**x**			
5	Anise, fennel and caraway: macro-and; micro morphology -, powder and chemical identification	x	x	**x**				**x**			
6	Ammivisnaga, Ammimajus and Capsicum: macro-and; micro-morphology - powder and chemical identification.	x	x	**x**				**x**			
7	-Lemon and orange peel and other medicinally used berries fruits: macro-and; micro-morphology - powder and chemical identification. **-Periodical exam.**	x	x	**x**				**x**			
8	-Introduction to subterranean organs	x	x	**x**				**x**	X	**x**	**x**
9	Liquorice and Ipeca: macro-morphology; micro-morphology powder and chemical identification.	x	x	**x**				**x**			
10	Ginger, curcuma: macro-morphology; micro-morphology powder	x	x	**x**				**x**			

	and chemical identification.										
11	Ginseng, valerian, garlic and Echinacea: macro-morphology; micro-morphology powder and chemical identification.	x	x	**x**				**x**			
12	-Introduction to Unorganized drugs -Medicinal plants used as unorganized drugs: Myrrh, aloe, gum and opium.			x				**x**			
13	Animal drugs: Introduction, Medicinal plants used as animal drug: gelatin, agar, insulin and heparin			x				**x**			
Practical sessions											
14	-Laboratory Safety Measures -Dealing with Microscope. -Morphology of some important seeds				x	x	x				
15	Fenugreek: Macro- and micro-morphological study for entire drug				x	x	x				
16	Linseed: Macro- and micro-morphological study for entire drug.				x	x	x				
17	Mustard and nuxvomica:macro-, and Micro-morphology, powders and chemical identification.				x	x	x				
18	-Morphology of some important fruits. **-Activity:** Research about pharmaceutical preparation containing seeds, fruits or subterranean organs.				x	x	x		X	x	x
19	Anise and caraway: macro-and Micro-morphology, powder and chemical identification.				x	x	x				
20	Senna pods (Morphology, histology, powder and chemical test, when it is possible.				x	x	x				
21	Ammivisnaga and Capsicum (Morphology, histology for entire drug powder and chemical test.				x	x	x				
22	Liquorice: macro-morphology; micro-morphology powder and chemical identification.				x	x	x				
23	Ginger, curcuma: macro-morphology; micro-morphology powder				x	x	x				

	and chemical identification										
24	Identification of unorganized drugs				x	x	x				
25	**Activity**				x	x	x		X	x	x

Matrix II of Pharmacognosy -2 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	Oral exam	Periodical exam
2.2	Physical-chemical properties of various substances used in preparation of medicines including	A5	a1 a2	-General introduction for what will be taught all over the term -Introduction for the seeds and giving the students the possible references, web sites, text books -Description including Macro- and micro-morphological study for entire drug and for powdered Linseed, Fenugreek, Psyllium, Nut meg, Pumpkin and Strophanthus.	Student book Essential books	x			x		X	x

	inactive and active ingredients as well as biotechnology and radio-labeled produc	A6	a3	-Evening primrose, Colchicum and mustard macro-and, micro-morphology of the entire and powdered drugs, chemical identification. -Introduction to the fruits. -Anise, fennel and caraway: macro-and; micro morphology -, powder and chemical identification -Ammivisnaga, Ammimajus and Capsicum: macro-and; micro-morphology - powder and chemical identification. -Lemon and orange peel and other medicinally used berries fruits: macro-and; micro-morphology - powder and chemical identification. **-Periodical exam.** -Introduction to subterranean organs. -Liquorice and Ipeca:								

				macro-morphology; micro-morphology powder and chemical identification. -Ginger, curcuma: macro-morphology; micro-morphology powder and chemical identification. -Ginseng, valerian, garlic and Echinacea: macro-morphology; micro-morphology powder and chemical identification.								

Course Coordinator: Prof. Dr. Afaf El-Sayed
Head of Department: Prof. Dr. Amal Amin El-Gendy
Date: 30/ 9/2019 تم مناقشة و اعتماد توصيف المقرر من مجلس القسم بتاريخ

3.2	Handle and dispose chemicals and pharmac-- eutical prepara-- tions safely	B2	b1	-Laboratory Safety Measures -Dealing with Microscope. -Morphology of some important seeds -Fenugreek: Macro- and micro-morphological study for entire drug -Linseed: Macro- and micro-morphological study for entire drug. -Mustard and nuxvomica:macro-, and Micro-morphology, powders and chemical identification. -Morphology of some important fruits. -Activity: Research about pharmaceutical preparation containing seeds, fruits or subterranean organs. -Anise and caraway: macro-and Micro-morphology, powder and chemical identification. -Senna pods (Morphology, histology, powder and	Practical note Internet		x			X		

