



وحدة ضمان الجودة



Courses Specifications Faculty of Pharmacy

Bachelor of pharmacy (Pharm D – Clinical Pharmacy) Program

First level

2025-2026



وحدة ضمان الجودة



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وحدة ضمان الجودة



Semester 1

COURSE SPECIFICATION
Bachelor of Pharmacy
(Pharm D - Clinical Pharmacy)
Pharmaceutical Analytical
Chemistry-1
PA101
First level –Semester 1
2025-2026

Course Specification

(2025-2026)

1. Basic Information

Course Title (according to the bylaw)	Pharmaceutical Analytical Chemistry I			
Course Code (according to the bylaw)	PA101			
Department/s participating in delivery of the course	Analytical chemistry department			
Number of credit hours/points of the course (according to the bylaw)	Theoretical	Practical	Other (specify)	Total
	2 hr/week	1 hr/week		3 hr/week
Course Type	Faculty Requirements (Compulsory)			
Academic level at which the course is taught	level 1/ semester 1			
Academic Program	Bachelor of Pharmacy (Pharm D clinical pharmacy)			
Faculty/Institute	Faculty of Pharmacy			
University/Academy	Zagazig University			
Name of Course Coordinator	Prof. Dr. Magda El-Henawee			
Course Specification Approval Date	18/8/2025			
Course Specification Approval (Attach the decision/minutes of the department /committee/council)	Department Council			

2. Course Overview (Brief summary of scientific content)

This course enables students to outline theoretical bases and applications of acid-base, precipitometric and complexometric reactions.

3. Course Learning Outcomes CLOs

Matrix of course learning outcomes CLOs with program outcomes POs (NARS/ARS)

Program Outcomes (NARS/ARS) (according to the matrix in the program specs)		Course Learning Outcomes Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
1-1-1	Demonstrate understanding of knowledge of pharmaceutical, biomedical, social, behavioral, administrative, and clinical sciences.	1.C1.1.1	Illustrate different types of volumetric analysis.
1-1-3	- Integrate knowledge from fundamental sciences to handle, identify, extract, design, prepare, analyse, and assure quality of synthetic/ natural pharmaceutical materials/products.	1.C1.9.1	Describe suitable methods and optimum conditions for determination of different compounds.
2-2-1	Isolate, design, identify, synthesize, purify, analyze, and standardize synthetic/ natural pharmaceutical materials.	2.C2.1.1	Perform neutralization, precipitometric and complexometric reactions in determination of some inorganic and organic compounds and their mixtures with interpretation of results
2-2-3	Recognize the principles of various tools and instruments, and select the proper techniques for synthesis and analysis of different materials and production of pharmaceuticals.	2.C2.8.1	Select the most appropriate procedures for determination of different compounds and their mixtures

Program Outcomes (NARS/ARS) (according to the matrix in the program specs)		Course Learning Outcomes Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
2.3.1	Handle, identify, and dispose biologicals, synthetic/natural materials, biotechnology-based and radio-labeled products, and other materials/products used in pharmaceutical field.	2.C3.1.1	Handle and dispose chemicals safely.
4-1-1	Demonstrate responsibility for team performance and peer evaluation of other team members, and express time management skills.	4.C1.3.1	Perform tasks within time limit.
4-2-2	Use contemporary technologies and media to demonstrate effective presentation skills.	4.C2.3.1	Use basic information technology and presentation skills effectively

4. Teaching and Learning Methods

- Lectures (data show, board)
- Practical sessions
- Interactive learning (open discussion)
- Self-learning (activity: reports and presentations)
- Blended- learning

Course Schedule

Week	Scientific content of the course (Course Topics)	Total Weekl y Hours	Expected number of the Learning Hours			
			Theoretic al teaching (lectures/ discussion groups/)	Training (Practical/ Clinical/)	Self- learning (Tasks/ Assignm ents/ Projects/ ...)	Other (to be determi ned)

1	Lecture - Theoretical basis of volumetric analysis - Theories & types of acids and bases	2	2	-	-	-
	Practical session - Safety guidelines - Standardization of strong acids and bases	1	-	1	-	-
2	- pH calculations - Buffer solutions	2	2	-	-	-
	Practical session - Determination of HCl - Determination of HAC - Determination of H ₃ BO ₃	1	-	1	-	-
3	Lecture - Types of acid base indicators	2	2	-	-	-
	- Determination of HCl/ HAC - Determination of HCl/H ₃ PO ₄	1	-	1	-	-
4	Lecture - Revision on acid base introduction - Formative assessment (quiz 1)	2	2	-	-	-
	Practical session - Determination of NaAC - Determination of NaHCO ₃	1	-	1	-	-
5	Lecture - Acid –base titration curves	2	2	-	-	-
	Practical session - Determination of Na ₂ CO ₃ - Determination of Borax	1	-	1	-	-
6	Lecture - Application of neutralization reactions	2	2	-	-	-
	Practical session - Determination of NaHCO ₃ / Na ₂ CO ₃ - Determination of Boric / Borax	1	-	1	-	-
7	Mid-term Exam					
8	Lecture - Non-aqueous titrations and their application	2	2	-	-	-

	Practical session - Determination of $\text{Ca}^{2+}/\text{Mg}^{2+}$ mixture.	1	-	1	-	-
9	Lecture - Revision on applications of acid base - Formative assessment (quiz 2)	2	2	-	-	-
	Practical session - Determination of Mn^{2+} - Determination of Cu^{2+}	1	-	1	-	-
10	Lecture -Theory of Complexometry and complexometric indicators	2	2	-	-	-
	Practical session - Determination of Cl^- and I^- by Mohr's and Fajan method - Activity Orientation	1	-	1	_*	-
11	Lecture -Types of complexometric titrations and their applications	2	2	-	-	-
	Practical exam	1	-	1	-	-
12	Lecture - Theory of precipitometry, product solubility, factors affecting precipitation reactions	2	2	-	-	-
	Practical exam	1	-	1	_*	-
13	Lecture - Types of precipitometric titrations -Determination of different compounds precipitometry and their mixtures	2	2	-	-	-
	Practical session Activity presentation & assessment	1	-	1	-	-
14	Lecture General discussion and revision	2	2	-	-	-
	Practical session Discussion and Assessment of activity	2	-	1	_*	-
15	Final written exam					

* As part of a self-learning activity in this course, a part of practical session in week 10 was specified for the explanation of activity guidelines, rules and assessment rubric. Also, practical

sessions in weeks 13 and 14 were facilitated for students to present their reports on the various activity self-learning topics according to the announced student distribution on topics. Supervisors engaged students in a discussion to evaluate the key skills acquired findings, and conclusions they reached. The activity was formally evaluated against a set of established criteria to ensure a rigorous and consistent assessment.

5. Methods of students' assessment

No.	Assessment Methods	Assessment Timing (Week Number)	Marks/ Scores	Percentage of total course Marks
1	Mid-term Exam	Week 7	10	10%
3	Final Written Exam	Week 15	50	50%
4	Practical Exam	Weeks 11 and 12	25	25%
5	Final Oral Exam	Week 15	10	10%
6	Self-learning Activity	Weeks 10,13,14	5	5%
7	Assignment (Formative assessment)	Weeks 4,9	-	-

6. Learning Resources and Supportive Facilities *

Learning resources (books, scientific references, etc.) *	The main (essential) reference for the course method)	I. J. Mendham, et al., Vogel's Textbook of Quantitative Chemical Analysis (6 th edition), Addison Wesley Publishing Co., 2000 II. Daniel C. Harris and Charles A. Lucy, <i>Quantitative Chemical Analysis</i> , 10 th Edition, 2020.
	Other References	I. Ulf Ritgen, Analytical Chemistry I, Springer Nature, (2023) II. D. C. Harris, Quantitative Analytical Chemistry (9 th edition), W. H. Freeman and Co. (2015) III. D. Chowrasia, N. Sharma, Analytical Chemistry. A Qualitative & Quantitative Approach (General Techniques) Knoc education (2015).

	Electronic Sources	https://www.ekb.eg/ http://chemwiki.ucdavis.edu/ www.Pubmed.Com www.sciencedirect.com
	Learning Platforms (Links must be added) <u>Electronic platform of Faculty of Pharmacy- Zagaig University for students</u>	https://shorturl.at/sar8D
Supportive facilities & equipment for teaching and learning *	Devices/Instruments	Computer, board
	Supplies	- Chemicals and Glassware
	Electronic Programs	1. Microsoft office 2. Microsoft teams
	Skill Labs/ Simulators	-
	Virtual Labs	-
	Other (to be mentioned)	-

Name and Signature
Course Coordinator

Prof. Dr. Magda El-Henawee

Name and Signature
Acting Head of Department
Prof. Dr. Amal Algendy

**COURSE
SPECIFICATION
Bachelor of Pharmacy
(Pharm D - Clinical
Pharmacy)
Pharmaceutical Organic
Chemistry-1
PR 101
First level –Semester 1
2025-2026**

Course Specification

(2025-2026)

1-Basic Information

Course Title (according to the bylaw)	Pharmaceutical Organic Chemistry 1			
Course Code (according to the bylaw)	PR 101			
Department/s participating in delivery of the course	Pharmaceutical organic chemistry department			
Number of credit hours/points of the course (according to the bylaw)	Theoretical	Practical	Other (specify)	Total
	2 hrs/week	1 hrs/week	-	3 hrs/week
Course Type	Faculty Requirements			
Academic level at which the course is taught	Level 1- semester 1			
Academic Program	Bachelor of Pharmacy-pharm D (clinical pharmacy)			
Faculty/Institute	Faculty of pharmacy			
University/Academy	Zagazig university			
Name of Course Coordinator	Prof.Dr.Zakaria Kamel Abdelsamii			
Course Specification Approval Date	18/8/2025			
Course Specification Approval (Attach the decision/minutes of the department /committee/council)	Department Council			

2-Course Overview (Brief summary of scientific content)

On completion of the course, the student will be able to; recognize the different types 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, alcohols, aliphatic halo compounds and aliphatic carbonyl compounds and recognize the steps of qualitative identification of organic compounds.

3-Course Learning Outcomes CLOs

Matrix of course learning outcomes CLOs with program outcomes POs (NARS/ARS)

Program Outcomes (NARS/ARS) (according to the matrix in the program specs)		Course Learning Outcomes Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
1.1.1	Demonstrate understanding of knowledge of pharmaceutical, biomedical, social, behavioral, administrative, and clinical sciences.	1.C.1.1.1	Recognize the atomic structures, hybridization of atoms and their bonding, electron displacement, classification, acidity/basicity.
		1.C1.1.2	Give a systematic IUPAC name to a given organic compound.
1.1.3	Integrate knowledge from fundamental sciences to ,handle, identify, extract design, prepare, analyze, and assure quality of synthetic/ natural pharmaceutical materials/products	1.C.1.9.1	Outline different synthetic pathways and reactions of saturated and unsaturated aliphatic hydrocarbons.
		1.C.1.9.2	Outline different synthetic pathways and reactions of alcohols, alkyl halides and aliphatic carbonyl compounds.
2.2.1	Isolate, design, identify, synthesize, purify, analyze, and standardize	2.C2.1.1	Identify qualitatively the main functional groups of organic raw materials of drugs.

