COURSE SPECIFICATIONS

Faculty of Pharmacy

First year – First Term

2019-2020

CONTENTS:

COURSE SPECIFICATIONS

Analytical Chemistry-1

First year – First Term
2019-2020

Course Specification of Analytical Chemistry -1

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

A- Course specifications:

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

Major or Minor element of programs: Major

Department offering the program: ------

Department offering the course: Analytical Chemistry Department

Academic year / Level: First year / First term

Date of specification approval: **10-2019**

B- Basic information:

Title: Analytical Chemistry -1 Code: AC110

Credit Hours: ---

Lectures: 1 hr/week

Practical: 2 hrs/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 properties of aqueous solution, Law of mass action, Solubility product, Fractional precipitation, Instability constant, Types of complex ions, Separation and identification of cations.

2-Intended Learning Outcomes of Analytical Chemistry -1:

A- Knowledge and Understanding	
a1	Describe principles of qualitative analysis, properties of aqueous solutions, solubility and ionic products.
a2	Identify different types of complexes, ionic reaction and balancing chemical equations.
a3	Describe methods of separation and identification of different cation groups
B- Professional and Practical Skills	
b1	Handle and dispose chemicals safely.
b2	Separate various groups of cations.
C- Intellectual Skills	
c1	Identify different cations from different groups
c2	Apply the suitable scheme for separation and identification of simple mixtures.
D- General and Transferable Skills	
d1	Develop critical thinking, problem solving and decision making skills

D- Contents:

Week No.	Lecture (1 hr/week)	Practical Session (2 hrs/week)
1	- Properties of aqueous solution - Law of mass action - Displacement of equilibrium	- Laboratory safety measures - Accreditation and quality appraisal
2	- Solubility product - Dissolution of precipitates or preparation of solutions	- Separation of gp I cations
3	- Types of complex ions - ionic reactions	- Separation of gp II cations
4	- Balancing chemical equations -Amphoterism	- Separation of gp I & II cations
5	Identification and Separation of group I cations	- Separation of gp III cations
6	Identification and Separation of group II A cations	- Separation of gp IV cations

7	Midterm exam vacation Lectures & Labs are off	
8	- Separation and identification of group II A cations	- Separation of gp III & IV cations
9	- Identification and Separation of group II B cations	- Separation of gp V cations
10	- Identification and Separation of group III cations	- Separation of gp VI cations
11	- Identification and Separation of group IV cations	- Separation of gp V & VI cations
12	- Identification and Separation of group V cations	- Simple mixture I - Simple mixture II
13	- Identification of group VI cations	- **Practical exam**
14	- Revision	
15	- Final exam	

E- Teaching and Learning Methods:

- Lectures
- Practical sessions
- Problem solving

F- Student Assessment Methods:

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

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

3- Oral exam to assess a1, a2, a3, c2, d1

Assessment Schedule:

Assessment (1): Final written exam	Week 15
Assessment (2): Practical exam	Week 13
Assessment (3): Oral exam	Week 15

Weighting of Assessment:

Assessment method	Marks	Percentage
Written exam	30	60%

Practical exam	10	20%
Oral exam	10	20%
TOTAL	50	100%

G- Facilities Required for Teaching and Learning:

- Black (white) board, Data show, Laboratory equipment and Chemicals.

H- List of References:

1- Course Notes:

- Student book of analytical chemistry-1 approved by analytical chemistry department (2019)

- Practical notes approved by analytical chemistry department (2019)

2- Essential Books

- G. Svehla , Vogel's Qualitative Inorganic Analysis, Addison Wesley,Longman Ltd, 7th Edition, (1996).
- Analytical chemistry: Qualitative analysisby F. P Treadwel, (2011).

3- Recommended Books

- "Introduction to Semimicro Qualitative Analysis" Joseph T Lagowski, C. H. Sorum, (8th edition), Pearson (2004).
- "Analytical Chemistry," Gary D. Christian, Purnendu K. Dasgupta, Kevin A. Schug, 7th Edition, John Wiley and Sons Inc, Hoboken (2014).

4- Periodicals, Web Sites, etc

- Analytical Letters Journal
- Analyst Journal
- Journal of pharmaceutical and biomedical analysis

Course Coordinator: Prof. Dr. Magda El-henawee

Head of Department: Prof. Dr. Hisham Ezzat Abdel Latif

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Matrix I of Analytical Chemistry-1 course

Course Contents		ILOs of the course							
		Knowledge and understanding			Practical skills		Intellectual skills		General and transferable and skills
	Lectures	a1	a2	a3	b1	b2	c1	c2	d1
1	- Properties of aqueous solution - Law of mass action - Displacement of equilibrium	×							
2	- Solubility product - Dissolution of precipitates or preparation of solutions	×							
3	- Types of complex ions - ionic reactions		×						
4	- Balancing chemical equations -Amphoterism		×						
5	- Identification and Separation of group I cations			×				×	
6	- Identification and Separation of group II A cations			×				×	
7	- Identification and Separation of group II A cations			×				×	
8	- Identification and Separation of group II B cations			×				×	
9	- Identification and Separation of group III cations			×				×	
10	- Identification and Separation of group IV cations			×				×	
11	- Identification and Separation of group V cations			×				×	

12	- Separation of group VI cations			×				×	
13	- Identification of group VI cations			×				×	
Practical sessions									
1	Laboratory safety measures				×				
2	Separation of gp I cations					×	×		×
3	Separation of gp II cations					×	×		×
4	Separation of gp I & II cations					×	×		×
5	Separation of gp III cations					×	×		×
6	Separation of gp IV cations					×	×		×
7	Separation of gp III & IV cations					×	×		×
8	Separation of gp V cations					×	×		×
9	Separation of gp VI cations					×	×		×
10	Separation of gp V & VI cations					×	×		×
11	Simple mixture I, II					×	×	×	×

Matrix II of Analytical Chemistry-1 course

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	Oral exam
2.1	Principles of basic, pharmaceutical, medical, social, behavioral, management, health and environmental sciences as well as pharmacy practice.	A1	a1	- Properties of aqueous soln - Law of mass action - dynamic equilibrium -solubility product -dissolution of ppt	Student book Essential books Recommended books Internet	×		×		×
			a2	- Types of complex ions - ionic reactions - amphoterism						
2.3	Principles of different analytical techniques using GLP guidelines and validation procedures.	A11	a3	-Separation and identification of group I cations -Separation and identification of group II cations -Separation and identification of group III cations - Separation of group IV cations -Separation and identification of group V cations - Separation and identification of group VI cations	Student book Essential books Recommended books Internet	×	×	×	×	×