3.4	Extract, isolate, synthesize, purify, identify, and /or standardize active substances from different origins	B4	b2 b3	chemical test, when it is possible. -Ammivisnaga and Capsicum (Morphology, histology for entire drug powder and chemical test. -Liquorice: macro-morphology; micro-morphology powder and chemical identification. -Ginger, curcuma: macro-morphology; micro-morphology powder and chemical identification -Identification of unorganized drugs								
4.3	Apply qualitative and quantitative analytical and biological methods for QC and assay of raw materials as well as pharmaceutical preparations	C3	c1	-General introduction for what will be taught all over the term -Introduction for the seeds and giving the students the possible references, web sites, text books -Description including Macro- and micro-morphological study for entire drug and for powdered Linseed, Fenugreek, Psyllium, Nut meg, Pumpkin and Strophanthus.	Student book Essential books	x			x		x	x

				-Evening primrose, Colchicum and mustard macro-and, micro-morphology of the entire and powdered drugs, chemical identification. -Introduction to the fruits. -Anise, fennel and caraway: macro-and; micro morphology -, powder and chemical identification -Ammivisnaga, Ammimajus and Capsicum: macro-and; micro-morphology - powder and chemical identification. -Lemon and orange peel and other medicinally used berries fruits: macro-and; micro-morphology - powder and chemical identification. **-Periodical exam.** -Introduction to subterranean organs. -Liquorice and Ipeca: macro-morphology; micro-morphology powder and chemical identification. -Ginger, curcuma: macro-morphology; micro-morphology powder and chemical identification. -Ginseng, valerian, garlic and Echinacea: macro-morphology; micro-morphology powder and								

				chemical identification. -Introduction to Unorganized drugs -Medicinal plants used as unorganized drugs: Myrrh, aloe, gum and opium. - Animal drugs: Introduction, Medicinal plants used as animal drug: gelatin, agar, insulin and heparin								
5.3	Work effectively in a team.	D4	d1	Activity Research about pharmaceutical preparation containing seeds, fruits or subterranean organs.	Student book Essential books and internet	x	x	x		x		
5.1 **5.4**	Communicate clearly by verbal means. Use numeracy, calculation and statistical methods as well as information technology tools.	D1 D6	d2									
5.8	Demonstrate creativity and time management abilities	D10	d3									

Course Coordinator: Prof. Dr. Afaf El-Sayed

Head of Department: Prof. Dr.

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

COURSE SPECIFICATIONS

Anatomy
Second level –Semester 3

2019-2020

Course Specification of Anatomy

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: Anatomy / Faculty of medicine

Academic year/ Level: Second level / Semester 3

Date of specification approval: September 2019

B- Basic information:

Title: Anatomy Code: **MD304**

Credit Hours: ---

Lectures : 1 hr/week

Practical: 1 hr/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 outline the anatomy of body organs and structures as well as apply the anatomical information in identification of different diseases.

2-Intended Learning Outcomes of Anatomy (lLOs):

A- Knowledge and Understanding	
a1	Recognize the principles of anatomy, including anatomical terms, anatomical positions and anatomical movements.
a2	Describe surface anatomy of body organs.
B- Professional and Practical skills	
b1	Use the anatomical terms in describing the anatomy of body structure.
C- Intellectual skills	
c1	Evaluate and interpret the radiological pictures of body structures.
c2	Apply the anatomical information in identification of different diseases, including joints and nerve injuries as well as occlusion of blood vessels.
D- General and Transferable skills	
d1	Write and present reports.
d2	Develop critical thinking in describing surface anatomy of important parts of body organs.

D- Contents:

Week No.	Lecture (1 hr/ week)	Practical sessions (1 hr/week)
1	- Introduction (anatomical terms- anatomical positions- anatomical movements)	-Demonstration of scapula - clavicle
2	- Joints and muscular system	- Demonstration of humerus – radius -ulna
3	- Cardiovascular system	- Demonstration of ribs – thoracic vertebra
4	- Respiratory system	- Demonstration of lumbar – cervical vertebra
5	- Lymphatic system	- Demonstration of sternum - sacrum
6	**Periodical exam**	
7	- Digestive system	- Demonstration of skull **- Activity (report)**
8	- Urinary system	- Demonstration of mandible
9	- Male genital system	- Demonstration of heart
10	- Female genital system	- Demonstration of kidney – spleen - liver
11	- Endocrine glands	- Demonstration of lung- brain
12	- Nervous system	- Demonstration of hip - femur
13	- Special senses and skin	**- Practical exam**
14	- Skeletal system and vertebral column	
15	- final written exam	