Program Outcomes (NARS/ARS) (according to the matrix in the program specs)		Course Learning Outcomes Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
	synthetic/ natural pharmaceutical materials.	2.C2.1.2	Write systematic laboratory scheme including experimental procedures, observations and conclusions
2.3.1	Handle, identify, and dispose biologicals, synthetic/natural ,materials biotechnology-based and radio-labeled products, and other materials/products used in pharmaceutical field.	2.C3.1.1	Handle basic laboratory equipment and organic raw materials of drugs effectively and safely.
4.1.1	Demonstrate responsibility for team performance and peer evaluation of other team members, and express time management skills.	4.C1.3.1	Manage time wisely to achieve goals.
4.2.1	Demonstrate effective communication skills verbally, non-verbally, and in writing with professional health care team, patients, and communities.	4.C2.1.1	Communicate and work effectively with others as part of a team.
4.2.2	Use contemporary technologies and media to demonstrate effective presentation skills.	4.C2.3.1	Collect data and prepare reports and presentations.

4-Teaching and Learning Methods

Lectures (data show, board)

Practical sessions

Self- learning (Activity)

Blended learning (Activity)

Course Schedule

Number of the Week	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected number of the Learning Hours			
			Theoretical teaching (lectures/discussion groups/)	Training (Practical/Clinical/)	Self-learning (Tasks/Assignments / Projects/ ...)	Other (to be determined)
1	Lecture -Atomic structure, covalent bonding, hybridization of carbon and elements of organic compounds and molecular orbital theory	2	2	-	-	-
	Practical session Laboratory safety measures, introduction to the concept of identification of organic compounds.	2	-	1	-	-
2	Lecture Electronegativity, molecular polarity and dipole moment and hydrogen bonding between molecules.	2	2	-	-	-
	Practical session General scheme for identification of organic compounds: -Physical properties (condition, color and odor).	2	-	1	-	-
3	Lecture Representation and classification of organic compounds.	2	2	-	-	-
	Practical session Continuing: General scheme for identification of organic compounds: -Determination of solubility -Acidity test	2	-	1	-	-
4	Lecture	2	2	-	-	-

	IUPAC nomenclature of organic compounds. Formative assessment (quiz1)					
	Practical session General Chemical tests : -Action of 30% NaOH.	2	-	1	-	-
5	Lecture Free radical halogenation of alkanes	2	2	-	-	-
	Practical session Continuing: General chemical tests : -Action of ferric chloride.	2	-	1	-	-
6	Lecture Reactions of alkenes	2	2	-	-	-
	Practical session Continuing: General chemical tests : -Action of conc. H ₂ SO ₄ .	2	-	1	-	-
7	Midterm exam					
8	Lecture Reactions of alkynes and conjugated alkadienes	2	2	-	-	-
	Practical session Tests for functional groups: Carboxylic acids and Carbohydrates	2	-	1	-	-
9	Lecture Reactions of alcohols	2	2	-	-	-
	Practical session Tests for functional groups: Aromatic amines and Aliphatic amides	2	-	1	-	-

10	Lecture Reactions of alkyl halides Formative assessment (quiz 2)	2	2	-	-	-
	Practical session -Tests for functional groups: Ketones, Aldehydes, and Alcohol - Orientation on Activity	2	-	1	_*	-
11	Lecture Reaction of aldehydes and ketones	2	2	-	-	-
	Practical session Tests for functional groups: Salts of aromatic acids and phenol	2	-	1	-	-
12	Lecture Reaction of aldehydes and ketones continued Formative assessment (quiz 3)	2	2	-	-	-
	Practical session Scheme identification revision	2	-	1	-	-
13	Lecture Reaction of carboxylic acids and carboxylic acid derivatives	2	2	-	-	-
	Practical exam	2	-	1	-	-
14	Lecture General discussion and revision	2	2	-	-	-
	Practical session	2	-	1	_*	-

	Discussion and Assessment of activity					
15	Final written exam					

* As part of a self-learning activity in pharmaceutical organic chemistry I course, a part of practical session in week 10 was specified for the explanation of activity guidelines, rules and assessment rubric. Also, practical session in week 14 was facilitated for students to present their reports on the various activity self-learning topics according to the announced student distribution on topics. Supervisors engaged students in a discussion to evaluate the key skills acquired, findings, and conclusions they reached. The activity was formally evaluated against a set of established criteria to ensure a rigorous and consistent assessment.

6-Methods of students' assessment

No.	Assessment Methods *	Assessment Timing (Week Number)	Marks/ Scores	Percentage of total course Marks
1	Exam 1 written (<u>Mid-term Exam</u>)	Week 7	10	10%
2	Exam 2 (Semester work)	-	-	-
3	Final Written Exam	Week 15	50	50%
4	Final <u>Practical</u> /Clinical/... Exam	Week 13	25	25%
5	Final Oral Exam	Week 15	10	10%
6	Project (<u>Self-learning Activity</u>)	Weeks 10,14	5	5%
7	Assignment (<u>Formative assessment</u>)	Weeks 4,10,12	-	-
8	Other (Mention)	-	-	-

1. Learning Resources and Supportive Facilities *

Learning resources	The main (essential) reference for the course	Student book of Pharmaceutical Organic Chemistry I approved by the department in
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(books, scientific references, etc.) *	(must be written in full according to the scientific documentation method)	2025-2026
	Other References	- Organic Chemistry; Solomons T.W.G. & Fryhle C.B.; John Wiley and Sons Inc., USA (2010). - Organic Chemistry, Second Edition, Bhupinder Mehta and Manju Mehta (2015).
	Electronic Sources (Links must be added)	https://www.ekb.eg/ http://chemwiki.ucdavis.edu/ www.Pubmed.Com www.sciencedirect.com
	Learning Platforms (Links must be added)	https://shorturl.at/sar8D
	Other (to be mentioned)	-
Supportive facilities & equipment for teaching and learning *	Devices/Instruments	Computer, board
	Supplies	Chemicals and Glassware
	Electronic Programs	Microsoft office Microsoft teams
	Skill Labs/ Simulators	-
	Virtual Labs	-
	Other (to be mentioned)	-

Name and Signature
Course Coordinator
Prof. Dr .Zakaria Kamel
Abdelsamii

Name and Signature
Head of department
Prof. Dr. Amany Mohammed
Mohammed Elmahmoudy

COURSE SPECIFICATIONS

**Bachelor of Pharmacy
(Pharm D - Clinical Pharmacy)**

Pharmacy orientation

PT101

Fifth level –Semester 10

2025-2026

Course Specification

(2025 - 2026)

1-Basic Information

Course Title (according to the bylaw)	Pharmacy orientation			
Course Code (according to the bylaw)	PT101			
Department/s participating in delivery of the course	Pharmaceutics Department			
Number of credit hours/points of the course (according to the bylaw)	Theoretical	Practical	Other (specify)	Total
	1hr /week	-	-	hr /week1
Course Type	Faculty requirement			
Academic level at which the course is taught	Level 1 –semester 1			
Academic Program	Bachelor of Pharmacy (PharmD Clinical Pharmacy)			
Faculty/Institute	Faculty of Pharmacy			
University/Academy	Zagazig - University			
Name of Course Coordinator	Prof. Dr. Nagia Ahmed El-megrab			
Course Specification Approval Date	18/8/2025			
Course Specification Approval (Attach the decision/minutes of the department /committee/council)	Department council			

2.Course Overview (Brief summary of scientific content)

On completion of the course, the student will be able to recognize the multiple aspects of the profession of pharmacy, including the mission of pharmacy, role of pharmacist in society and pharmacy careers, classification of medications, interpretation of prescriptions and medication orders, general dispensing procedure and factors affecting drug dosage, sources of drugs, different dosage forms and various routes of administration. In addition to the history of pharmacy practice in various civilizations

3.Course Learning Outcomes CLOs

Matrix of course learning outcomes CLOs with program outcomes POs (NARS/ARS)

Program Outcomes (NARS/ARS) (according to the matrix in the program specs)		Course Learning Outcomes Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
1-1-1	Demonstrate understanding of knowledge of pharmaceutical, biomedical, social, behavioral, administrative, and clinical sciences.	1.C1.2.1	Define different concepts related to pharmacy profession, duties of pharmacist at various pharmacy sittings, drug information sources and various pharmaceutical and medical terms
		1.C1.2.2.	Identify the pharmacy careers and educational requirements
		1.C1.2.3.	Describe drug, medicine and excipients
		1.C1.2.4.	Enumerate different types of dosage forms and their routes of administration
		1.C1.2.5	Summarize the history of pharmacy
1-1-2	Utilize the proper pharmaceutical and medical terms, abbreviations and symbols in pharmacy practice	1.C1.8.1	Use the proper pharmaceutical, medical terms, abbreviations and symbols in pharmacy practice.
2-1-1	Perform responsibilities and authorities in compliance with the legal and professional structure and role of all members of the health care professional team. Dispense different pharmaceutical dosage forms safely and effectively with application	2.C1.1.1.	Interpret the pharmaceutical order and follow the dispensing procedure

Program Outcomes (NARS/ARS) (according to the matrix in the program specs)		Course Learning Outcomes Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
4-2-1	Demonstrate effective communication skills verbally, non-verbally, and in writing with professional health care team, patients, and communities	4.C2.1.1	Communicate effectively with patients and other health care professionals, including both written and oral communication

4-Teaching and Learning Methods

1. Lectures
2. General Discussion
3. Self-learning
4. Blended-learning
5. Think/pair/share

Course Schedule

Number of the Week	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected number of the Learning Hours			
			Theoretical teaching (lectures/discussion groups.....)	Training (Practical/Clinical/)	Self-learning (Tasks/ Assignments / Projects/ ...)	Other (to be determined)
1	Introduction to pharmacy:- Pharmacy profession, pharmaceuticals, pharmacists, pharmacy education, Pharmaceutical organizations	1	Lecture	-	-	-
2	Drug information sources (Pharmacopeias and Formularies)	1	Lecture	-	-	-
3	Pharmacy careers and role of pharmacists	1	Lecture	-	-	-
4	Drug and medicine: Definition of drugs, medicines and excipients, drug characteristics, sources, nomenclatures, (Formative assessment)	1	Lecture	-	-	-
5	Drug classifications	1	Lecture	-	-	-
6	Medical and pharmaceutical terminology	1	Lecture	-	-	-
7	Periodical exam			-	-	-
8	Routes of drug administration	1	Lecture	-	-	-
9	Introduction to pharmaceutical dosage forms	1	Lecture	-	-	-
10	Introduction to pharmaceutical dosage forms Activity	1	Lecture	-	-	-
11	Drug Dosage and factors affecting dose (Formative assessment)	1	Lecture	-	-	-