3.2	Handle and dispose chemicals and pharmaceutical preparations safely	B2	b1	Laboratory safety measures	Practical notes		×		×	
3.4	Extract, isolate, synthesize, purify, identify, and/or standardize active substances from different origins.	B6	b2	-Separation and identification of cations groups and mixtures	Practical notes		×		×	
					Practical notes		×		×	
4.3	Apply qualitative and quantitative analytical and biological methods for QC and assay of raw materials as well as pharmaceutical preparations	C6	c1		Practical notes		×		×	
			c2		Student book Essential books Recommended books Internet	×	×	×	×	×
					Practical notes		×		×	
5.10	Implement writing and thinking, problem-solving and decision-making abilities.	D11	d1		Practical notes		×		×	

Course Coordinator: Prof. Dr. Magdaa El-henawee
Head of Department: Prof. Dr. Hisham Ezzat Abdel Latif

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COURSE SPECIFICATIONS

Pharmaceutical Organic Chemistry-1

First year – First Term
2019-2020

Course specification of Pharmaceutical Organic Chemistry-1

University: Zagazig **Faculty: Pharmacy**

A- Course specifications:

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

Major or Minor element of programs: Major

Department offering the program: ------

Department offering the course: Pharmaceutical Organic Chemistry

Academic year / Level: First year / First term

Date of specification approval: **26-8-2019**

B- Basic information:

Title: : Pharmaceutical Organic Chemistry-1 Code: POC 110

Credit Hours: ---

Lectures: 2 hr/week

Practical: 2 hrs/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:

- Recognize the different type of hybridization and geometry of carbon atoms and other multivalent atoms in organic compounds.
- Identify the different functional groups and their molecular structure in organic compounds.
- Describe the steps of nomenclature of organic compounds.
- Outline the chemistry of aliphatic saturated and unsaturated hydrocarbon.
- Recognize the steps of qualitative identification of organic compounds.

2- Intended Learning Outcomes (ILOs):

A- Knowledge and Understanding:	
a1	Summarize the principles of electronic structures, hybridization, classification, IUPAC nomenclature acidity/basicity of organic compounds.
a2	Give a systematic nomenclature to a given organic compound
a3	Outline different synthetic pathways and reactions of alkanes, alkenes, alkynes and conjugated dienes.
B- Professional and Practical skills:	
b1	Handle basic laboratory equipments and organic raw materials of drugs effectively and safely.
b2	Identify qualitatively the main functional groups of organic raw materials of drugs.
b3	Write systematic laboratory reports including experimental procedures, observations and conclusions
C- Intellectual skills:	
c1	Suggest methods for synthesizing saturated and unsaturated hydrocarbons.
c2	Classify organic compounds according to their chemical properties.
c3	Asses polarity, reactivity an stability of organic compounds from their molecular structures.
c4	Develop The IUPAC name of organic compound from its molecular structure.
D-General and Transferable skills:	
d1	Communicate effectively with others.
d2	Work effectively as part of a team to collect data and/or produce reports and presentations.
d3	Set realistic targets and mange time to meet targets within deadlines

D- Content

Week No.	Lecture contents (2 hrs/lec.)	Practical session (2hrs/lab)
1	Atomic structure, covalent bonding, hybridization of carbon and elements of organic compounds and molecular orbital theory	Laboratory safety measures, introduction to the concept of identification of organic compounds.
2	Electronegativity, molecular polarity and dipole moment and hydrogen bonding between molecules. Representation and classification of organic compounds.	General scheme for identification of organic compounds. Physical properties (condition, color and odor).
3	IUPAC nomenclature of organic compounds.	Determination of solubility and Acidity test
4	Isomerism and conformational stereoisomers.	General Chemical tests 1. Action of 30% NaOH.
5	Configurational stereoisomers: Geometrical isomers and optically active isomers	2. Action of ferric chloride .
6	Optically active compounds that do not contain chiral centers.	3. Action of conc. H_2SO_4.
7	**Midterm exam**	
8	Nomenclature of configurational stereoisomers	Test for functional groups (1).
9	Theories of electron displacement inside organic molecules: Inductive and mesomeric effects.	Tests for functional groups (2).
10	Organic reactions and mechanism.	Tests for functional groups (3).
11	Sources and reactions of alkanes. Preparation of alkenes.	Tests for functional groups (4).
12	Reactions of alkenes.	Tests of unsaturation
13	Stereochemistry of alkenes reactions Stereospecific reactions.	Practical exam.
14	Preparation and reactions of alkynes & conjugated dienes	Practical exam
15	Final written exam.	

E- Teaching and Learning Methods:

- Lectures
- practical sessions
- Group discussion

F- Students Assessment Methods:

1. Written exams to assess: a1, a2, a3, c1, c2, c3, c4
2. Practical exams to assess: b1, b2, b3, c1, c2, c3, c4, d1, d2, d3
3. Oral exam to assess: a1, a2, a3, c1, c2, c3, c4
4. Writing reports: b1, b2, b3, c1, c2, c3, c4, d1, d2, d3

Assessment schedule and weighting of each assessment

	Assessment method	Week Due	Marks (percentage)
1	Midterm written exam	7	10 marks (10 %)
2	Final written exam	Week 15	50 marks (50%)
3	Practical exam	Week 13 & 14	20 marks (20%)
4	Writing reports	Each lab	5 marks (5%)
5	Oral exam	Week 15	15 marks (15%)

G- Facilities required for teaching and learning:

- For lectures: Black and white boards and data show and stereochemical Model
- For practical labs: Well-equipped labs

H- List of References:

1- Course Notes: Student book of Pharmaceutical Organic chemistry approved by the department 2019.

2- Essential books:

- ✓ Francis A. Carey, 2009, Organic Chemistry; 9th Edition, McGraw-Hill
- ✓ T. W. Graham Solomons and Craig B. Fryhle, 2010, Organic Chemistry; 11th Edition, John willy & Sons Inc, USA.

Course Coordinator: Prof. Dr. Zakaria Abdelsamii

Head of Department: Prof. Dr. Hanan Abdelraik Abdelfatah

تم مناقشة و اعتماد توصيف المقرر من مجلس القسم بتاريخ 26/ 8 / 2019

Matrix I of Pharmaceutical organic chemistry 1 course

Course Contents		ILOs of pharmaceutical organic chemistry 1 course												
		Knowledge and understanding			Professional and practical skills			Intellectual skills				General and transferable skills		
Lectures		**a1**	**a2**	**a3**	**b1**	**b2**	**b3**	**c1**	**c2**	**c3**	**c4**	**d1**	**d2**	**d3**
1	-Atomic structure, covalent bonding, hybridization of carbon and elements of organic compounds. -Molecular orbital theory	x												
2	-Electronegativity, molecular polarity and dipole moment and hydrogen bonding between molecules. -Representation and classification of organic compounds.	x								**x**				
3	-- IUPAC nomenclature of organic compounds	x									**x**			
4	- Isomerism and conformational stereoisomers	x												
5	- Configurational stereoisomers: Geometrical isomers and optically active isomers	x	x											
6	- Optically active compounds that do not contain chiral centers	x	x											
7	-. Nomenclature of configurational stereoisomers	x									x			
8	- Theories of electron displacement inside organic molecules: Inductive and mesomeric effects	x		x				**x**	**x**					
9	- Organic reactions and mechanism	x						x						
10	Sources and reactions of alkanes - Preparation of alkenes	x		x				x	x					
11	. Reactions of alkenes	x						**x**						
12	-Stereochemistry of alkenes reactions: Stereospecific reactions	x												
13	-Preparation and reactions of alkynes	x		x				**x**	x					
14	- Preparation and reactions of conjugated dienes	x		x				**x**	x					