E- Teaching and Learning Methods:

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

F- Student Assessment Methods

1- Written exam	to assess	a1,a2,c2
2- Practical exam	to assess	b1,c1,d1,d2
3- Activity	to assess	d1

Assessment schedule:

Assessment (1): Periodical exam	Week 6
Assessment (2): Activity	Week 7
Assessment (3): Practical exam	Week 13
Assessment (4): final Written exam	Week 15

Weighting of Assessment:

Assessment method	Marks	Percentage
Written exam	40 (35 +5)	80%
Practical exam and activities	10	20%
TOTAL	50	100%

G- Facilities Required for Teaching and Learning:

- Black (white) board, Data show, Laboratory bones and models of organs.

H- List of References:

1- Course Notes: Student book of Anatomy approved by Anatomy Department (2019)

2- Essential Books (text books)

Kindersley D.& Medi-Mation: The Concise Human Body Book: An Illustrated Guide to Its Structure, Function and Disorders (2009).

Course Coordinator: Prof. Mohie ElSayed Khaliel

Date: /9/2019

Matrix I of Anatomy course

Course Contents		ILOs of Anatomy course						
		Knowledge and understanding		Professional and practical skills	Intellectual skills		General and Transferable skills	
Lectures		**a1**	**a2**	**b1**	**c1**	**c2**	**d1**	**d2**
1	Introduction (anatomical terms- anatomical positions- anatomical movements)	x						
2	Joints and muscular system		x			x		
3	Cardiovascular system		x			x		
4	Respiratory system		x					
5	Lymphatic system		x					
6	Digestive system		x					
7	Urinary system		x					
8	Male genital system		x					
9	Female genital system		x					
10	Endocrine glands		x					
11	Nervous system		x			x		
12	Special senses and skin		x					
13	Skeletal system and vertebral column		x					
Practical sessions								
1	Demonstration of scapula - clavicle			x	x			x
2	Demonstration of humerus –radius -ulna			x	x			x
3	Demonstration of ribs – thoracic vertebra			x	x			x
4	Demonstration of lumbar – cervical vertebra			x	x			x

5	Demonstration of sternum - sacrum			x	x			x
6	Demonstration of skull			x	x			x
7	Demonstration of mandible			x	x			x
8	Demonstration of heart			x				x
9	Demonstration of kidney – spleen - liver			x				x
10	Demonstration of lung- brain			x				x
11	Demonstration of hip - femur			x	x			x
12	Activity (Report)						x	

Matrix II of Anatomy

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
2.1	Principles of basic, pharmaceutical, medical, social, behavioral, management, health and environmental sciences as well as pharmacy practice.	A3	a1	Introduction (anatomical terms- anatomical positions- anatomical movements)	Student book	x			x	
			a2	Joints and muscular system	Student book	x			x	
				Cardiovascular system	Student book	x			x	
				Respiratory system	Student book	x			x	
				Lymphatic system	Student book	x			x	
				Digestive system	Student book	x			x	
				Urinary system	Student book	x			x	
				Male genital system	Student book	x			x	
				Female genital system	Student book	x			x	
				Endocrine glands	Student book, essential books and internet	x		x	x	
				Nervous system	Student book	x			x	
				Special senses and skin	Student book	x			x	
				Skeletal system and vertebral column	Student book	x			x	
3.1	Use the proper pharmaceutical and medical terms and abbrevations and symbols in pharmacy practice.	B1	b1	Demonstration of scapula - clavicle	practical notes		x			x
				Demonstration of humerus –radius -ulna			x			x
				Demonstration of ribs – thoracic vertebra			x			x
				Demonstration of lumbar – cervical vertebra			x			x
				Demonstration of sternum - sacrum			x			x
				Demonstration of skull			x			x
				Demonstration of mandible			x			x
				Demonstration of heart			x			x