12	Medical Prescription and medication order and their interpretation	1	Lecture	-	-	-
13	General procedure of dispensing	1	Lecture	-	-	-
14	History of pharmacy- الدواء وبلاد ما بين النهرين- المصريين القدمات فضل العرب والمسلمين على الدواء والمداواة Activity	1	Lecture	-	-	-
15	Final written exam		Lecture	-	-	-

5-Methods of students' assessment

No.	Assessment Methods *	Assessment Timing (Week Number)	Marks/ Scores	Percentage of total course Marks
1	Exam 1 written (Mid-term Exam)	Week 7	15	%15
2	Exam 2 (Semester work)	-	-	-
3	Final Written Exam	Week15	75	%75
4	Final Practical/Clinical/... Exam	-	-	-
5	Final Oral Exam	-	-	-
6	Assignment (Formative assessment)	Weeks 4,11	-	-
7	Project (Self-learning Activity)	Weeks10,14	10	%10
8	Field training	-	-	-

* The methods mentioned are examples, the organization may add and/or delete

6-Learning Resources and Supportive Facilities *

Learning resources (books, scientific references, etc.) *	The main (essential) reference for the course (must be written in full according to the scientific documentation method)	Student handout of pharmacy orientation approved by pharmaceutics department (2025-2026).
	Other References	1. Ansel's Pharmaceutical Dosage Forms and Drug Delivery Systems (2017): By Loyd Allen, 11th edition 2. Remington: the Science and Practice of Pharmacy" (2000), By Genars, Alfonso R. 20th edition 3. Pharmaceutical Calculations (2010), By Howard C. Ansel and Mitchell J. Stoklosa 13th Edition
	Electronic Sources (Links must be added)	Ensuring good dispensing practices. Essential Medicines and Health Products Information Portal A World Health Organization resource Part II: Pharmaceutical management, chapter 30. March 2012 . https://msh.org/wpcontent/uploads/2013/04/mds3-ch30-dispensing-mar2012.pdf https://www.ekb.eg/
	Learning Platforms (Links must be added)	Electronic <i>platform</i> of faculty of pharmacy - zagazig university
	Other (to be mentioned)	
Supportive facilities & equipment for teaching and learning *	Devices/Instruments	<u>For lectures :</u> Black (white) boards, computer data show, air conditioned classroom
	Supplies	
	Electronic Programs	
	Skill Labs/ Simulators	
	Virtual Labs	

	Other (to be mentioned)	
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*** The list mentioned is an example, the institution may add and/or delete depending on the nature of the course**

Name and Signature

Course Coordinator:

Prof. Dr. Nagia Ahmed El-megrab

Name and Signature

Head of Department

Prof. Dr. Shereen Sabry

COURSE SPECIFICATION

Bachelor of Pharmacy

(Pharm D - Clinical

Pharmacy)

Medicinal Plants

PG 101

First level –Semester 1

2025-2026

Course Specification

(2025-2026)

1-Basic Information

Course Title (according to the bylaw)	Medicinal Plants			
Course Code (according to the bylaw)	PG 101			
Department/s participating in delivery of the course	Pharmacognosy Department			
Number of credit hours/points of the course (according to the bylaw)	Theoretical	Practical	Other (specify)	Total
	2 hrs\week	1 hrs/week		3 hrs/week
Course Type	Faculty Requirements			
Academic level at which the course is taught	Level 1- semester 1			
Academic Program	Bachelor of pharmacy (Clinical Pharmacy Pharm D)			
Faculty/Institute	Faculty of Pharmacy			
University/Academy	Zagazig university			
Name of Course Coordinator	Prof. Dr. Samia Salah			
Course Specification Approval Date	18/8/2025			
Course Specification Approval (Attach the decision/minutes of the department /committee/council)	Department Council			

2.Course Overview (Brief summary of scientific content)

- On completion of this course, students will be able to Identify and prepare a crude drug from the farm to the firm, acquire knowledge concerning plant cell and plant cell differentiation, acquire knowledge about secondary metabolites as (alkaloids, glycosides,etc). Also, students will identify some botanical drugs of leaves in their entire and powdered forms. And learn about the major constituents, folk uses and clinically proven uses.

3-Course Learning Outcomes CLOs

Matrix of course learning outcomes CLOs with program outcomes POs (NARS/ARS)

Program Outcomes (NARS/ARS) (according to the matrix in the program specs)		Course Learning Outcomes Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
1.1.1	Demonstrate understanding of knowledge of pharmaceutical, biomedical, social, behavioral, administrative, and clinical sciences.	1.C.1.2.1	Describe different plant cells and contents.
		1.C.1.2.2	Identify the different natural drugs and their productions.
1.1.3	Integrate knowledge from fundamental sciences to handle, identify, extract, design, prepare, analyze, and assure quality of synthetic/ natural pharmaceutical materials/products.	1.C.1.9.1	Describe morphological and histological characters of medicinal leaves.
		1.C.1.9.2	Identify different active constituents and uses of medicinal leaves.
		1.C.1.9.3	Outline adulteration of different medicinal leaves.
2.2.1	Isolate, design, identify, synthesize, purify, analyze, and standardize synthetic/ natural pharmaceutical materials.	2.C.2.1.1	Use microscope and design protocols to examine medicinal leaves
		2.C.2.1.2	Differentiate between different plant tissues and plant cells.
		2.C.2.1.3	Examine different medicinal leaves in entire and powdered form.

Program Outcomes (NARS/ARS) (according to the matrix in the program specs)		Course Learning Outcomes Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
2.3.1	Handle, identify, and dispose biologicals, synthetic/natural materials, biotechnology-based and radio-labeled products, and other materials /products used in pharmaceutical field.	2.C.3.1.1	Handle and dispose chemicals, solvents, natural wastes, in an appropriate way avoiding any environmental hazards.
4.2.2	Use contemporary technologies and media to demonstrate effective presentation skills.	4.C2.3.1	Write and present reports.

4-Teaching and Learning Methods

1. Lectures
2. Practical sessions
3. Self-learning (Activity)

Course Schedule

Number of the Week	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected number of the Learning Hours			
			Theoretical teaching (lectures/discussion groups/)	Training (Practical/ Clinical/)	Self-learning (Tasks/ Assignments / Projects/ ...)	Other (to be determined)
1	Lecture -Introduction of pharmacognosy	2	2	-	-	-
	Practical session -Laboratory safety measures -Dealing with microscope	2	-	1	-	-
2	Lecture Study of plant cell structure, types of cell walls and types of plant cells (parenchyma, collenchyma, sclerenchyma cells)	2	2	-	-	-
	Practical session -Identification of different types of plant cells	2	-	1	-	-
3	Lecture Study of meristems, tissues, permanent and complex secretory	2	2	-	-	-
	Practical session Identification of different types of plant tissues Activity 1 (internet search on plant tissues).	2	-	1	-*	-
4	Lecture Study of tissues and tissue systems.	2	2	-	-	-

	Practical session Microscopical examination of different starch powder and their chemical tests.	2	-	1	-	-
5	Lecture Study of cell contents Formative assessment (quiz1)	2	2	-	-	-
	Practical session Microscopical examination of dusting powder and their chemical tests.	2	-	1	-	-
6	Lecture Study of dusting powders	2	2	-	-	-
	Practical session Macroscopical and microscopical examination of Hyoscyamus leaf in entire and powdered form.	2	-	1	-	-
7	Periodical Exam					
8	Lecture Study of crude drugs production, cultivation, collection and preparation	2	2	-	-	-
	Practical session Macroscopical and microscopical examination of Datura and Belladonna leaves in entire and powdered form. Activity 2 (report on pharmaceutical leaves).	2	-	1	-*	-
9	Lecture Study of drying, packing, storage and adulteration of drugs	2	2	-	-	-

	Practical session Practical examination for Senna leaf including morphology and histology for entire and powdered forms.	2	-	1	-	-
10	Lecture General introduction for medicinal leaf. Identification of morphological and histological studies for Senna in entire and powdered forms, active constituents, uses and chemical test and adulteration. Formative assessment (quiz 2)	2	2	-	-	-
	Practical session Practical examination for Neem leaf including morphology and histology for entire and powdered forms.	2	-	1	-	-
11	Lecture Identification of morphological and histological studies for Digitalis and Squill, Buchu, Uva ursi, Witch- Hazel in entire and powdered forms, active constituents, uses and chemical test and adulteration.	2	2	-	-	-
	Practical session Practical examination for Mentha leaf including morphology and histology for entire and powdered forms.	2	-	1	-	-

12	Lecture Identification of morphological and histological studies for, Neem leaves in entire and powdered forms, active constituents, uses and chemical test and adulteration in addition to Laurel, Oregano, Basil, Rosemary and Peppermint as non-official leaves.	2	2	-	-	-
	Practical exam	2	-	1	-	-
13	Lecture Morphological and histological studies for Hyoscyamus, Datura and Belladonna leaves in entire and powdered forms, active constituents, uses and chemical test and adulteration. In addition to Jaborandi, Boldo and Coca leaves	2	2	-	-	-
	Practical exam	2	-	1	-	-
14	Lecture Open discussion and revision	2	2	-	-	-
	Practical session Discussion and Assessment of activity	2	-	1	-*	-
15	Final Written and Oral Exams					

* As part of a self-learning activity in medicinal plants course, a part of practical session was specified for the explanation of activity guidelines, rules and assessment rubric. Also, practical sessions were facilitated for students to present their reports on the various activity self-learning topics according to the announced student distribution on topics. Supervisors engaged students in a discussion to evaluate the key skills acquired, findings, and conclusions they reached. The activity was formally evaluated against a set of established criteria to ensure a rigorous and consistent assessment.