Practical sessions														
1	Laboratory safety measures				x							x		
2	Introduction the concept of identification of organic compounds				x	x						x		
3	Determination of solubility				x	x	x	x				x	x	x
4	General chemical tests					x	x	x				x	x	x
5	Reactions and coloration with aqueous ferric chloride solution					x	x	x				x	x	x
6	Actiont of conc. H_2SO_4					x	x	x				x	x	x
7	Test for functional groups (1)					x	x	x				x	x	x
8	Test for functional groups (2)					x	x	x				x	x	x
9	- Tests of unsaturation					x	x					x	x	x

Matrix II of pharmaceutical organic chemistry 1 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
2.1	Principles of basic, pharmaceutical, medical, social, behavioral, management, health and environmental sciences as well as pharmacy practice.	A1	a1	Electronic structure of atoms and atomic properties, acidity/bascity	Student book Essential books	x			x		x
				Classification of Organic reactions	Student book Essential books	x			x		x
				Introduction to stereochemistry, Racemic synthesis , Racemization	Student book Essential books Recommended books Internet	x		x	x		x
				Sterospecific reactions	Student book Essential books	x			x		x
				Stereoselective reactions, Asymmetric synthesis		x			x		x
				Alkanes: Nomenclature of alkanes , Alicyclic [Monocyclic , polycyclic and spiro compounds], Isomersism (Structural and stero-isomers)	Student book Essential books	x			x		x

				Alkanes: Conformation and a conformational analysis of alkanes and cycloalkanes,synthesis of alkanes and cycloalkanes.	Student book Essential books	x			x		x
				Alkanes: Chemical reactions [Free radical substitution reactions]		x			x		x
				Alkenes: Nomenclature of alkenes , cycloalkene, Geometrical isomerism of alkenes (cis and trans) ; (E) and (Z)isomers		x			x		x
				Preparation of alkenes		x			x		x
				Chemical properties and reactions of alkenes		x			x		x
				Alkynes: Nomenclature, Preparation		x			x		x
				Alkynes: Chemical properties and reactions of alkynes		x			x		x
2.5	Principles of drug design, development and synthesis.	A14	a2	Sterospecific reactions	Notebook& Handouts	x			x		x
				Stereoselective reactions, Asymmetric synthesis		x			x		x
		A15	a3	Alkanes: Conformation and a conformational analysis of alkanes and cycloalkanes, synthesis of alkanes and cycloalkanes.	Student book Essential books	x			x		x
				Preparation of alkenes		x			x		x

				Alkynes: Nomenclature, Preparation		x			x		x
3.2	Handle and dispose chemicals and pharmaceutical preparations safely	B2	b1	Laboratory safety measures	Practical notes		x			x	
3.4	Extract, isolate, synthesize, purify, identify, and/or standardize active substances from different origins.	B7	b2	Introduction the concept of identification of organic compounds			x			x	
Ex NARs		B22	b3	General scheme for identification of organic compounds			x			x	
							x	x		x	
4.5	Select the appropriate methods of isolation, synthesis, purification, identification, and standardization of active substances	C9	c1	General scheme for identification of organic compound.	Practical notes Recommended books Internet		x			x	
			c2 c3 c4	Alkanes: Conformation and a conformational analysis of alkanes and cycloalkanes, synthesis of alkanes and cycloalkanes.	Student book Essential books	x			x		x

	from different origins.			Preparation of alkenes		x			x		x
				Alkynes: Nomenclature, Preparation		x			x		x
5.1	Communicate clearly by verbal and non-verbal means	D1	d1	Laboratory safety measures			x			x	
				Introduction the concept of identification of organic compounds			x			x	
5.3	Work effectively in a team	D3	d2	General scheme for identification of alcohols, phenols amines, amides and hydrocarbones.	Practical notes Recommended books Internet		x			x	
5.8	Demonstrate creativity and time management abilities	D9	d3	General scheme for identification of alcohols, phenols amines, amides and hydrocarbones.			x			x	

Course Coordinator: Prof. Dr. Zakaria Abdelsamii

Head of Department: Prof. Dr. Hanan Abdelraik Abdelfatah

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COURSE SPECIFICATIONS

Botany and plant taxonomy

First year – First Term 2019-2020

Course Specification of Botany and Plant Taxonomy

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

A- Course specifications:

- Program (s) on which the course is given: Bachelor of Pharmacy
- Major or Minor element of programs: Major
- Department offering the program : -------
- Department offering the course : Pharmacognosy
- Academic year Level : First year /First term
- Date of specification approval : 9- 2019

B- Basic information:

- Title: Botany and Plant taxonomy code: PG110
- Credit Hours: ---
- Lectures : 2 hrs/week
- Practical : 2 hrs/week
- Tutorials : ---
- Total : 3 hrs/week

C- Professional information

1- Overall aim of the course:

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

- Illustrate the different sources of natural drugs and their productions.
- Describe different plant tissues and cells and their contents
- Illustrate general taxonomy of different plant families.
- Analyze and interpret experimental results, interact effectively and work as a member of a team.

2-Intended Learning Outcomes of Botany and Plant Taxonomy (ILOs) :

A- Knowledge and Understanding	
a_1	Illustrate the different natural drugs and their productions.
a_2	State the different plant cells, contents and organs.
a_3	Illustrate the plant taxonomy and the classification of the plant Kingdome.
B- Professional and Practical skills	
b_1	Handle microscope efficiently and design protocols to examine medicinal plants.
b_2	Use microscope to differentiate between different plant tissues and plant cells.
b_3	Classify some plants using taxonomy markers.
C- Intellectual skills	
c_1	Compare accurately between different plant cells and evaluate plant families as source of drugs.
c_2	Use the studied topics effectively in developing botanical reports.
D- General and Transferable skills	
d_1	Develop communication skills.
d_2	Work effectively as part of a team.
d_3	Build problem - solving capability

D- Course Content :

Week No.	Lecture contents (2hrs/lec.)	Practical session (2hrs/lab.)
1	- Introduction of pharmacognosy.	- Laboratory safety measures - Uses of microscopes
2	- Preparation and production of natural drugs. - Sources of natural drugs.	- Microscopical examination of starches.
3	- Continue: Preparation and production of natural drugs.	- Microscopical examination of dusting powders.
4	- Cell and Cell differentiation.	- Microscopical examination of different cells.
5	- Cell contents.	- Examination of different cell content.
6	- Types and chemical tests of identification.	-Activity (researches and reports on cell differentiation, cell contents and different stages of production of natural drugs like drying).
7	Mid term Exam	
8	- Introduction of plant taxonomy. - Classification of plant kingdom - Taxonomy of lower plants.	- Examination of some lower plants.
9	- Taxonomy of higher plants. - Gymnosperm.	. Examination of some gymnosperm plants.
10	-Taxonomy of angiosperm - Monocot. plants.	- Examination of some monocot. plants.
11	- Taxonomy of dicot. plants.	- Examination of some dicot. plants.
12	-Natural products, a source of novel drugs. -Natural products; biology and food chemistry.	-Activity (researches and reports on different topics of taxonomy).
13	- Revision.	- Final practical exam.
14	- Open discussion	- Final practical exam.
15	Final Exam	

E- Teaching and Learning Methods:

- Lectures.
- Practical session.
- Self learning and problems solving (Activities, Research, open discussion).