				Demonstration of kidney – spleen - liver			x			x
				Demonstration of lung- brain			x			x
				Demonstration of hip - femur			x			x
4.13	Analyze and interpret experimental results as well as published literature	C15	c1	Demonstration of scapula - clavicle	Practical notes		x			x
				Demonstration of humerus –radius -ulna			x			x
				Demonstration of ribs – thoracic vertebra			x			x
				Demonstration of lumbar – cervical vertebra			x			x
				Demonstration of sternum - sacrum			x			x
				Demonstration of skull			x			x
				Demonstration of mandible			x			x
				Demonstration of hip - femur			x			x
4.14	Analyze and evaluate evidence-based information needed in pharmacy practice.	C16	c2	Joints and muscular system	Student book	x			x	
				Cardiovascular system		x			x	
				Nervous system		x			x	
5.9	Implement writing and presentation skills	D11	d1	Activity (report)	internet			x		x
5.1O	Demonstrate critical thinking, problem-solving and decision-making abilities	D12	d2	Demonstration of scapula - clavicle	practical notes		x			x
				Demonstration of humerus –radius -ulna			x			x
				Demonstration of ribs – thoracic vertebra			x			x
				Demonstration of lumbar – cervical vertebra			x			x
				Demonstration of sternum - sacrum			x			x
				Demonstration of skull			x			x
				Demonstration of mandible			x			x
				Demonstration of heart			x			x
				Demonstration of kidney – spleen - liver			x			x
				Demonstration of lung- brain			x			x
				Demonstration of hip - femur			x			x

Course Coordinator: **Prof. Mohie ElSayed Khaliel**

Date: **/9/2019**

COURSE SPECIFICATIONS

Physiology

Second level –Semester 3

2019-2020

Course Specification of Physiology

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: Second level / Semester 3

Date of specification approval: October 2019

B- Basic information:

Title: Physiology Code: MD 305

Credit Hours: ---

Lectures: 2 hr/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:

- Describe the integration of physiological functions, which characterize the performance of the human body as a whole in health.

-To explore in detail the functions of the autonomic , the neuromuscular , the respiratory and cardiovascular systems as well as their integration to achieve homeostasis.

- Acquire an appropriate functional background of cells, tissues, organs & systems.

- Know the physiological principles underlying diseases states that aids in interpretation of symptoms.

2-Intended Learning Outcomes

A- Knowledge and Understanding	
a1	List the normal physiological functions of different body organs.
a2	Describe the methods and procedures used to evaluate the parameters of the body functions.
B- Professional and Practical Skills	
b1	Use the basic terminology of physiology functions.
C- Intellectual Skills	
c1	Suggest appropriate method for managing some major malfunctions.
D- General and Transferable Skills	
d1	Write reports including graphical material and conduct oral presentations.
d2	Work effectively as a part of team to collect data and/or produce reports.
d3	Manage time to meet targets within deadlines.
d4	Find effective solutions for a given problem.

D- Contents:

Week No.	Lecture (2 hr/week)	Practical Session (1 hrs/week)
1	Endocrine physiology part1 (pituitary and throid gland)	Growth hormone (acromegaly,dwarfism and gigantism)
2	Endocrine physiology part2 (pancrease)	Practical blood glucose determination **Activity report**
3	Renal physiology	Kidney function tests Nephron function video demonstration
4	pulmonary physiology	Lung& spirometer video demonstration
5	Cell membrane physiology Neuromuscular junction(Nerve and muscle)	Nerve and muscle (NCV-EMG) Carpal tunnel syndrome
6	Central nervous system (brain and cranial nerve ohysiology)	CNS video demonstration Reflexes video demonstration
7	**Periodical exam** Autonomic nervous system physiology(sympathetic)	Autonomic nervous system Tilt table test(video demonstration)
8	Autonomic nervous system physiology (parasympathetic)	Practical blood pessuer measurement
9	peripheral nervous system physiology	ECG video demonstration
10	Cardiovascular System physiology 1 (heart)	blood grouping Practical demonstration **Activity report**
11	Cardiovascular System physiology 2 (Blood vessels)	Revision **Activity report**
12	Lymphatic system physiology (lymph nodes, nodules)	**Practical exam part 1(spots)**

13	GIT Physiology part1 (Regulation & function)	**Practical exam 2**
14	GIT Physiology part2 (secreation& lipid,protein and carbohydrate digestion)	
15	Written exam	

E- Teaching and Learning Methods:

- Lectures
- Practical sessions
- Open discussion, case study, self learning (internet search & report writing)
- Demonstrative videos

F- Student Assessment Methods:

1- Written exam to assess a1,a2,c1

2- Practical exam to assess b1,c1,d1

3- Periodical exam to assess a1,a2,c1

4-Activity to assess d1,d2,d3,d4

Assessment Schedule:

Assessment (1): Final written exam	15 Week
Assessment (2): Practical exam	12,13 Week
Assessment (3): Periodical exam	7 Week
Assessment (4): Activity	2,10,11 Week

Weighting of Assessment:

Assessment method	Marks	Percentage
Written exam	65	65%
Practical exam & activity	25	25%
Periodical exam	10	10%
TOTAL	100	100%

F- 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-Cellular physioliogy Mosbey's physiology.monographs. Joseph 2015.