5-Methods of students' assessment

No.	Assessment Methods *	Assessment Timing (Week Number)	Marks/ Scores	Percentage of total course Marks
1	Exam 1 written (Mid-term Exam)	Week 7	10	10%
2	Exam 2 (Semester work)	-	-	-
3	Final Written Exam	Week 15	50	50%
4	Final Practical /Clinical/... Exam	Weeks 12 and 13	25	25%
5	Final Oral Exam	Week 15	10	10%
6	Project (Self-learning Activity)	Weeks 3, 8 and 14	5	5%
7	Assignment (Formative assessment)	Weeks 5 and 10	-	-
8	Other (Mention)	-	-	-

* The methods mentioned are examples, the organization may add and/or delete

6. Learning Resources and Supportive Facilities *

Learning resources (books, scientific references, etc.) *	The main (essential) reference for the course (must be written in full according to the scientific documentation method)	Student's book and practical notes of "Medicinal Plants" approved by the Pharmacognosy Department (2025-2026).
	Other References	• Trease and Evans, Pharmacognosy, 17th Ed., Saunders Company, Nottingham, U.K., William Charles Evans (2020). • The Cambridge Illustrated Glossary of Botanical Terms, M. Hickey and C. King, Cambridge Univ. press (2000). • Plant Systematics: A Phylogenetic Approach, 4th Ed., Judd, W.; Campbell,

		C., Kellogg, E.; Stevens P and Donoghue, M., Sinauer Associates' Inc. (2015). • Plant Anatomy, Fahn, 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). • "Leung's Encyclopedia of Common Natural Ingredients: Used in Food, Drugs", Ikhlas A. Khan, Ehab A Abourashed (2009) • "Encyclopedia of Common Natural Used in Food, Drugs and Cosmetics", Leung A.Y. and Faster (1980). • Pflanzenanatomischer, Grundkurs, Module für die differenzierte Gestaltung, Werner Reißer , Franz-Martin Dux , Monika Möschke , Martin Hofmeister (2016). • National Research Council (US) Panel on Neem. Neem: A Tree For Solving Global Problems. Washington (DC): National Academies Press (US); 1992. 3, The Tree. Available from: https://www.ncbi.nlm.nih.gov/books/NBK234651/
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	Electronic Sources (Links must be added)	1. BIOLOGY4ISC 2. https://biology4isc.weebly.com/b-anatomy-of-flowering-plants.html 3. https://www.researchgate.net/figure/SEM-micrographs-of-leaf-epidermis-a-b-Striated-cuticle-on-the-adaxial-surface-a_fig1_225594871 4. https://mmegias.webs.uvigo.es/02-english/1-vegetal/v-imagenes-grandes/proteccion_tricomas.php 5. https://www.researchgate.net/figure/Different-types-of-trichomes-in-Salvia-nemorosa-Glandular-trichomes-A-short-stalked_fig1_326247506 6. https://www.easybiologyclass.com/collenchyma-cells-in-plants-structure-classification-and-functions-with-ppt/ 7. http://www.pharmacy180.com/article/study-of-different-tissue-systems-19/ 8. http://tropical.theferns.info/viewtropical.php?id=Datura+stramonium 9. https://www.sciencedirect.com/topics/chemistry/azadirachtin. 10. https://www.bebeautiful.in/all-things-skin/everyday/7-reasons-why-neem-is-a-power-leaf. 11. https://www.sciencedirect.com/topics/agricultural-and-biological-sciences/ocimum-basilicum. 12. http://herbal-medicine.imedpub.com/rosmarinus-officinalis-rosemary-a-novel-therapeutic-agent-for-antioxidant-antimicrobial-anticancer-antidiabetic-antidepressant-neu.php?aid=20651. 13. https://www.medicalnewstoday.com/articles/265214.php. 14. https://lavoirebeauty.wordpress.com/2014/01/03/four-herbs-mix-for-hair-and-skin/
	Learning Platforms (Links must be added) Electronic platform of Faculty of Pharmacy-Zagazig University for students	https://shorturl.at/sar8D
	Other (to be mentioned)	
Supportive facilities &	Devices/Instruments	Black (white) boards, data show, instruments, digital balances and water baths and microscopes

equipment for teaching and learning *	Supplies	Chemicals and glassware
	Electronic Programs	2. Microsoft office 3. Microsoft teams
	Skill Labs/ Simulators	-
	Virtual Labs	-
	Other (to be mentioned)	-

*** The list mentioned is an example, the institution may add and/or delete depending on the nature of the course**

**Name and Signature
Course Coordinator**

Prof. Dr. Samia Salah

**Name and Signature
Head of Department**

**Assist.Prof. Dr. Islam
Mostafa**

COURSE SPECIFICATION
Bachelor of Pharmacy
(Pharm D - Clinical Pharmacy)
Medical Terminology
MD101
First level –Semester 1
2025-2026

Course Specification

(2025 2026)

1.Basic Information

Course Title (according to the bylaw)	Medical terminology			
Course Code (according to the bylaw)	MD101			
Department/s participating in delivery of the course	Pharmacology and Toxicology Department			
Number of credit hours/points of the course (according to the bylaw)	Theoretical	Practical	Other (specify)	Total
	1	-	-	1
Course Type	Faculty requirement			
Academic level at which the course is taught	Level one/ semester one			
Academic Program	Bachelor of pharmacy (PharmD) Clinical pharmacy program			
Faculty/Institute	Pharmacy			
University/Academy	Zagazig			
Name of Course Coordinator	Prof.Dr/Rasha Hassan			
Course Specification Approval Date	8/18/2025			
Course Specification Approval (Attach the decision/minutes of the department /committee/council)	Department council			

2.Course Overview (Brief summary of scientific content)

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.

3.Course Learning Outcomes CLOs

Matrix of course learning outcomes CLOs with program outcomes POs (NARS/ARS)

Program Outcomes (NARS/ARS) (according to the matrix in the program specs)		Course Learning Outcomes Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
1-1-1	Demonstrate understanding of knowledge of pharmaceutical, biomedical, social, behavioural, administrative, and clinical sciences.	1.C1.2.1	Outline the basic structure of a medical term
		1.C1.2.2	Outline the principles of medical terminology used in pharmacy and clinical practice.
1-1-2	Utilize the proper pharmaceutical and medical terms, abbreviations and symbols in pharmacy practice	1.C1.8.1	Recognize and interpret common medical abbreviations, prefixes, suffixes, and root words of each body system
		1.C1.8.2	Construct medical terms related to anatomy, diseases, diagnostics, and pharmacotherapy.
4-2-1	Demonstrate effective communication skills verbally, non-verbally, and in writing with professional health care team, patients, and communities	4.C2.1.1	Communicate clearly and accurately using appropriate medical language in both oral and written forms.

Program Outcomes (NARS/ARS) (according to the matrix in the program specs)		Course Learning Outcomes Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
4-2-2	Use contemporary technologies and media to demonstrate effective presentation skills.	4.C2.3.1	Demonstrate presentation and IT skills by using digital tools to create terminology-related materials.

4. Teaching and Learning Methods

1. Lectures (data show, board)
2. Practical sessions
3. Co-operative Learning (Activity)
4. Self-Learning (Activity)

Course Schedule

Number of the Week	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected number of the Learning Hours			
			Theoretical teaching (lectures/discussion groups/)	Training (Practical/Clinical/)	Self-learning (Tasks/ Assignments / Projects/ ...)	Other (to be determined)
1	Analysis of term components	1	1	-	-	-
2	Fields of medical practice	1	1	-	-	-
3	Medical records, patient records	1	1	-	-	-
	Formative assessment quiz 1	-	-	-	-	-
4	Gastrointestinal system	1	1	-	-	-
5	Central nervous system	1	1	-	-	-
	Formative assessment quiz 2	-	-	-	-	-
6	Endocrine system	1	1	-	-	-
7	Midterm Exam	-	-	-	-	-
8	Musculoskeletal system	1	1	-	-	-
9	Blood and lymphatic system	1	1	-	-	-
10	Cardiovascular system	1	1	-	-	-

11	Eye	1	1	-	-	-
12	Integumentary system	1	1	-	-	-
13	- Respiratory system Activity (Presentation)	1	1	-	-	-
14	-Revision	1	1	-	_*	-
15	Final written Exam					

5.Methods of students' assessment

No.	Assessment Methods *	Assessment Timing (Week Number)	Marks/ Scores	Percentage of total course Marks
1	Exam 1written (Midterm exam) (Semester work)	Week 7	15	15%
3	Final Written Exam	Week 15	75	75%
5	Project (Self learning Activity)	Week 13	10	10%
6	Assignments (formative assessment)	Week 3&5	-	-
7	Other (Mention)	-	-	-

* The methods mentioned are examples, the organization may add and/or delete

6-Learning Resources and Supportive Facilities *

Learning resources (books, scientific	The main (essential) reference for the course (must be written in full according to the scientific documentation method)	- Student book of Medical Terminology (Medical Language for Health Care Students). Date of approval 18-8-2025
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references, etc.) *	Other References	1. Essential books: Textbook reference: Medical Terminology for healthcare professions copyright © 2020 by Andrea Nelson and Katherine. 2. Recommended books: Andrew R. Hutton (2016): An introduction to medical terminology for health care, A self-teaching package, third edition. Churchill-Livingstone-Elsevier Press, Edinburgh, 5th edition.
	Electronic Sources (Links must be added)	Periodicals and websites: http.www.youtube.com
	Learning Platforms (Links must be added)	http://phstudent.eps.zu.edu.eg/Views/StudentViews/StudentLogin
	Other (to be mentioned)	-
Supportive facilities & equipment for teaching and learning *	Devices/Instruments	• White board, computer and data show.
	Supplies	-
	Electronic Programs	-Microsoft office - Microsoft teams
	Skill Labs/ Simulators	-
	Virtual Labs	-
	Other (to be mentioned)	-

* The list mentioned is an example, the institution may add and/or delete depending on the nature of the course

Name and Signature
Course Coordinator
Prof.Dr /Rasha Hassan

Name and Signature
Head departement
Prof.Dr/ Islam Ahmed

COURSE SPECIFICATION
Bachelor of Pharmacy
(Pharm D - Clinical Pharmacy)
Information Technology
NP 101
First level –Semester 1
2025-2026

Course Specification

Course Title (according to the bylaw)	Information Technology			
Course Code (according to the bylaw)	NP 101			
Department/s participating in delivery of the course	Pharmacy practice department			
Number of credit hours/points of the course (according to the bylaw)	Theoretical	Practical	Other (specify)	Total
	1 hrs/week	1 hr/week	-	2 hrs/week
Course Type	Faculty requirements			
Academic level at which the course is taught	Level 1			
Academic Program	Bachelor of pharmacy (Pharm D, clinical program)			
Faculty/Institute	Pharmacy			
University/Academy	Zagazig			
Name of Course Coordinator	Khaled Hosney			
Course Specification Approval Date	25 August 2025			
Course Specification Approval (Attach the decision/minutes of the department /committee/council)	Council of Quality Assurance			

Course Overview (Brief summary of scientific content)

On completion of the course, students will be able to recognize the concept of information technology including number systems and data representation, computer system components (hardware & software), storage and input/output systems, operating systems, utility systems, and software applications. The course also provides an overview of computer networks and internet including data communication, transmission modes, transmission media, internet protocol, and services. Students will practice computer applications such as Internet access, word processing, Excel, and PowerPoint. They will also gain practical experience in developing projects related to pharmacy.