F- Student Assessment Methods:

Written exams to assess : a1, a2, a3 and c1.

Practical exams to assess: b1, b2, b3, c1, c2 and d1.

Oral exam to assess: a1, a2, a3, c1, d1 and d3.

Activities to assess: d1, d2 and d3.

Assessment schedule :

Assessment (1): Mid term Exam	Week 7
Assessment (2): Activity (researches and reports)	Week 6 and 12
Assessment (3): Practical exam	Week 13
Assessment (4): Written exams	Week 15
Assessment (5): Oral exams	Week 15

Weighting of Assessment

Assessment method	Marks	Percentage
Mid term Exam	10	10%
Activity	5	5%
Practical exam	20	20%
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 e.g. Hcl, KoH, glycerin and phloroglucinol, microscopes, starches (maize, wheat, rice, potatoe) and dusting powders (talc, diatoms, chalk), glassware, slides, covers, digital balances, flame and water baths.

H- List of References :

1-Course Notes : Student book of Botany and Plant Taxonomy approved by Pharmacognosy department (2019).

2- Text Books :

- VAN WYK, Ben-Erik; WINK, Michael. Medicinal plants of the world. CABI, 2018.
- PETROVSKA, Biljana Bauer. Historical review of medicinal plants' usage. Pharmacognosy reviews, 2012, 6.11: 1.
- LAWRENCE, George Hill Mathewson, et al. Taxonomy of vascular plants. Scientific Publishers, 2017.
- SIMPSON, Michael G. Plant systematics. Academic press, 2010.
- Textbook of Pharmacognosy, 5t'" Ed., T.E.Wallis (1967).
- Trease and Evans, Pharmacognosy, 15t'" Ed., Saunders Company, Nottingham,U.K., Willium Charles Evans (2003).
- The Cambridge Illustrated Glossary of Botanical Terms, M. Hickey and C. King, Cambridge Univ. press (2000).
- Plant Systematic, Judd, W. ; Kellogg, E.; Stevens P. and Campbell, C. , Sinauer Associates' Inc. (2000).
- Plant Anatomy, Fahan, A. , Pergamon Press (2002).

- Natural products as sources of new drugs over the last 25 years. Newman D.J and Cragg, G.M., Journal of Natural Products 70, 461-477 (2007).
- Chinese Herbal Medicine: Dan Bensky, Steven Clavey, Erich Stoger and Andrew Gamble Materia Medica, Third Edition (2004).

3- Recommended Books:

- MABEY, Richard. The Cabaret of Plants: Forty Thousand Years of Plant Life and the Human Imagination. WW Norton & Company, 2016.
- WIART, Christophe. Medicinal plants of China, Korea, and Japan: bioresources for tomorrow's drugs and cosmetics. CRC Press, 2012.
- "Encyclopedia of Common Natural Used in Food, Drugs and Cosmetics", Leung A.Y. and Faster (1980).

4- Periodicals, web sites, etc.:

- American .J. Nat. Prod.
- Phytochemistry
- Planta Medica
- Fitoterapia
- www.Sciencedirect.Com

Course Coordinator : Prof. Samih El-Dahmy

Head of department : Prof. Dr.

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

Matrix I of Botany and Plant Taxonomy Course 2018-2019

Course Contents		ILOs of Botany and Plant Taxonomy Course										
		Knowledge and understanding			Professional and practical skills			Intellectual skills		Transferable and general skills		
		a1	a2	a3	b1	b2	b3	c1	c2	d1	d2	d3
Lectures												
1	- Introduction of pharmacognosy	x						x	x	x	x	x
2	- Sources of natural drugs	x						x	x	x		
3	- Preparation **and production** of natural drugs	x	x									
4	- Cell and Cell differentiation		x				x					
5	- Cell contents. - Types and chemical tests for identification		x	x			x					
6	- Introduction of plant taxonomy. - Classification of plant kingdom			x				x	x	x	x	x
7	- Taxonomy of lower plants			x				x				
8	- Taxonomy of higher plants. - Gymnosperm.			x				x				
9	- Taxonomy of angiosperm - Monocot. Plants.			x				x	x	x	x	x
10	- Taxonomy of dicot. Plants			x				x				
11	**- Natural products, a source of novel drugs.** **- Natural products; biology and food chemistry.**			x				x				
Practical												
12	**- Laboratory safety measures** **- Uses of microscopes**				X					x		
13	**- Microscopical examination of starches.**				X					x		
14	**- Microscopical examination of dusting powders.**				X					x		
15	**- Microscopical examination of different cells.**				X	x				x		

16	**- Examination of different cell content.**		X	x				x		
17	**- Activity**							x	x	x
18	**- Examination of some lower plants.**				x			x		
19	**- Examination of some gymnosperm plants.**				x			x		
20	**- Examination of some monocot. plants.**				x			x		
21	**- Examination of some dicot. plants.**				x			x		
22	**-Activity**				x			x	x	x

Matrix II of Botany and Plant Taxonomy Course

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
2.1	Principles of basic, pharmaceutical, medical, social, behavioral, management, health and environmental sciences as well as pharmacy practice.	A2	a1	- Introduction of pharmacognosy	Student book	x			x		x
				- Sources of natural drugs	Student book	x		x	x		x
			a1, a2	- Preparation of natural drugs	Student book	x		x	x		x
			a2	- Cell and Cell differentiation	Student book	x	X		x	x	x
			a2, a3	- Cell contents - Types and chemical tests for	Student book and internet	x	X		x	x	x