2- Course Notes: Student book of physiology approved by pharmacology department

3- Essential Books:

- Linda S. Costanzo (2007). Board Review Series: Physiology. Lippincott Williams & Wilkins. 4th ed

3- Recommended Books:

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

Head of Department: Prof.Dr. Mona Fouad

Date: **القسم بتاريخ / /2019 م**

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Matrix I of Physiology course

Course Contents		ILOs of Physiology course							
		Knowledge and understanding		Professional and practical skills	Intellectual skills	General and transferable and skills			
Lectures		a1	a2	b1	c1	d1	d2	d3	d4
1	Endocrine physiology part1 (pituitary and throid gland)	x	x		x				
2	Endocrine physiology part2 (pancrease)	x	x		x	x	x	x	x
3	Renal physiology	x	x		x				
4	pulmonary physiology	x	x		x				
5	Cell membrane physiology Neuromuscular junction(Nerve and muscle)	x	x						
6	Central nervous system (brain and cranial nerve ohysiology)	x	x						
7	Periodical exam Autonomic nervous system physiology (parasympathetic)	x	x						
8	Autonomic nervous system physiology (parasympathetic)	x	x		x	x	x	x	x
9	peripheral nervous system physiology	x	x						
10	Cardiovascular System physiology 1 (heart)	x	x						
11	Cardiovascular System physiology 2 (Blood vessels)	x	x						
12	Lymphatic system physiology (lymph nodes, nodules)	x	x		x				
13	GIT Physiology part1 (Regulation & function)	x	x		x				
14	GIT Physiology part2 (secreation& lipid,protein and carbohydrate digestion)	x	x						
15	Written exam	x	x		x				
Practical sessions									
1	Growth hormone (acromegaly,dwarfism and gigantism)			x					
2	Practical blood glucose & blood groups determination Activity report			x					

3	Kidney function tests Nephron function video demonstration			x					
4	Lung& spirometer video demonstration			x					
5	Nerve and muscle NCV-nerve conduction Carpal tunnel syndrome Activity report			x					
6	CNS video demonstration Reflexes video demonstration			x					
7	Autonomic nervous system Tilt table test(video demonstration)			x					
8	Practical blood pessuer measurement			x					
9	ECG video demonstration			x					
10	blood grouping Practical demonstration			x					
11	Revision Activity report			x					
12	Practical exam part 1(spots)			x					
13	Practical exam part 2			x					

Matrix II of Physiology 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	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 a2	Endocrine physiology part1 (pituitary and throid gland)	Student book Essential books	x			x		x	x
				Endocrine physiology part2 (pancrease)		X			X		X	X
				Renal physiology								
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 a2	pulmonary physiology								
				Cell membrane physiology	Student book Essential books						x	x
				Neuromuscular junction(Nerve and muscle)	x			x				

3.1	Use the proper pharmaceutical and medical terms, abbreviations and symbols in pharmacy practice			Endocrine physiology Renal physiology pulmonary physiology Cell membrane physiology Neuromuscular junction(Nerve and muscle) Central nervous system Cardiovascular System Lymphatic system								
		B1	b1									
4.9	Utilize the pharmacological basis of therapeutics in the proper selection and use of drugs in various disease conditions	C11	c1	Central nervous system (brain and cranial nerve ohysiology)								
				Periodical exam								
5.3	Work effectively in a team.	D4	d2	Autonomic nervous system physiology (sympathetic and parasympathetic)								
5.8	Demonstrate creativity and time management ailities	D10	d3	peripheral nervous system physiology	internet search							
5.9	Implement writing and presentation skills	D11	d1									

5.10	Implement writing and thinking, problem-solving and decision-making abilities.	D12	d4	Cardiovascular System physiology 1 (heart)	Student book Essential books							
				Cardiovascular System physiology 2 (Blood vessels)								
				Lymphatic system physiology (lymph nodes, nodules)	Student book Essential books							
				GIT Physiology part1 (Regulation & function)								
				GIT Physiology part2 (secreation& lipid,protein and carbohydrate digestion)								

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 / /2019 م

COURSE SPECIFICATIONS

Medical Terminology

Second level –Semester 3

2019-2020

Course Specification of Medical Terminology

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: Level 2, semester 3

Date of specification approval: October 2019

B- Basic information:

Title: Medical Terminology Code: MD311

Credit Hours: ---

Lectures: 2

Practical: ------

Tutorials: ---

Total: 2hrs

C- Professional information:

1-Overall Aims of the Course:

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

- Illustrate the basics of medical terminology required in pharmaceutical studies
- Identify medical abbreviations, medical idioms, prefixes, suffixes and medical terms pertaining to major body systems