Course Learning Outcomes CLOs

Matrix of course learning outcomes CLOs with program outcomes POs (NARS/ARS)

Code	Program Outcomes (NARS/ARS)	Code	Course Learning Outcomes
1.1.1	Demonstrate understanding of knowledge of pharmaceutical, biomedical, social, behavioral, administrative, and clinical sciences.	1.C1.1.1	Define different terminologies related to computer industry, its uses and generations
		1.C1.1.2	Describe computer hardware and software
		1.C1.1.3	Illustrate different methods of data representation
		1.C1.1.4	Demonstrate advantages of computer networks, uses, types and structure
4.1.1	Demonstrate responsibility for team performance and peer evaluation, and express time management skills	4.C1.3.1	Deliver different assignments within due time
4.2.2	Use contemporary technologies and media to demonstrate effective presentation skills	4.C2.2.1	Demonstrate good IT skills including internet search and data presentation
		4.C2.2.2	Use Word, Excel, and PowerPoint programs effectively

Teaching and Learning Methods

Lectures (data show, board)

Computer applications (practical sessions)

Assignments (Word, Excel, PowerPoint, Internet search)

Self-learning activities

Course Schedule

Week No.	Lecture Topics	Practical/Training	Self-learning/Assignments	Assessment
1	Course orientation; Introduction to computers: definition, uses, industry	Microsoft Word (Basics)	-	-
2	Introduction to computers (cont.): generations, classification	Microsoft Word	-	-
3	Computer hardware	MS Excel (Basics)	-	-
4	Computer software: operating systems, GUI components	MS Excel (Charts)	-	-
5	Computer software (cont.): Utilities programs	Internet search	-	-

6	Computer software (cont.): Application programs	PowerPoint	-	-
7	Midterm exam	-	-	Midterm exam
8	Data representation: how computers store data, number representation	Assignment 1: Word (CV design)	-	Assignment
9	Data representation (cont.): character representation, how the computer works	Assignment 2: Word (Table design)	-	Assignment
10	Data representation (cont.): high-level languages	Assignments 3 & 4: Excel & Charts	-	Assignment
11	Introduction to computer networks: introduction, advantages	Assignment 5: Internet search	-	Assignment

12	Computer networks (cont.): uses, types	Assignment 6: PowerPoint	-	Assignment
13	Computer networks (cont.): structure, basic definitions	Practical exam	-	Practical exam
14	Revision	-	-	-
15	Final exam	-	-	Final exam

Methods of students' assessment

No.	Assessment Methods	Timing	Percentage
1	Midterm Exam	Week 7	10%
2	Final Written Exam	Week 15	60%
3	Practical Exam	Week 13	25%
4	Assignments	Weeks 8-12	5%

Learning Resources and Supportive Facilities

Learning resources (books, scientific references, etc.):

- Student book of Information Technology approved by Computer Science Department 2019.
- Sharma V. Essentials Of Information Technology, Vol 2, Dhanpat Rai & Co. (2015)
- Eric Frick, Information Technology Essentials, 2011

Electronic Sources: www.PubMed.com, www.sciencedirect.com

Learning Platforms: Electronic platform of Faculty of Pharmacy, Zagazig University

Supportive facilities & equipment for teaching and learning:

- Blackboard/whiteboard, Data show, Computer lab

Name and Signature
Course Coordinator
Khaled Hosney

Name and Signature
Head of department
Esraa zakria

COURSE SPECIFICATION

Bachelor of Pharmacy

**(Pharm D - Clinical
Pharmacy)**

Mathematics

NP102

First level –Semester 1

2025-2026

Course Specification

1-Basic Information

Course Title (according to the bylaw)	Mathematics			
Course Code (according to the bylaw)	NP102			
Department/s participating in delivery of the course	Mathematics department			
Number of credit hours/points of the course (according to the bylaw)	Theoretical	Practical	Other (specify)	Total
	1 hr/week	-	-	1 hr/week
Course Type	Faculty Requirement			
Academic level at which the course is taught	Level 1			
Academic Program	Clinical-Pharm D			
Faculty/Institute	Pharmacy			
University/Academy	Zagazig			
Name of Course Coordinator	Prof.Dr. Yasser A. Amer			
Course Specification Approval Date	25/8/2025			
Course Specification Approval (Attach the decision/minutes of the department /committee/council)	Council of quality assurance			

2-Course Overview (Brief summary of scientific content)

- Learn the methods tools for solving equations, differentiation and integration..
- Understand the relation between mathematics and pharmacy.
- Study growth and decay models.

- Applications of mathematics in pharmacy

3-Course Learning Outcomes CLOs

Matrix of course learning outcomes CLOs with program outcomes POs (NARS/ARS)

Program Outcomes (NARS/ARS) (according to the matrix in the program specs)		Course Learning Outcomes Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
1.1.1	Demonstrate understanding of knowledge of pharmaceutical, biomedical, social, behavioral, administrative, and clinical sciences	1.C1.1.1	Define Number, Variable, Function, Limits of one variable functions, continuity, differentiability as well as definite and indefinite integrals
		1.C1.1.2	Describe different types of functions, techniques of integration, matrices, partial fractions as well as applications of derivatives and definite integral
4.1.2	Retrieve and critically analyze information, identify and solve problems, and work autonomously and effectively in a team.	4.C1.5.1	Find effective solutions for a given problem

4-Teaching and Learning Methods

- 1- Lectures (data show, board)
- 2- Research assignments (Activity)

Course Schedule

5-Methods of students' assessment

Number of the Week	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected number of the Learning Hours			
			Theoretical teaching (lectures/discussion groups/)	Training (Practical/Clinical/)	Self-learning (Tasks/ Assignments / Projects/ ...)	Other (to be determined)
1	Determinates	1	1	0	0	0
2	Matrices	1	1	0	0	0
3	Partial fractions	1	1	0	0	0
4	Complex numbers	1	1	0	0	0
5	derivative of functions: derivative of exponential functions	1	1	0	0	0
6	derivative of natural logarithm functions, derivative of Trigonometric functions, derivative of inverse Trigonometric functions, Higher-order derivatives	1	1	0	0	0
7	Mid term					
8	Application of derivatives: increasing functions, decreasing function,	1	1	0	0	0
9	concavity and inflection points, relative maximum, relative minimum, absolute maximum, absolute minimum	1	1	0	0	0
10	Integration, indefinite integral, rules of integration & (activity)	1	1	0	0	0
11	Techniques of integration	1	1	0	0	0
12	Application of integrations	1	1	0	0	0
13	Growth and decay models	1	1	0	0	0
14	Applications of mathematics for pharmacy students	1	1	0	0	0
15	Final written exam					

No.	Assessment Methods *	Assessment Timing (Week Number)	Marks/ Scores	Percentage of total course Marks
1	Exam 1 written (mid term exam)	7	15	15%
2	Exam 2 (Semester work)	-	-	-
3	Final Written Exam	15	75	75%
4	Final Practical/Clinical/... Exam	-	-	-
5	Final Oral Exam	-	-	-
6	Assignments / Project /Portfolio/ Logbook (Research assignments activity)	10	10	10%
7	Field training	-	-	-
8	Other (Mention)	-	-	-

* The methods mentioned are examples, the organization may add and/or delete

6-Learning Resources and Supportive Facilities *

Learning resources (books, scientific references, etc.) *	The main (essential) reference for the course (must be written in full according to the scientific documentation method)	Course notes: General mathematics(2019)
	Other References	[1]Frank S. Budnick, Applied Mathematics for business and social Sciences [2]Douglas, Applied Statistics for engineering and applications
	Electronic Sources (Links must be added)	Internet on website : www.sciencedirect
	Learning Platforms (Links must be added)	-----
	Other (to be mentioned)	-----

Supportive facilities & equipment for teaching and learning *	Devices/Instruments	Computer, board, data show
	Supplies	-----
	Electronic Programs	Microsoft office
	Skill Labs/ Simulators	-----
	Virtual Labs	-----
	Other (to be mentioned)	-----

*** The list mentioned is an example, the institution may add and/or delete depending on the nature of the course**

**Name and Signature
Course Coordinator
Prof. Dr. Yasser A. Amer
Date 25-8-2025**

**Name and Signature
Program Coordinator

Assist.Prof.Dr. Yassmine
Sharaf
Date 25-8-2025**

COURSE SPECIFICATION

Bachelor of Pharmacy

**(Pharm D - Clinical
Pharmacy)**

Social Issues

UR 101

First level –Semester 1

2025-2026

Course Specification

1-Basic Information

Course Title (according to the bylaw)	Social Issues القضايا المجتمعية			
Course Code (according to the bylaw)	UR 101			
Department/s participating in delivery of the course	--			
Number of credit hours/points of the course (according to the bylaw)	Theoretical	Practical	Other (specify)	Total
	1 hr/week	-	-	1 hr/week
Course Type	University Requirements (Secondary)			
Academic level at which the course is taught	level one/ semester one			
Academic Program	Bachelor of Pharmacy (Pharm D) Clinical Pharmacy			
Faculty/Institute	Faculty of Pharmacy			
University/Academy	Zagazig University			
Name of Course Coordinator	Prof. Dr. Mohamed Baraka			
Course Specification Approval Date	25/8/2025			
Course Specification Approval (Attach the decision/minutes of the department /committee/council)	Council of quality assurance			

2.Course Overview (Brief summary of scientific content)

عند إتمام المقرر سوف يكون الطلاب قادرين على

- معرفة أهمية حقوق الإنسان وواجباته نحو المجتمع وكيفية حماية تلك الحقوق.
- معرفة الفساد وأنواعه وأسبابه وآثاره وكيفية مجابهة الفساد
- معرفة القضايا المجتمعية وتشمل المواطنة والعولمة والقضية السكانية والمرأة وكيفية تمكينها في المجتمع المصري وثقافة التسامح وقبول الآخر

3.Course Learning Outcomes CLOs

Matrix of course learning outcomes CLOs with program outcomes POs (NARS/ARS)

Program Outcomes (NARS/ARS) (according to the matrix in the program specs)		Course Learning Outcomes Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
1-1-1	Demonstrate understanding of knowledge of pharmaceutical, biomedical, social, behavioral, administrative, and clinical sciences. إظهار فهم المعرفة بالعلوم الصيدلانية والطبية الحيوية والاجتماعية، والسلوكية والإدارية والسريرية.	1.C1.4.1	يعرف المقصود بحقوق الإنسان ومصدرها وأنواع حقوق الإنسان الفردية والجماعية وكيفية حمايتها
		1.C1.4.2	يفهم الفساد وأنواعه وأسبابه وآثاره وكيفية مجابهة الفساد ودور الأجهزة الرقابية في مجابهة الفساد داخل الدولة
		1.C1.4.3	يعرف القضايا المجتمعية وتشمل المواطنة والعولمة والقضية السكانية والمرأة وكيفية تمكينها في المجتمع المصري وثقافة التسامح وقبول الآخر

4.Teaching and Learning Methods

- Lectures (data show, board)
- Discussion
- Self learning Activity

Course Schedule

	Scientific content of the course		Expected number of the Learning Hours
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Week	(Course Topics)	Total Weekly Hours	Theoretical teaching (lectures/ discussion groups/)	Training (Practical/ Clinical/)	Self-learning (Tasks/ Assignments/ Projects/ ...)	Other (to be determined)
1	الفساد و مواجهة الفساد - أنواع الفساد	1	1	-	-	-
2	الفساد و مواجهة الفساد - آثار الفساد	1	1	-	-	-
3	الفساد و مواجهة الفساد - مكافحة الفساد	1	1	-	-	-
4	حقوق الانسان - مفهوم حقوق الانسان - مصادر حقوق الانسان	1	1	-	-	-
5	حقوق الانسان - حقوق الانسان الفردية - الحقوق الجماعية للشعوب	1	1	-	-	-
6	- حقوق الانسان - واجبات الأفراد و التزاماتهم فى المجتمع	1	1	-	-	-
7	Mid-term Exam					
8	قيم المواطنة - مفهوم المواطنة - أهمية قيم المواطنة	1	1	-	-	-
9	العولمة - مفهوم العولمة - ايجابيات و سلبيات العولمة	1	1	-	-	-