Ex NARs	Outline the basics of macro and microscopical characters of different medicinal plant organs, detection of adulteration as well as, their proper collection, storage and marketing in addition to chemo taxonomical classification of medicinal plants.	A3		identification							
			a3	- Introduction of plant taxonomy - Classification of plant kingdom	Student book	x		x	X		x
				- Taxonomy of lower plants	Student book	x	X		X		x
				- Taxonomy of higher plants. - Taxonomy of Gymnosperm	Student book	x	X		X		x
				- Taxonomy of angiosperm - Monocot. Plants	Student book and internet	x	X	x	X		x
				- Taxonomy of dicot. plants	Student book and internet	x	X	x	x		x
3.2	Handle and dispose	B2	b1,b2	- Laboratory safety	Practical notes		X			x	

	chemicals and pharmaceutical preparations safely			measures. **- Uses of microscopes**							
3.4	Extract, isolate, synthesize, purify, identify, and/or standardize active substances from different origins.	B6	b3	**- Microscopical examination of starches**	Practical notes		X			x	x
				- Microscopical examination of dusting powders.	Practical notes, recommended books		x			x	x
				- Microscopical examination of different cells.	Practical notes, recommended books		x			x	x
				- Examination of different cell content.	Practical notes, recommended books		x			x	x
4.13	Analyze and interpret experimental results as well as published literature	C18	c1 c2	**- Examination of some lower plants.**	Practical notes, recommended books		x			x	x
				- Examination of some gymnosperm plants.	Practical notes, recommended books		x			x	x
				- Examination of some monocot. plants.	Practical notes, recommended books		x			x	x

				Examination of some dicot. plants.	Practical notes, recommended books		x			x	x
5.1	Communicate clearly by verbal and means.	D1	d1	**Activity**	Practical notes, recommended books		x			x	
5.3	Work effectively in a team	D3	d2	**-Activity**	Practical notes, recommended books		x			x	
5.10	Implement writing and thinking, problem solving and decision making.	D10	d3	**-Activity**	Practical notes, recommended books		x			x	

Course Coordinator : Prof. Dr. Samih El-Dahmy
Head of department : Prof. Dr.
Date: / 9 / 2019

COURSE SPECIFICATIONS

General and Physical Chemistry

First year – First Term 2019-2020

Course Specificationof General and Physical chemistry

University: Zagazig Faculty: Pharmacy

A- Course specifications:

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

Major or Minor element of programs: Major

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

Department offering the course: Pharmaceutical Analytical Chemistry

Academic year / Level: First year / First term

Date of specification approval: Sept. 2019

B- Basic information:

Title: General and Physical chemistry Code: AC111

Credit Hours: ---

Lectures :2hrs /week

Practical: 2 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 necessary basis of physical inorganic chemistry and kinetics of chemical reactions.

2-Intended Learning Outcomes of General and Physical chemistry (ILOs):

A- Knowledge and Understanding	
a1	Describe the physical properties of matter and units of measurement.
a2	Explain gas laws and their applications
a3	Identify the properties of solutions and expression of concentration
a4	Outline the kinetic and thermodynamics concepts driving chemical processes
a5	Illustrate fundamentals of chemical and ionic equilibria.
a6	Illustrate theories of spectroscopy, chemical bonding and atomic molecular theories
B- Professional and Practical Skills	
b1	Handle and dispose chemicals safely.
b2	Identify and separate anions groups.
b3	Solve problems on physical properties of matter, and solution properties.
C- Intellectual Skills	
c1	Select the appropriate qualitative analysis tools in the separation of different anions.
c2	Analyze and interpret experimental results.
D- General and Transferable Skills	
d1	Work effectively as a member of a team
d2	Develop problem solving and presentation skills

D- Contents:

Week No.	Lecture (2 hrs/week)	Practical Session (2 hrs/week)
1	-Introduction to physical chemistry: SI units, empirical and molecular formula, limiting reactant and percent yield	- Tutorial lab 1(calculations of moles, molecular weight, empirical formula and percentage composition of compounds).

2	Gas behavior	- Tutorial lab 2 (limiting reactant; theoretical and percentage yields).
3	- Concentration and solubility	- Colligative properties of real solutions (boiling point elevation).
4	- Colligative properties of solution	- Colligative properties of real solutions (osmotic pressure measurement).
5	- Thermochemistry -First law of thermodynamics - Relation between ΔH and ΔE	- Laboratory safety measures Separation and identification of CO_3 & HCO_3
6	- Hess's Law -Kirchoff 's equation - Measurement of heat of reaction	Separation and identification of sulfur anions
7	**Midterm exam**	
8	- Chemical equilibrium	- Separation and identification of halides
9	- Aqueous equilibrium	- Separation and identification of arsenic and phosphorous anions
10	- Atomic theory	Separation and identification of oxidizing anions Simple mixture of anions
11	- Bonding & Lewis structure	**- Activity**
12	- Chemical bonding	- Simple mixture of anions(I), (II) , (III)
13	- Molecular structure	**- Practical exam**

14	-Revision	
15	- Final Exam	

E- Teaching and Learning Methods:

1- Lectures
2- Practical Sessions
3- Activity: Dividing students into groups, each group gets a task of problem solving, then a representative from each group will present the solution.

F- Student Assessment Methods:

1- Written exam	to assess:	a1, a2, a3, a4, a4, a5, a6, d1
2- Practical exam	to assess:	b1, b2, b3, c1,c2, d1,d2
3- Activity	to assess:	d2

Assessment Schedule:

Assessment (1): midterm exam	Week 7
Assessment (2): final Written exam	Week 15
Assessment (3): Practical exams	Week 13
Assessment (4): Activity	Week 11
Assessment (5): Oral exam	Week 15

Weighting of Assessment:

Assessment method	Marks	Percentage
Written exam	50	50%
Oral exam	15	15%
Practical exam	20	20%
Midterm exam	10	10%
Activities	5	5%
TOTAL	100	100%

G- Facilities Required for Teaching and Learning:

- Black (white) board, Data show, Laboratory equipment and Chemicals.

H- List of References:

1- Course Notes: Student book of General and Physical chemistry edited by faculty members of the analytical chemistry department (2019).

- Practical notes edited by faculty members of the analytical chemistry department (2019).

2- Essential Books:

i- Chemistry 6th Edition - John E. McMurry, Robert C. Fay (2012).

ii- Principles of Physical Chemistry(Part 1-2) (first edition); RaffM.; Prentice Hall (2001).