2-Intended Learning Outcomes of Medical Terminology course

A- Knowledge and Understanding	
a1	Explain the level of organization of the human body
a2	Outline the basic structure of a medical term
a3	Illustrate medical terms of each body system
C- Intellectual skills	
c1	Analyze the structure of a medical term and split it into its basic components.
c2	Recognize the standard abbreviations for the different systems of the human body and common pathological conditions and correlate them to their expanded forms.
D- General and Transferable skills	
d1	Communicate effectively -by writing- with patients and other health care team

D- Contents:

Week No.	Lecture (2hrs/week)
1	Analysis of term components
2	Fields of medical practice .
3	Medical records, patient records
4	Nervous system
5	Endocrine system
6	**Periodic exam**
7	Integumentary system
8	Musculoskeletal System
9	Respiratory Systems
10	Cardiovascular system
11	Blood system
12	Lymphatic and immune system
13	Eye
14	Revision
15	Final Exam

E- Teaching and Learning Methods:

- Lectures

F- Student Assessment Methods:

Written exam:

Periodic exam: to assess a1, a2, a3, c1.

Final written exam: to assess a1, a2, a3, c1c2, d1

Assessment schedule:

Assessment (1): Periodic exam	Week 6
Assessment (2): Final written exam	Week 15

Weighting of Assessment:

Assessment method	Marks	Percentage
Periodic exam	25	25%
Final written exam	75	75%
TOTAL	100	100%

G- Facilities Required for Teaching and Learning:

- Black (white) board, computer and data show.

H- List of References:

1- Essential books: Text book reference:

Marjorie C. Willis (1996): Medical Terminology, the basic language of health care, first edition. Williams & Wilkins Press, Baltimore

3- Recommended books:

Andrew R. Hutton (2002): An introduction to medical terminology for health care, A self-teaching package, third edition. Churchill-Livingstone-Elsevier Press, Edinburgh

4- Periodicals and websites:

http.www.youtube.com

Course Coordinator: Prof.Dr. Rasha Abdel Ghany

Head of Department: Prof. Dr. Mona Fouad

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

Matrix I of Medical Terminology course							
Course Contents		ILOs of Biochemistry 1 course					
		Knowledge and understanding			Intellectual skills		General and transferable skills
Lectures		a1	a2	a3	c1	c2	d1
1	Analysis of term components		x		x		x
2	Fields of medical practice	x				x	x
3	Medical records, patient records	x				x	x
4	Nervous system			x	x	x	x
5	Endocrine system			x	x	x	x
6	Integumentary system			x	x	x	x
7	Musculoskeletal System			x	x	x	x
8	Respiratory Systems			x	x	x	x
9	Cardiovascular system			x	x	x	x
10	Blood system			x	x	x	x
11	Lymphatic and immune system			x	x	x	x
12	Eye			x	x	x	x
13	Revision	x	x	x	x	x	x

Matrix II of Medical Terminology course							
National Academic Reference Standards (NARS)		**Program ILOs**	**Course ILOs**	**Course contents**	**Sources**	**Teaching and learning methods**	**Method of assessment**
						Lecture	Written exam
2.1	Principles of basic, pharmaceutical, medical, social, behavioral, management, health and environmental sciences as well as pharmacy practice	A2	a1, c2	Fields of medical practice	Text book	x	x
				Medical records, patient records	Text book	x	x
			a2, c1	Analysis of term components	Text book	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.	A18	a3, c1, c2	Nervous system	Text book	x	x
				Endocrine system	Text book	x	x
				Integumentary system	Text book	x	x
				Musculoskeletal System	Text book	x	x
				Respiratory Systems	Text book	x	x
				Cardiovascular system	Text book	x	x
				Blood system	Text book	x	x
				Lymphatic and immune system	Text book	x	x
				Eye	Text book	x	x

5.1	Communicate clearly by verbal and non verbal means	D1	d1	Analysis of term components, Fields of medical practice, Fields of medical practice, Medical records, patient records, Nervous, Endocrine, Integumentary, Musculoskeletal, Respiratory, Cardiovascular, Blood, Lymphatic and immune systems, Eye	Text book	x	x

COURSE SPECIFICATIONS

Psychology
Second level –Semester 3

2019-2020

توصيف مقرر علم النفس

أ- توصيف المقرر

- البرنامج الذي يقدم المقرر: برنامج بكالوريوس الصيدلة – صيدلة اكلينيكية
- العنصر أساسي أم اختياري في البرنامج: أساسي
- القسم الذي يقدم البرنامج: ---------
- القسم الذي يدرس المقرر: قسم علم النفس
- مستوى العام الأكاديمي: السنة الثانية/ الترم الثالث
- تاريخ التصديق على التوصيف:2019-2020