10	العنف ضد المرأة و كيفية تمكينها - مفهوم العنف ضد المرأة - انواع العنف ضد المرأة	1	1	-	-	-
11	العنف ضد المرأة و كيفية تمكينها - تمكين المرأة في المجتمع المصري - نشاط	1	1	-	-	-
12	القضية السكانية - التداعيات السلبية للزيادة السكانية - مصر والقضية السكانية	1	1	-	-	-
13	ثقافة التسامح و قبول الآخر - دور الأنشطة الجامعية فى تحقيق التسامح و قبول الآخر	1	1	-	-	-
14	المراجعة النهائية والمناقشة	1	1	-	-	-
15	Final written exam					

5-Methods of students' assessment

No.	Assessment Methods	Assessment Timing (Week Number)	Marks/ Scores	Percentage of total course Marks
1	Mid-term Exam	Week 7	15	15%
3	Final Written Exam	Week 15	75	75%
4	Practical Exam	-	-	0%
5	Final Oral Exam	-	-	-%
6	Self-learning Activity	Week 11	10	5%

7	Assignment (Formative assessment)	-	-	-
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6-Learning Resources and Supportive Facilities *

Learning resources (books, scientific references, etc.) *	The main (essential) reference for the course	القانون الدولي الإنساني
	Other References	مجلات حقوق الإنسان
	Electronic Sources	EKB
	Learning Platforms (Links must be added) <u>Electronic platform of Faculty of Pharmacy- Zagaig University for students</u>	https://shorturl.at/sar8D
Supportive facilities & equipment for teaching and learning *	Devices/Instruments	Computer, board
	Supplies	-
	Electronic Programs	-
	Skill Labs/ Simulators	-
	Virtual Labs	-
	Other (to be mentioned)	-

Name and Signature
Course Coordinator

Prof. Dr. Mohamed Baraka

Name and Signature
Program Coordinator

Assist.Prof.Dr. Yassmine
Sharaf

COURSE SPECIFICATION
Bachelor of Pharmacy
(Pharm D - Clinical Pharmacy)
English Language-1
UR 102
First level –Semester 1
2025-2026

(2025-2026)

1-Basic Information

Course Title (according to the bylaw)	English Language I			
Course Code (according to the bylaw)	UR 102			
Department/s participating in delivery of the course	English Language Department/Faculty of Education			
Number of credit hours/points of the course (according to the bylaw)	Theoretical	Practical	Other (specify)	Total
	1 hr/week	-	-	1 hr/week
Course Type	University Requirements			
Academic level at which the course is taught	Level 1- semester 1			
Academic Program	Bachelor of Pharmacy (Pharm D-Clinical Pharmacy)			
Faculty/Institute	Faculty of Pharmacy			
University/Academy	Zagazig university			
Name of Course Coordinator	Dr. Ahmed Abdel Salam Edries			
Course Specification Approval Date	25/8/2025			
Course Specification Approval (Attach the decision/minutes of the department /committee/council)	Council of quality assurance			

2-Course Overview (Brief summary of scientific content)

On completion of the course, students will be able to recognize the fundamental knowledge of the English language in the following areas: grammar, reading, writing, listening, and speaking.

3-Course Learning Outcomes CLOs

Matrix of course learning outcomes CLOs with program outcomes POs (NARS/ARS)

Program Outcomes (NARS/ARS) (according to the matrix in the program specs)		Course Learning Outcomes Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
1-1-1-	Demonstrate understanding of knowledge of pharmaceutical, biomedical, social, behavioral, administrative, and clinical sciences.	1.C1.1.1	Define general terms and use vocabulary items related to everyday life in meaningful sentences
		1.C1.1.2	Outline the structures of English language correctly
		1.C1.1.3	Recognize the appropriate uses of Affixes, antonyms and synonyms and distinguish the different meanings of homonymic words
		1.C1.1.4	Enhance understanding and practical use of English in medical and general contexts
		1.C1.1.5	Highlight common grammatical, lexical, and pronunciation mistakes and correct them accurately

Program Outcomes (NARS/ARS) (according to the matrix in the program specs)		Course Learning Outcomes Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
4-2-1	Demonstrate effective communication skills verbally, non-verbally, and in writing with professional health care team, patients, and communities.	4.C2.1.1	Develop oral and written general English language skills necessary to communicate in basic social and professional interactions.
		4.C2.1.2	Discuss scientific topics accurately and fluently
		4.C2.1.3	Practice standard medical abbreviations and symbols used in healthcare settings, prescriptions, and medical documentation to ensure clear and professional communication
4-2-2	Use contemporary technologies and media to demonstrate effective presentation skills.	4.C2.3.1	Apply modern technology tools to collect and present information in English.

4-Teaching and Learning Methods

1. Interactive Lectures
2. Activity (Speaking, reading and writing activities)
3. Group discussion

Course Schedule

Number of the Week	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected number of the Learning Hours			
			Theoretical teaching (lectures/discussion groups/)	Training (Practical/Clinical/)	Self-learning (Tasks/Assignments/Projects/ ...)*	Other (to be determined)
1	Unit 1: General, Scientific and Medical English • Oral Communication Activities; Reading activities	1	1	-	-	-
2	Unit 1: General, Scientific and Medical English • Grammar: Present Simple; Present Continuous & Writing Activities	1	1	-	-	-
3	Unit 2: Plants • Oral Communication Activities; Reading activities	1	1	-	-	-
4	Unit 2: Plants • Grammar: Present Perfect Present Perfect Continuous & Writing Activities	1	1	-	-	-
5	Unit 3: Over-The-Counter (OTC) Medicine • Oral Communication Activities; Reading activities	1	1	-	-	-
6	Unit 3: Over-The-Counter (OTC) Medicine • Grammar: Past Simple Past Continuous & Writing Activities	1	1	-	-	-
7	Midterm exam					

8	Unit 4: Social Media in Pharmaceutical Marketing Oral Communication Activities & Reading activities	1	1	-	-	-
9	Unit 4: Social Media in Pharmaceutical Marketing Grammar: Past Perfect Past Perfect Continuous & Writing Activities	1	1	-	-	-
10	Unit 5: RISKS of Synthetic Drugs Oral Communication Activities; Reading activities (self learning-Activity)	1	1	-	-	-
11	Unit 5: RISKS of Synthetic Drugs Grammar: Future Simple Future Continuous & Writing Activities	1	1	-	-	-
12	Unit 6: Pharmaceutical Terminology (1) Oral Communication Activities; Reading activities	1	1	-	-	-
13	Unit 6: Pharmaceutical Terminology (1) Grammar: Future Perfect Future Perfect Continuous & Writing Activities	1	1	-	-	-
14	Unit 7: Pharmaceutical Abbreviations (1) - Oral Communication Activities; Reading activities - Grammar: Interrogative & Punctuation; Writing Activities	1	1	-	-	-

15	Final written exam
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* Activities of this course take place along the semester in the form of speaking, reading and writing activities.

5-Methods of students' assessment

No.	Assessment Methods *	Assessment Timing (Week Number)	Marks/ Scores	Percentage of total course Marks
1	Exam 1 written (Mid-term Exam)	Week 7	15	15%
2	Exam 2 (Semester work)	-	-	-
3	Final Written Exam	Week 15	75	75%
4	Final Practical/Clinical/... Exam	-	-	-
5	Final Oral Exam	-	-	-
6	Project (self learning-Activity)	Week 10	-	10%
7	Assignment	-	-	-
8	Other (Mention)	-	-	-

* The methods mentioned are examples, the organization may add and/or delete

6-Learning Resources and Supportive Facilities *

Learning resources (books, scientific references, etc.) *	The main (essential) reference for the course (must be written in full according to the scientific documentation method)	Student book (English for Pharmacy) approved by English Language department 2025-2026
	Other References	- O'Dell, F., & McCarthy, M. (2017). English Collocations in Use (2nd ed.). Cambridge University Press. - Roth, E. H., & Aberson, T. (2006). Compelling Conversations: Questions and quotations on timeless topics (2nd ed.). Chimayo Press.

		• Talalakina, E., Brown, T., Bown, J., & Eggington, W. (2014). <i>Mastering English through Global Debate</i>. Georgetown University Press. • Swick, E. (2009). <i>Writing Better English for ESL Learners</i> (2nd ed.). McGraw-Hill Education • Lele, C. (2018). <i>The Vocabulary Builder Workbook: Simple lessons and activities to teach yourself over 1,400 must-know words</i>. Zephyros Press. • Straus, J., Kaufman, L., & Stern, T. (2014). <i>The Blue Book of Grammar and Punctuation</i> (11th ed.). Wiley. • Carter, K., & Carter, T. (2015). <i>Cambridge IGCSE® Core English as a Second Language</i>. Cambridge University Press. • Barchers, S. I. (2013). <i>180 Days of Reading</i> (1st ed.). Shell Education.
	Electronic Sources (Links must be added)	The English Journal http://www.ncte.org/journals/ej TESOL Quarterly http://www.tesol.org/read-and-publish/journals/tesol-quarterly ESL Journal http://www.esljournal.org/ ESP journal http://www.esp-world.info/ International Dental Journal http://www.fdiworldddental.org/resources/journals/international-dental-journal ESL Journal http://www.esljournal.org/ ESP journal http://www.esp-world.info/ International Dental Journal http://www.fdiworldddental.org/resources/journals/international-dental-journal
	Learning Platforms (Links must be added)	

	Other (to be mentioned)	_____
Supportive facilities & equipment for teaching and learning *	Devices/Instruments	- whiteboard - Overhead projectors - Data show
	Supplies	_____
	Electronic Programs	_____
	Skill Labs/ Simulators	_____
	Virtual Labs	_____
	Other (to be mentioned)	_____

*** The list mentioned is an example, the institution may add and/or delete depending on the nature of the course**

**Name and Signature
Course Coordinator**

Dr. Ahmed Abdel Salam Edries

**Name and Signature
Program coordinator**

Prof. Dr. Yassmine Sharaf



وحدة ضمان الجودة



Semester 2

COURSE SPECIFICATION

Bachelor of Pharmacy

**(Pharm D - Clinical
Pharmacy)**

Pharmaceutical Analytical

chemistry II

PA 202

First level –Semester 2

2025-2026

Course Specification

(2025-2026)

1. Basic Information

Course Title (according to the bylaw)	Pharmaceutical Analytical Chemistry II			
Course Code (according to the bylaw)	PA 202			
Department/s participating in delivery of the course	Analytical chemistry department			
Number of credit hours/points of the course (according to the bylaw)	Theoretical	Practical	Other (specify)	Total
	2 hrs/week	1 hrs/week	-	3 hrs/week
Course Type	Faculty Requirements			
Academic level at which the course is taught	Level 1- semester 2			
Academic Program	Bachelor of Pharmacy- Pharm D (Clinical pharmacy)			
Faculty/Institute	Faculty of pharmacy			
University/Academy	Zagazig university			
Name of Course Coordinator	Ass. Prof. Hawa Khalil			
Course Specification Approval Date	18/8/2025			
Course Specification Approval (Attach the decision/minutes of the department /committee/council)	Department Council			

2. Course Overview (Brief summary of scientific content)

On completion of the course, students will be able to illustrate the principles and the application of oxidation-reduction reactions, potentiometry, conductometry, polarography and gravimetry. Also, students will study the applications of the studied quantitative methods for determination of different pharmaceutical compounds.