3- Periodicals, Web Sites, etc

http://www.coursera.org/course/physicalchemistry

http://www.chemwiki.ucdavis.edu /physical chemistry

http://www.chemguide.co.uk/physmenu.html

Course Coordinator: Prof. Dr. Wafaa Hassan

Head of Department: Prof. Dr. Magda El Henawee

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

Matrix I of General and physical chemistry course

Course Contents		ILOs of the course												
		knowledge and understanding						practical skills			intellectual skills		General and transferable skills	
		a1	a2	a3	a4	a5	a6	b1	b2	b3	c1	c2	d1	d2
Lectures														
1	Introduction to physical chemistry: SI units, empirical and molecular formula, limiting reactant and percent yield	x											x	
2	Gas behavior		x										x	
3	Concentration and solubility			x										
4	Colligative properties of solution			x									x	
5	Thermochemistry, First law of thermodynamics, Relation between ΔH and ΔE				x								x	
6	Hess's Law, Kirchoff 's equation, Measurement of heat of reaction				x								x	
7	Chemical equilibrium					x							x	
8	Aqueous equilibrium					x							x	
9	Atomic theory						x							
10	Bonding & Lewis structure						x							
11	Chemical bonding						x							
12	Molecular structure						x							
Practical sessions														
1	Laboratory safety measures calculations of moles, molecular weight, empirical formula and percentage composition of compounds							x		x		x		

2	limiting reactant; theoretical and percentage yields									x		x			
3	Colligative properties of real solutions (boiling point elevation)									x					
4	Colligative properties of real solutions (osmotic pressure measurement).									x					
5	Separation and identification of CO_3 & HCO_3								x		x	x			
6	Separation and identification of sulfur anions								x		x	x			
7	Separation and identification of halides								x		x	x			
8	Separation and identification of arsenic and phosphorus anions								x		x	x			
9	Separation and identification of oxidizing anions								x		x	x			
10	Simple mixture of anions								x		x	x			
11	Activity														x
12	Simple mixture of anions								x		x	x			

Matrix II of General and physical chemistry 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
2.1	Principles of basic, pharmaceutical, medical, social, behavioral, management, health and environmental sciences as well as pharmacy practice	A1	a6	- Dalton's atomic theory - Bohr atomic theory - Atomic and electronic structure	Student book Essential book	x			x	
			a6	- Ionic bonding - Covalent bonding - Octet rule and Lewis structure	Student book Essential book Internet	x		x	x	
2.2	Physical-chemical properties of various substances used in preparation of medicines including inactive and active ingredients as well as biotechnology and radio- labeled products.	A9	a1,a2, a3, a4, a5	- introduction Gas behavior - Solutions - Thermochemistry - Thermodynamics and entropy - Reaction rate and factors affecting it - ionic equilibrium	Student book Essential book Internet	x		x	x	
			a3,a4	- Thermochemistry - Thermodynamics and entropy - solutions - Reaction rate and factors affecting it						

3.2	Handle and dispose chemicals and pharmaceutical preparations safely.	B2	b1	- Laboratory safety measures	Practical notes		x			x
3.4	Extract, isolate, synthesize, purify, identify, and /or standardize active substances from different	B6	b2	- Separation and identification of anions	Practical notes		x			x
4.3	Apply qualitative and quantitative analytical and biological methods for QC and assay of raw materials as well as pharmaceutical preparations.	C7	c1	- Separation and identification of anions	Practical notes		x			x
4.13	Analyze and interpret experimental results as well as published literature.	C18	b3 c2	-Gas behavior -Solutions -Thermodynamics and entropy -Colloids -Reaction rate and factors affecting it -Molecularity of the reaction	Student book Essential book Internet	x		x	x	
5.3	Work effectively in a team.	D3	d1	Activity	Internet		x	x		x
5.9	Implement writing and presentation skills	D10	d2							

5.10	Implement writing and thinking, problem- solving and decision- making abilities.	D11								

Course Coordinator: Prof. Dr. Wafaa Hassan

Head of Department: Prof. Dr. Magda El Henawee

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

COURSE SPECIFICATIONS

Pharmaceutics-1
First year – First Term
2019-2020

Course specification of Pharmaceutics-1

University: Zagazig **Faculty: Pharmacy**

A- Course specifications:

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

Major or Minor element of programs: Major

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

Department offering the course: Pharmaceutics Department

Academic year Level: First year/First semester

Date of specification approval: 11/2019

B- Basic information:

Title: Pharmaceutics-1 Code:PC110

Credit Hours: ---

Lectures: 2 hrs/week

Practical: 2 hrs/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 recognize the mission of pharmacy, role and the responsibility of pharmacists at various pharmacy sittings, the history of pharmacy, pharmacy careers, educational requirements and ethical framework of pharmacy, drug information sources, national and international pharmaceutical organizations and the principles and steps of pharmaceutical products development process. Illustrate the different dosage forms and their routes of administration as well as pharmacy history.

2-Intended Learning Outcomes of pharmaceutics-1 (ILOs)

A- Knowledge and Understanding	
a1	Define different concepts related to pharmacy profession, duties of pharmacist at various pharmacy sittings, drug information sources and various pharmaceutical and medical terms ,as well as drug, medicine and excipient
a2	Identify the pharmacy careers, educational requirements and ethical framework of pharmacy
a3	Describe the principles and steps of new pharmaceutical products development process
a4	Enumerate different types of dosage forms and their routes of administration
a5	Summarize the history of pharmacy
B- Professional and Practical skills	
b_1	Use laboratory balances and equipment efficiently
b_2	Handle the pharmaceutical preparations safely
b_3	Perform pharmaceutical calculations , preparation , labeling , evaluation and dispensing of some liquid pharmaceutical dosage form.
C- Intellectual skills	
c_1	Differentiate between different routes of drug administrations
c_2	Differentiate between different dosage forms
c3	Discuss the different factors affecting drug dose
D- General and Transferable skills	
d_1	Develop the decision making and problem solving abilities
d2	Work effectively in a team
d3	Communicate pharmaceutical ideas effectively

D- Content

Week No.	Lecture contents (2hrs/week)	Practical session (2hrs/week)
1	**Introduction to pharmacy:** Pharmacy profession, pharmaceutics, pharmacists, pharmacy education, Pharmaceutical organizations Drug information sources (Pharmacopeias and Formularies)	Introduction to GLP Pharmaceutical calculations: Numbers and numerals
2	**Pharmacy careers and role of pharmacists** **Ethics in pharmacy**	Pharmaceutical calculations Systems of measure: Metric system
3	**Drug and medicine:** Definition of drugs, medicines and excipients, drug characteristics, sources, nomenclatures, classifications and steps of pharmaceutical products development	Pharmaceutical calculations Systems of measure: Common systems
4	**Medical and pharmaceutical terminology**	Pharmaceutical calculation Reducing and enlarging formula
5	**Routes of drug administration**	Pharmaceutical calculation Allegation
6	**Introduction to pharmaceutical dosage forms**	Preparation of simple pharmaceutical solution(Simple mixture of belladonna)
7	Midterm exam	
8	**Drug Dosage,** Factors affecting dose, Calculation of doses	Preparation of simple pharmaceutical solution(Ear drops)
9	**Medical Prescription and medication order and their interpretation** **Medical and pharmaceutical terminology**	Preparation of simple pharmaceutical solution (Simple mixture of liquorice)
10	**Liquid dosage forms:** Aqueous liquid dosage forms Pharmaceutical Solutions	Preparation of simple pharmaceutical solution(Ammonium Chloride Mixture)
11	**Liquid dosage forms** Non aqueous liquid dosage forms Sweet and/or viscid liquid dosage forms	Infusion Decoction
12	- نبذة عن تاريخ الصيدلة- الدواء و الاغريق - فضل العرب والمسلمين على الدواء والمداواة	- Practical exam
13	- الدواء وبلاد ما بين النهرين- المصريين القدماء	Practical exam
14	- Revision	
15	Final written exam	

E- Teaching and Learning Methods:

- Lectures
- Practical session
- Problem solving
- think –pair- share

F- Student Assessment methods:

1- Written exams to assess: a1, a2, a3, a4,a5, c1, c2, c3

2- Practical exams to assess: b1,b2, b3, d1, d2, d3

Assessment schedule:

Assessment (1): Written midterm exam	Week 7
Assessment (2): Activity in labs	every Week
Assessment (3): Practical exams	Week 12, 13
Assessment (4): Final Written exam	Week 15
Assessment (5): Oral exam	Week 15

Weighting of Assessment:

Assessment method	Marks	Percentage
Midterm 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:

For lectures: Black (white) boards, data show

For labs: Chemicals, glass ware, instruments, digital balance, water bathes

H- List of References:

1- Course Notes: Student book of pharmaceutics-1 approved by pharmaceutics department (2019).