ب- معلومات أساسية:

- العنوان: علم النفس الكود: HU 302
- المحاضرات: 2 ساعة/ الأسبوع الساعات المعتمدة:
- دروس عملية:
- الإجمالي: 2 ساعة/ الأسبوع

ج- معلومات مهنية:

الأهداف العامة للمقرر

عند إتمام المقرر سوف يكون الطلاب قادرين على:

- يلم بمباديء علم النفس و التعلم
- يوضح أنواع العلاقات الاجتماعية و مفاهيم الصحة النفسية و العقلية
- يختار المسار المهني بناء على قدراته الشخصية
- ينمي المهارات الشخصية

1- نتائج التعلم المنشودة لمادة علم النفس

المعرفة و الفهم	
أ1	يلم بمباديء علم النفس
أ2	يحدد القواعد الأساسية للتعلم الشرطي و تطبيقاته
أ3	يذكر أنواع الدوافع و خصائصها و أهميتها في التعلم
أ4	يحدد مفهوم التنشئة الاجتماعية و ديناميات السلوك و أنواع العلاقات الاجتماعية
أ5	يذكر مفاهيم الصحة النفسية و العقلية
المهارات الفكرية	
ج1	يستخدم المعلومات السابقة في التوجيه و الاختيار بناء على الفروق الفردية
ج2	يحلل الدوافع المختلفة و علاقتها بالتعلم
مهارات عامة و تواصلية	
د1	يعمل بكفاءة كأحد أفراد الفريق
د2	ينمي شخصية الفرد للقيام بالمهام الإدارية و تسويق المبيعات
د3	ينمي مهارات التفكير النقدي و اتخاذ القرارات و حل المشكلات

2- محتويات مقرر علم النفس

الأسابيع	محتويات المحاضرة (2ساعة/الأسبوع)
الأسبوع الأول	مدخل إلى علم النفس
الأسبوع الثاني	ما هو التعلم؟
الأسبوع الثالث	التعلم الشرطي و الوقائع التجريبية و تفسيره
الأسبوع الرابع	القواعد الأساسية للتعلم الشرطي و تطبيقاته
الأسبوع الخامس	الدافعية و تعريفاتها و أهمية الدوافع و خصائصها
الأسبوع السادس	أنواع الدوافع و خصائصها و أهميتها في التعلم
الأسبوع السابع	الشخصية و تعريفاتها و محدداتها و مكوناتها الشخصية و نظرياتها و طرق قياسها
الأسبوع الثامن	الذاكرة و تعريفاتها و نماذجها وأنواعها
الأسبوع التاسع	معنى التنشئة الاجتماعية و ديناميات السلوك و أنواع العلاقات الاجتماعية

الأسبوع العاشر	الجماعة و خصائصها و أهميتها للفرد و المجتمع و أنواع الجماعات
الأسبوع الحادي عشر	التوجيه و الاختيار المهني و الفروق الفردية
الأسبوع الثاني عشر	الذكاء و حل المشكلات
الأسبوع الثالث عشر	العمليات العقلية النفسية (الإحساس- الانتباه- الإدراك- التذكر- التفكير) خطواتها و خصائصها و أنواعها
الأسبوع الرابع عشر	الصحة النفسية و الأمراض النفسية و العقلية
الأسبوع الخامس عشر	الامتحان التحريرى

أساليب التعليم و التعلم:

- المحاضرات

أساليب تقييم الطلاب:

الامتحان التحريري يقيم: أ1و أ2و أ3و ج1و ج2و د1و د2و د3

الجدول الزمني للتقييم:

تقييم (1): الامتحان التحريري	الأسبوع الخامس عشر

ترجيح التقييم:

طريقة التقييم	الدرجات	النسب المئوية
الامتحان التحريري	50	%100
الإجمالي	50	%100

قائمة المراجع:

1 – الكتب الدراسية : كتاب محاضرات في علم النفس
2- كتب مقترحة : قائمة المراجع في كتاب محاضرات علم النفس للاستزادة في موضوعات المقرر

3-- مجلات دورية : مجلات علم النفس ، ومواقع انترنت

التسهيلات اللازمة للتعليم و التعلم:

1- للمحاضرات: اللوحات (البيضاء) و السوداء و جهاز العرض المرئي (داتا شو).