3. Course Learning Outcomes CLOs

Matrix of course learning outcomes CLOs with program outcomes POs (NARS/ARS)

Program Outcomes (NARS/ARS) (according to the matrix in the program specs)		Course Learning Outcomes Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
1.1.1	Demonstrate understanding of knowledge of pharmaceutical, biomedical, social, behavioral, administrative, and clinical sciences.	1.C1.1.1.	Describe principles of redox reactions, potentiometry, conductometry, polarography and gravimetry.
1.1.3	Integrate knowledge from fundamental sciences to handle, identify, extract, design, prepare, analyze, and assure quality of synthetic/ natural pharmaceutical materials/products.	1.C1.9.1.	Illustrate the use of these techniques in pharmaceutical assay.
2.2.1	Isolate, design, identify, synthesize, purify, analyze, and standardize synthetic/ natural pharmaceutical materials.	2.C2.1.1.	Apply quantitative analysis of different analytes.
2.3.1	Handle, identify, and dispose biologicals, synthetic/natural materials, biotechnology-based and radio-labeled products, and other materials/products used in pharmaceutical field.	2.C3.1.1	Handle and dispose chemicals safely.
4.1.2	Retrieve and critically analyze information, identify, and solve problems, and work autonomously and effectively in a team.	4.C1.4.1.	Retrieve information from different sources.
		4.C1.5.1.	Develop problem solving skills.

4. Teaching and Learning Methods

1. Lectures (data show, board)
2. Practical sessions
3. Problem solving (Practical)
4. Self- learning (Activity)
5. Blended- learning

5.Course Schedule

Number of the Week	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected number of the Learning Hours			
			Theoretical teaching (lectures/discussion groups/)	Training (Practical/Clinical/)	Self-learning (Tasks/ Assignments / Projects/ ...)	Other (to be determined)
1	Lecture -Introduction to oxidation-reduction reactions (definition, calculating oxidation number-balancing redox equation)	2	2	-	-	-
	Practical session - Safety guidelines Permanganometric determination of oxalic acid. Direct and indirect determination of lead acetate.	2	-	1	-	-
2	Lecture Half-cell potential (type-calculation)	2	2	-	-	-
	Practical session Permanganometric determination of ferrocyanide and sodium nitrite	2	-	1	-	-
3	Lecture Factors affecting system potential	2	2	-	-	-
	Practical session Using potassium dichromate for direct determination of ferrous and indirect determination of permanganate	2	-	1	-	-

4	Lecture -Titration curves. -Detection of end-point in redox titration Formative assessment (quiz1)	2	2	-	-	-
	Practical session Iodimetric determination of Thiosulphate and glucose	2	-	1	-	-
5	Lecture - Application of redox reactions	2	2	-	-	-
	Practical session Iodometric determination of glycerol and ferricyanide.	2	-	1	-	-
6	Lecture Revision and discussion on Redox	2	2	-	-	-
	Practical session Problem solving on Potentiometry	2	-	1	-	-
7	Midterm					
8	Lecture Electrochemical method - Potentiometry: Reference electrodes, NHE. SCE , silver/silver chloride	2	2	-	-	-
	Practical session Problem solving on Conductometry	2	-	1	-	-
9	Lecture Indicator electrodes Application of potentiometry	2	2	-	-	-
	Practical session - Determination of Ni^{2+} (gravimetry)	2	-	1	-	-
10	Lecture - Conductometry: Introduction and instruments, Application of conductometry Formative assessment (quiz 2)	2	2	-	-	-
	Practical session - Orientation on Activity - Revision on practical sessions	2	-	1	-*	-
11	Lecture - Polarography and its principles	2	2	-	-	-

	Practical exam	2	-	1	-	-
12	Lecture Application of polarography	2	2	-	-	-
	Practical exam	2	-	1	-	-
13	Lecture - Theory of gravimetry, contamination and purification of precipitate. -Applications of gravimetric analysis	2	2	-	-	-
	Practical session Discussion and Assessment of activity	2	-	1	-*	-
14	Lecture General discussion and revision	2	2	-	-	-
	Practical session Discussion and Assessment of activity	2	-	1	-*	-
15	Final written exam					

* As part of a self-learning activity in pharmaceutical analytical chemistry II course, a part of practical session in week 10 was specified for the explanation of activity guidelines, rules and assessment rubric. Also, practical sessions in weeks 13 and 14 were facilitated for students to present their reports on the various activity self-learning topics according to the announced student distribution on topics. Supervisors engaged students in a discussion to evaluate the key skills acquired, findings, and conclusions they reached. The activity was formally evaluated against a set of established criteria to ensure a rigorous and consistent assessment.

6. Methods of students' assessment

No.	Assessment Methods *	Assessment Timing (Week Number)	Marks/ Scores	Percentage of total course Marks
1	Exam 1 written (Mid-term Exam)	Week 7	10	10%
2	Exam 2 (Semester work)	-	-	-
3	Final Written Exam	Week 15	50	50%
4	Final Practical /Clinical/... Exam	Weeks 11 and 12	25	25%
5	Final Oral Exam	Week 15	10	10%
6	Project (Self-learning Activity)	Weeks 13,14	5	5%
7	Assignment (Formative assessment)	Weeks 4,10	-	-
8	Other (Mention)	-	-	-

7. Learning Resources and Supportive Facilities *

Learning resources (books, scientific references, etc.) *	The main (essential) reference for the course (must be written in full according to the scientific documentation method)	Student book and practical notes of "Pharmaceutical analytical chemistry II" approved by the analytical chemistry department 2025-2026.
	Other References	1. J. Mendham, et al., Vogel's Textbook of Quantitative Chemical Analysis, 6th Edition, Addison Wesley Publishing Co., 2000 2. D. Chowrasia, N. Sharma, Analytical Chemistry. A Qualitative & Quantitative Approach (General Techniques) Knoc education, 2015. 3. Daniel C. Harris and Charles A. Lucy, <i>Quantitative Chemical Analysis</i>, 10th Edition, 2020.
	Electronic Sources (Links must be added)	https://www.ekb.eg/ http://chemwiki.ucdavis.edu/ www.Pubmed.Com and

		www.sciencedirect.com
	Learning Platforms (Links must be added) <u>Electronic platform of Faculty of Pharmacy- Zagaig University for students</u>	https://shorturl.at/sar8D
	Other (to be mentioned)	-
Supportive facilities & equipment for teaching and learning *	Devices/Instruments	Computer, board, Conductometer
	Supplies	Chemicals and Glassware
	Electronic Programs	1. Microsoft office 2. Microsoft teams
	Skill Labs/ Simulators	-
	Virtual Labs	-
	Other (to be mentioned)	-

Name and Signature
Course Coordinator

Ass. Prof . Hawa Khalil

Name and Signature
Head of Department

Prof.Dr. Amal Al-Gendi

**COURSE
SPECIFICATION
Bachelor of Pharmacy
(Pharm D - Clinical
Pharmacy)
Pharmaceutical Organic
Chemistry II
PR 202
First level –Semester 2
2025-2026**

Course Specification

2025-2026

1.Basic Information

Course Title (according to the bylaw)	Pharmaceutical Organic Chemistry II			
Course Code (according to the bylaw)	PR 202			
Department/s participating in delivery of the course	Pharmaceutical Organic Chemistry Department			
Number of credit hours/points of the course (according to the bylaw)	Theoretical	Practical	Other (specify)	Total
	2 hrs/week	1 hrs/week	-	3 hrs/week
Course Type	Faculty Requirements			
Academic level at which the course is taught	Level 1- semester 2			
Academic Program	Bachelor of Pharmacy (Pharm D -Clinical Pharmacy)			
Faculty/Institute	Faculty of pharmacy			
University/Academy	Zagazig university			
Name of Course Coordinator	Prof. Dr. Hanan Abdelrazik			
Course Specification Approval Date	18/8/2025			
Course Specification Approval (Attach the decision/minutes of the department /committee/council)	Department Council			

2.Course Overview (Brief summary of scientific content)

On completion of the course, the student will be able to explain the aromatic, anti-aromatic, and not aromatic compounds, the chemistry of aromatic compounds as benzene, and electrophilic substitution ex. nitration, sulphonation, halogenations & Friedel-Craft alkylation, and acylation. Also, nomenclature, synthesis, and chemical reaction of arenes, sulphonic acid, nitro compounds, phenol, ether, aryl halides, aromatic amines, and diazonium salts. Identification of enantiomer, diastereomer, and optical activity

3.Course Learning Outcomes CLOs

Matrix of course learning outcomes CLOs with program outcomes POs (NARS/ARS)

Program Outcomes (NARS/ARS) (according to the matrix in the program specs)		Course Learning Outcomes Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
1.1.1	Demonstrate understanding of knowledge of pharmaceutical, biomedical, social, behavioral, administrative, and clinical sciences.	1.C1.1.1	Illustrate the chemical character of aromatic compounds
		1.C1.1.2	Explain the mechanism of different chemical reactions.
		1.C1.1.3	Define the systematic nomenclature of different aromatic organic compounds
		1.C1.1.4	Identify the type of isomers, chirality, elements of symmetry, enantiomer, diastereomer, and optical activity

Program Outcomes (NARS/ARS) (according to the matrix in the program specs)		Course Learning Outcomes Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
1.1.3	Integrate knowledge from fundamental sciences to handle, identify, extract, design, prepare, analyze, and assure quality of synthetic/ natural pharmaceutical materials/products.	1.C1.9.1.	Differentiate between physical and chemical characters of different functional groups.
2.2.1	Isolate, design, identify, synthesize, purify, analyze, and standardize synthetic/ natural pharmaceutical materials.	2.C2.1.1.	Perform laboratory experiments concerning the synthesis and identification of chemical compounds
2-2-3	Recognize the principles of various tools and instruments and select the proper techniques for synthesis and analysis of different materials and the production of pharmaceuticals.	2.C2.8.1	Suggest appropriate methods of synthesis and identification of aryl halides, phenols, aromatic aldehydes, ketones, carboxylic acids, and pharmaceutically related compounds
2-3-1	Handle, identify, and dispose biologicals, synthetic/natural materials, biotechnology-based and radio-labelled products, and other materials/products used in the pharmaceutical field.	2.C3.1.1	Handle basic laboratory equipment and chemicals effectively and safely.
4-1-1	Demonstrate responsibility for team performance and peer evaluation of other team members, and express time management skills.	4.C.1.3.1	Demonstrate time management skills.