2- Essential Books:

- ✓ **i-** Pharmaceutical dosage forms and drug delivery systems (1995), Ansel, H. c., Popovich, N. G., Allen, L. V. 6th edition , Williams and Wilkins.
- ✓ Pharmaceutical calculations, Stoklosa, M and Ansel, H., Philadelphia, London. (1997).

3- Recommended Books

- ✓ Remington: the Science and Practice of Pharmacy" Genars, Alfonso R edition, 2000.

4- Periodicals and websites:

Journal of pharmaceutical sciences

www.Pubmed.com

www.Sciencedirect.com

Course Coordinator: Nagia Ahmed El-megrab

Head of Department: Nagia Ahmed El-megrab

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Matrix I of pharmaceutics 1 course

	Course contents	ILOs of pharmaceutics 1 course													
		Knowledge and understanding					Professional and practical skills			Intellectual skills			General and transferable skills		
		a1	a2	a3	a4	a5	b1	b2	b3	c1	c2	c3	d1	d2	d3
	Lectures														
1	**Introduction to pharmacy:** Pharmacy profession, pharmaceutics, pharmacists, pharmacy education, Pharmaceutical organizations Drug information sources (Pharmacopeias and Formularies)	x													
2	**Pharmacy careers and role of pharmacists Ethics in pharmacy**		**x**												
3	**Drug and medicine:** Definition of drugs, medicines and excipients, drug characteristics, sources, nomenclatures, classifications and steps of pharmaceutical products development	x		**x**											
4	**Medical and pharmaceutical terminology**	x													
5	**Routes of drug administration**	x			**x**					x					
6	**Introduction to pharmaceutical dosage forms**	**x**			**x**						**x**				
7	**Drug Dosage,** Factors affecting dose, Calculation of doses	x										**x**			
8	**Medical Prescription and medication order and**	x													

	their interpretation **Medical and pharmaceutical terminology**															
9	**Liquid dosage forms:** Aqueous liquid dosage forms Pharmaceutical Solutions	**x**			x											
10	**Liquid dosage forms** Non aqueous liquid dosage forms Sweet and/or viscid liquid dosage forms	**x**			x											
11	نبذة عن تاريخ الصيدلة					**x**										
12	فضل العرب والمسلمين على الدواء والمداواة					**x**										
13	الدواء وبلاد ما بين النهرين- المصريين القدماء					**x**										
Practical sessions																
1	Introduction to GLP Pharmaceutical calculations: Numbers and numerals						**x**			**x**			**x**		**x**	**x**
2	Pharmaceutical calculations Systems of measure: Metric system									**x**			**x**		**x**	**x**
3	Pharmaceutical calculations Systems of measure: Common systems									x			x		x	x
4	Pharmaceutical calculation Reducing and enlarging formula									x			**x**		**x**	**x**
5	Pharmaceutical calculation Allegation									**x**			**x**		**x**	**x**
6	Preparation of simple pharmaceutical solution(Simple mixture of belladonna)						**x**	**x**	**x**						x	x
7	Preparation of simple pharmaceutical solution(Ear drops)						**x**	**x**	x						**x**	**x**
8	Preparation of simple pharmaceutical solution (Simple mixture of liquorice)						**x**	**x**	**x**						**x**	**x**

9	Preparation of simple pharmaceutical solution(Ammonium Chloride Mixture)						x	x	x					x	x	x
10	Infusion & decoction						x	x	x					x	x	x

Course Coordinator: Nagia Ahmed El-megrab

Head of Department: Nagia Ahmed El-megrab

تم مناقشة و اعتماد توصيف المقرر من مجلس القسم بتاريخ 11/2019/

Matrix II of pharmaceutics 1 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
2.1	Principles of basic, pharmaceutical, medical, social, behavioral, management, health and environmental sciences as well as pharmacy practice.	A2	a1	**Introduction to pharmacy:** Pharmacy profession, pharmaceutics, pharmacists, pharmacy education, Pharmaceutical organizations Drug information sources (Pharmacopeias and Formularies)	Student book	x			x		x
				Introduction to pharmacy: Pharmacy	Student book	x			x		X

				profession, pharmaceutics, pharmacists, pharmacy education, Pharmaceutical organizations Drug information sources (Pharmacopeias and Formularies)							
				Medical and pharmaceutical terminology	Student book Essential books	x			x		X
				Routes of drug administration	Student book Essential books	x			x		X
				Introduction to pharmaceutical dosage forms	Student book	x			x		X
			a1	**Drug Dosage,** Factors affecting dose, Calculation of doses	Student book	x			x		X
				Medical Prescription	Student book	x			x		X

				and medication order and their interpretation Medical and pharmaceutical terminology							
				Liquid dosage forms	Student book	x			x		X
			a2	**Pharmacy careers and role of pharmacists Ethics in pharmacy**	Student book	x			x		X
			a3	**Drug and medicine:** Definition of drugs, medicines and excipients, drug characteristics, sources, nomenclatures, classifications and steps of pharmaceutical products development	Student book	x			x		X

			a5	نبذة عن تاريخ الصيدلة فضل العرب والمسلمين على الدواء والمداواة الدواء وبلاد ما بين النهرين- المصريين القدماء	Student book	x			x		X
2.6	Properties of different pharmaceutical dosage forms including novel drug delivery systems	A16	a4	**Routes of drug administration**	Student book	x			x		X
				Introduction to pharmaceutical dosage forms	Student book	x			x		X
	Ex NARs	B21	b3	**Pharmaceutical calculations**	Practical notes		x			x	
3.3	Compound, dispense, label, store and distribute medicines effectively and safely.	B4	b1	Introduction to GLP	Practical notes		x			x	
				Preparation of simple pharmaceutical solution(Simple mixture of belladonna)							
				Preparation of simple pharmaceutical solution(Ear							

				drops)							
				Preparation of simple pharmaceutical solution (Simple mixture of liquorice)							
				Preparation of simple pharmaceutical solution(Ammonium Chloride Mixture)							
				Infusion & decoction							
3.2	Handle and dispose chemicals and pharmaceutical preparations safely.	B2	b2	Preparation of simple pharmaceutical solution(Simple mixture of belladonna)	Practical notes		x			x	
				Preparation of simple pharmaceutical solution (Simple mixture of liquorice)							
				Preparation of							

				simple pharmaceutical solution(Ammonium Chloride Mixture)							
				Infusion & decoction							
4.1	Apply pharmaceutical knowledge in the formulation of safe and effective medicines as well as in dealing with new drug delivery systems.	C1	c1	**Routes of drug administration**	Student book	x			x		x
			c2	**Introduction to pharmaceutical dosage forms**	Student book	x			x		x
5.10	Develop critical thinking, problem solving and decision making skills.	D11	d1	Introduction to GLP Pharmaceutical calculations: Numbers and numerals	Practical notes		x			x	
5.3	Work effectively in a team.	D3	d2	Pharmaceutical calculations Systems of measure: Metric system	Practical notes		x	x		x	