- **منسق المقرر: أ.د/ الشناوي عبد المنعم الشناوي**
- **التاريخ:** سبتمبر 2019

مصفوفة (1) مقرر علم النفس

	محتويات المقرر	نتائج التعلم المنشودة لمادة علم النفس									
		المعرفة و الفهم					المهارات الفكرية		مهارات عامة و تواصلية		
		أ1	أ2	أ3	أ4	أ5	ج1	ج2	د1	د2	د3
1	مدخل إلى علم النفس	x									
2	ما هو التعلم?		x								
3	التعلم الشرطي و الوقائع التجريبية و تفسيره		x								
4	القواعد الأساسية للتعلم الشرطي و تطبيقاته		x								
5	الدافعية و تعريفاتها و أهمية الدوافع و خصائصها			x				x			
6	أنواع الدوافع و خصائصها و أهميتها في التعلم			x				x			
7	الشخصية و تعريفاتها و محدداتها و مكوناتها الشخصية و نظرياتها و طرق قياسها									x	
8	الذاكرة و تعريفاتها و نماذجها وأنواعها						x				
9	معنى التنشئة الاجتماعية و ديناميات السلوك و أنواع العلاقات الاجتماعية				x						
10	الجماعة و خصائصها و أهميتها للفرد و المجتمع و أنواع الجماعات	x							x		
11	التوجيه و الاختيار المهني و الفروق الفردية						x				
12	الذكاء و حل المشكلات										x
13	العمليات العقلية النفسية (الإحساس- الانتباه- الإدراك- التذكر- التفكير) خطواتها و خصائصها و أنواعها	x									
14	الصحة النفسية و الأمراض النفسية و العقلية					x					

مصفوفة (2) مقرر علم النفس

المعايير الأكاديمية المرجعية القومية (NARS)		نتائج التعلم المنشودة للبرنامج	نتائج التعلم المنشودة للمقرر	محتويات المقرر	المصدر	أساليب التعليم و التعلم		أسلوب التقييم
						المحاضرة	التعلم الذاتي	الامتحان التحريري
2.1	مباديء العلوم الأساسية و الصيدلانية و الطبية و الاجتماعية و السلوكية و الإدارة و الصحة و العلوم البيئية فضلا عن ممارسة الصيدلة	4أ	1أ	مدخل إلى علم النفس	كتاب الطالب	x		x
				الجماعة و خصائصها و أهميتها للفرد و المجتمع و أنواع الجماعات	كتاب الطالب	x		x
				العمليات العقلية النفسية (الإحساس- الانتباه- الإدراك- التذكر- التفكير) خطواتها و خصائصها و أنواعها	كتاب الطالب	x		x
			2أ	ما هو التعلم؟	كتاب الطالب	x		x
				التعلم الشرطي و الوقائع التجريبية و تفسيره	كتاب الطالب	x		x
				القواعد الأساسية للتعلم الشرطي و تطبيقاته	كتاب الطالب	x		x
			3أ	الدافعية و تعريفاتها و أهمية الدوافع و خصائصها	كتاب الطالب	x		x
				أنواع الدوافع و خصائصها و أهميتها في التعلم	كتاب الطالب	x		x

			أ4	معنى التنشئة الاجتماعية و ديناميات السلوك و أنواع العلاقات الاجتماعية	كتاب الطالب	x		x	
			أ5	الصحة النفسية و الأمراض النفسية و العقلية	كتاب الطالب وكتب مقترحة	x		x	
4.14	يحلل ويقييم المعلومات المستندة إلى الأدلة اللازمة في ممارسة الصيدلية	ج16	ج1	التوجيه و الاختيار المهني و الفروق الفردية	كتاب الطالب	x		x	
			ج2	الدافعية و تعريفاتها و أهمية الدوافع و خصائصها	كتاب الطالب	x		x	
				أنواع الدوافع و خصائصها و أهميتها في التعلم	كتاب الطالب	x		x	
5.3	يعمل بكفاءة كأحد أفراد الفريق	د4	د1	الجماعة و خصائصها و أهميتها للفرد و المجتمع و أنواع الجماعات	كتاب الطالب	x		x	
5.7	يطور المهارات المالية والمبيعات وإدارة السوق	د9	د2	الشخصية و تعريفاتها و محدداتها و مكوناتها	كتاب الطالب	x		x	
				الشخصية و نظرياتها و طرق قياسها	الكتاب	x		x	
5.10	تنفيذ قدرات الكتابة والتفكير وحل المشكلات واتخاذ القرار.	د12	د3	الذكاء و حل المشكلات	كتاب الطالب وكتب مقترحة	x		x	

منسق المقرر: أ.د/ الشناوى عبد المنعم الشناوى