		D1	d3	Pharmaceutical calculations Systems of measure: Common systems	Practical notes		x	x		x	
5.1	Communicate clearly by verbal and means			Reducing and enlarging formula	Practical notes		x	x		x	
				Allegation	Practical notes		x	x		x	
				Preparation of simple pharmaceutical solution(Simple mixture of belladonna)			x	x		x	
				Infusion & decoction			x	x		x	

COURSE SPECIFICATIONS
English and Medical terminology

First year – First Term
2019-2020

Course specification of English and Medical terminology

University: Zagazig Faculty: Pharmacy

A- Course specifications:

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

Major or Minor element of programs: Minor

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

Department offering the course: English Department/ Faculty of Education

Academic year/ Level: First year/First term

Date of specification approval: September 2019

B- Basic information:

Title: English and Medical terms Code: **EL110**

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 Use English language ad medical terms in pharmacy study and practice

2-Intended Learning Outcomes of English and medical terminology (lLOs):

A- Knowledge and Understanding	
a1	Illustrate the basis of English language and medical terms used in pharmacy practice.
a2	Describe the structure of medical terms.
B- Professional and Practical Skills	
b1	Select the suitable medical terms used in pharmacy practice.
b2	Use effectively the medical and pharmaceutical terminologies, medical abbreviations, idioms, suffixes and prefixes.
C- Intellectual Skills	
c1	Analyze and interpret information on a medical record or prescription.
D- General and Transferable Skills	
d1	Improve written and oral communication with health care professionals.
d2	Develop writing and presentation skills.

D- Contents:

Week No.	Lecture (1hr/week)
1	- Part1: Integrated technology is the key to success in hospital pharmacies
2	- Part2: Integrated technology is the key to success in hospital pharmacies + exercises
3	- Part1: Swine flu fears prompt run on UK pharmacies
4	- Part2: Swine flu fears prompt run on UK pharmacies - Exercises
5	- Part1: History of pharmacy
6	- Part2: History of pharmacy + exercises
7	Midterm exam
8	Nuclear pharmacy + exercises
9	- Part1: Online pharmacy

10	- Part2: Online pharmacy + exercises
11	- Part1: Pharmacist
12	- Part2: Pharmacist + exercises
13	- Pharmacy glossary - General revision
14	- Revision
15	Final exam

E- Teaching and Learning Methods:

- Lectures
- Self learning (exercises….)

F- Student Assessment Methods:

Written exam to assess a1, a2, b1, b2, c1, d1,d2

Assessment schedule:

Assessment (1): Midterm exam	Week 7
Assessment (1): Written exams	Week 15

Weighting of Assessment:

Assessment method	Marks	Percentage
Midterm exam	10	20%
Final Written exam	40	80 %
TOTAL	50	100%

G- Facilities Required for Teaching and Learning:

- Black (white) board, Data show.

H- List of References:

1- Course Notes: Student book of English approved by English department 2019

2- Essential Books (Text Books)

i- 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.

Course Coordinator: Prof. Dr. Michel Abd Elmeseh

Date: /9/2019

Matrix I of English and Medical terminology course

Course Contents		ILOs of English and Medical terminology course						
		Knowledge and understanding		Professional and practical skills		Intellectual skills	General and transferable skills	
		a1	a2	b1	b2	c1	d1	d2
1	Part1: Integrated technology is the key to success in hospital pharmacies	x	x					
2	Part2: Integrated technology is the key to success in hospital pharmacies + exercises	x	x					
3	Part1: Swine flu fears prompt run on UK pharmacies						x	
4	Part2: Swine flu fears prompt run on UK pharmacies + exercises						x	
5	Part1: History of pharmacy							x
6	Part2: History of pharmacy + exercises							x
7	Part1: Nuclear pharmacy	x	x					
8	Part2: Nuclear pharmacy + exercises	x	x					
9	Part1: Online pharmacy			x	x			
10	Part2: Online pharmacy + exercises			x	x			
11	Part1: Pharmacist			x	x	x		
12	Part2: Pharmacist + exercises			x	x	x		
13	Pharmacy glossary and General revision			x	x	x		

Matrix II of English and Medical terminology course

National Academic Reference Standards NARS		Program ILOs	Course ILOs	Course contents	Sources	Teaching and learning methods		Method of assessment
						Lecture	Self learning	Written exam
2.1	Principles of basic, pharmaceutical, medical, social, behavioral, management, health and environmental sciences as well as pharmacy practice.	A1	a1,a2	Part1: Integrated technology is the key to success in hospital pharmacies	Student book	x		x
				Part2: Integrated technology is the key to success in hospital pharmacies + exercises	Student book, essential book	x	x	x
				Part1: Nuclear pharmacy	Student book	x		x
				Part2: Nuclear pharmacy + exercises	Student book, essential book	x	x	x
3.1	Use the proper pharmaceutical and medical terms and abbreviations and symbols in pharmacy practice.	B1	b1,b2	Part1: Online pharmacy	Student book	x		x
				Part2: Online pharmacy + exercises	Student book, essential book	x	x	x
				Part1: Pharmacist	Student book	x		x

				Part2: Pharmacist + exercises	Student book, essential book	x	x	x
				Pharmacy glossary and General revision	Student book	x		x
4.13	Analyze and interpret experimental results as well as published literature	C18	c1	Pharmacist Pharmacy glossary	Recommended book	x	x	x
5.1	Communicate clearly by verbal and written means	D1	d1	Part1: Swine flu fears prompt run on UK pharmacies	Student book	x		x
				Part2: Swine flu fears prompt run on UK pharmacies + exercises	Student book, essential book	x	x	x
5.10	Implement writing and presentation skills	D10	d2	Part1: History of pharmacy	Student book	x		x
				Part2: History of pharmacy + exercises	Student book, essential book	x	x	x

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Course Coordinators: **Prof. Dr. Michel Abd Elmeseh**
Date: **/9/2019**