Program Outcomes (NARS/ARS) (according to the matrix in the program specs)		Course Learning Outcomes Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
4-1-2	Retrieve and critically analyse information, identify and solve problems, and work autonomously and effectively in a team.	4.C.1.5.1	Demonstrate problem-solving as a member of a team.

4. Teaching and Learning Methods

1. Lectures (data show, board)
2. Practical sessions
3. Problem solving (Practical)
4. Self- learning (Activity)
5. Blended- learning (Activity)

Course Schedule

Number of the Week	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected number of the Learning Hours			
			Theoretical teaching (lectures/discussion groups/)	Training (Practical/Clinical/)	Self-learning (Tasks/Assignments / Projects/ ...)	Other (to be determined)
1	Lecture - Aromaticity & aromatic compounds	2	2	-	-	-
	Practical session - Laboratory safety	2	-	1	-	-
2	Lecture Benzene & electrophilic substitution	2	2	-	-	-
	Practical session Identification of benzene	2	-	1	-	-
3	Lecture Electrophilic substitution	2	2	-	-	-
	Practical session Preparation of nitrobenzene	2	-	1	-	-
4	Lecture - Aromatic aliphatic hydrocarbon(arenes) Formative assessment (quiz1)	2	2	-	-	-
	Practical session Identification of benzoic acid	2	-	1	-	-
5	Lecture - Nitro compounds	2	2	-	-	-

	Practical session Preparation of m-nitrobenzoic acid	2	-	1	-	-
6	Lecture Aryl halides & aromatic nucleophilic substitution	2	2	-	-	-
	Practical session Identification of phenol	2	-	1	-	-
7	Midterm exam					
8	Lecture Aromatic hydroxyl compounds, alcohol & phenols	2	2	-	-	-
	Practical session Preparation of tribromophenol	2	-	1	-	-
9	Lecture Aromatic sulphonic acid and derivatives Aromatic amines & diazonium salts Polynuclear aromatic hydrocarbons	2	2	-	-	-
	Practical session Identification of aniline	2	-	1	-	-
10	Lecture - Stereochemistry *Definition, aim of study, classification *Structural isomerism *Rotational isomerism Formative assessment (quiz 2)	2	2	-	-	-
	Practical session	2	-	1	-*	-

	- Preparation of Schiff base					
11	Lecture - Geometrical isomerism -Optical isomerism	2	2	-	-	-
	Practical Scheme identification revision	2	-	1	-	-
12	Lecture R and S, Enantiomers, Diastereomers Formative assessment (quiz 3)	2	2	-	-	-
	Practical exam	2	-	1	-	-
13	Lecture - D, L and Erythro, threo Nomenclature	2	2	-	-	-
	Practical session Discussion and Assessment of activity	2	-	1	_*	-
14	Lecture revision	2	2	-	-	-
	Practical session Discussion and Assessment of activity	2	-	1	_*	-
15	Final written exam					

* As part of a self-learning activity in pharmaceutical organic chemistry II course, a part of practical session in week 10 was specified for the explanation of activity guidelines, rules and assessment rubric. Also, practical sessions in weeks 13 and 14 were facilitated for students to present their reports on the various activity self-learning topics according to the announced student distribution on topics. Supervisors engaged students in a discussion to evaluate the key skills acquired, findings, and conclusions they reached. The activity was formally evaluated against a set of established criteria to ensure a rigorous and consistent assessment.

5-Methods of students' assessment

No.	Assessment Methods *	Assessment Timing (Week Number)	Marks/ Scores	Percentage of total course Marks
1	Exam 1 written (<u>Mid-term Exam</u>)	Week 7	10	10%
2	Exam 2 (Semester work)	-	-	-
3	Final Written Exam	Week 15	50	50%
4	Final <u>Practical</u> /Clinical/... Exam	Week 12	25	25%
5	Final Oral Exam	Week 15	10	10%
6	Project (<u>Self-learning Activity</u>)	Weeks 13,14	5	5%
7	Assignment (<u>Formative assessment</u>)	Weeks 4,10,12	-	-
8	Other (Mention)	-	-	-

6-Learning Resources and Supportive Facilities *

Learning resources (books, scientific references, etc.) *	The main (essential) reference for the course (must be written in full according to the scientific documentation method)	Student book and practical notes of “Pharmaceutical organic chemistry II” approved by the Pharmaceutical Organic Chemistry department 2025-2026
	Other References	1. Essential Books: Organic Chemistry; Solomons T.W.G. & Fryhle C.B.; John Wiley and Sons Inc., USA (2010). 2. 3-Organic Chemistry, Second Edition, Bhupinder Mehta and Manju Mehta (2015). 3. 4-Organic synthesis. Chauhan jaidev, Organic spectroscopy : delhi (2018).
	Electronic Sources (Links must be added)	https://www.ekb.eg/ http://chemwiki.ucdavis.edu/ www.Pubmed.Com and www.sciencedirect.com
	Learning Platforms (Links must be added) <u>Electronic platform of Faculty of Pharmacy- Zagaig University for students</u>	https://shorturl.at/sar8D
	Other (to be mentioned)	-

Supportive facilities & equipment for teaching and learning *	Devices/Instruments	Computer and board
	Supplies	Chemicals and Glassware
	Electronic Programs	3. Microsoft office 4. Microsoft teams
	Skill Labs/ Simulators	-
	Virtual Labs	-
	Other (to be mentioned)	-

Name and Signature

Course Coordinator

Prof. Dr. Hanan Abdelrazik Abdel-

Fattah

Name and Signature

Head of Department

Prof. Dr. Amany Mohamed Mohamed

El-mahmody

COURSE SPECIFICATION

Bachelor of Pharmacy

**(Pharm D - Clinical
Pharmacy)**

Anatomy & Histology

MD 202

First level –Semester 2

2025-2026

Course Specification

1.Basic Information

Course Title (according to the bylaw)	Anatomy & Histology			
Course Code (according to the bylaw)	MD 202			
Department/s participating in delivery of the course	- Faculty of Medicine, Human Anatomy and embryology department - Faculty of Medicine, Medical histology & cell biology department - Faculty of pharmacy, Zagazig university (Supervision)			
Number of credit hours/points of the course (according to the bylaw)	Theoretical	Practical	Other (specify)	Total
	2 hrs/week	1 hrs/week	-	3 hrs/week
Course Type	Faculty Requirements			
Academic level at which the course is taught	Level 1 – Semester 2			
Academic Program	Bachelor of pharmacy – Pharm D (Clinical Pharmacy)			
Faculty/Institute	Faculty of pharmacy			
University/Academy	Zagazig university			

Name of Course Coordinator	Histology Prof. Khaled El Mesalamy	Anatomy Prof. Mohey ElSayed Hulial
	25-8- 2025	
Course Specification Approval Date	Council of quality assurance	
Course Specification Approval (Attach the decision/minutes of the department /committee/council)		

2.Course Overview (Brief summary of scientific content)

- On completion of the course, students will be able to outline the anatomy of major body systems and its organs as well as apply the anatomical information in identification of different diseases. Also, students will be aware of the description of the different types of human body cells and their functions. Also, the student should be able to identify and describe the structure of normal human tissues, and organs and to correlate their structure to their function

3.Course Learning Outcomes CLOs

- Matrix of course learning outcomes CLOs with program outcomes POs(NARS/ARS)

Program Outcomes(NARS/ARS) (according to the matrix in the program specs)		Course Learning Outcomes Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
1.1.1	Demonstrate understanding of knowledge of pharmaceutical, biomedical, social, behavioral, administrative, and clinical sciences.	1.C1.1.1	Recognize the principles of anatomy, including anatomical terms, anatomical positions and anatomical movements and Outline the methods used to study the histological structure of the human body, types of microscopes and the principles of staining
		1.C1.1.2	Describe surface anatomy of body organs and Distinguish the general characteristics and types of epithelial tissue and connective tissue
		1.C1.1.3	Use the anatomical terms in describing the anatomy of body structure and Identify the different types of cell organelles, cell inclusions, main components of blood and their functions

Program Outcomes(NARS/ARS) (according to the matrix in the program specs)		Course Learning Outcomes Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
		1.C1.1.4	Describe the general characteristics and types of bones, cartilage, muscles, neuron, skin, lymphatic organs as well as arteries, veins and blood capillaries
3.1.1	Apply the principles of body function and basis of genomics in health and disease states to manage different diseases.	3.C1.1.1	Interpret the radiological pictures of body structures and Identify different tissues and organs on histological slides by using the ordinary light microscope
		3.C1.1.2	Apply the anatomical information in identification of different diseases, including joints and nerve injuries as well as occlusion of blood vessels and and Apply different types of stains specific for different types of cells and tissues.
3.1.3	Monitor and control microbial growth and carry out laboratory tests for identification of infections/ diseases.	3.C1.4.1	Identify the ultra structural details of cells through electron microscope pictures
4.1.1	Demonstrate responsibility for team performance and peer evaluation of other team members, and express time management skills	4.C1.1.1	Develop team working skills
4.2.2	Use contemporary technologies and media to demonstrate effective presentation skills.	4.C2.3.1	Write and present reports

4. Teaching and Learning Methods

1. Lectures (data show, board)
2. Demonstrations
3. Interactive Learning

4. Activity (Presentation)

5. Laboratory training

5. Course schedule :

1	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected number of the Learning Hours							
			Theoretical teaching(lecture s/discussion groups/)		Training (<u>Practical</u> /Clinic al/)		Self-learning (Tasks/ Assignments/ Projects/ ...)		Other (to be determined)	
			histology	anatomy	histology	anatomy	histology	anatomy	histology	anatomy
1	Anatomy Lecture Introduction (anatomical terms- anatomical positions- anatomical Movements) Histology Lecture Microtechniques and microscopy Introduction to cytology	2	1	1						
	Practical Sessions Anatomy Anatomical positions and anatomical Movements Histology Microtechniques and Microscopical cytology	2			0.5	0.5				
2	Anatomy Lecture Joints and muscular system Histology Lecture Cytology	2	1	1						
	Practical sessions Anatomy Joints and muscular system Histology Cytology	2			0.5	0.5				
3	Anatomy Lecture Cardiovascular system Histology Lecture Epithelium	2	1	1						
	Practical Sessions Anatomy Cardiovascular system Histology Epithelium	2			0.5	0.5				
4	Anatomy Lecture Respiratory system	2	1	1						

	Histology Lecture Connective tissue									
	Practical Sessions Anatomy Respiratory system Histology Connective tissue	2			0.5	0.5				
5	Anatomy Lecture Lymphatic System Histology Lecture Blood	2	1	1						
	Practical Sessions Anatomy Lymphatic System Histology Blood	2			0.5	0.5				
6	Anatomy Lecture Digestive system Histology Lecture Bone	2	1	1						
	Practical Sessions Anatomy Digestive system Histology Bone	2			0.5	0.5				
7	Midterm Exam									
8	Anatomy Lecture Urinary system Histology lecture Vascular	2	1	1						
	Practical Sessions Anatomy Urinary system Histology Vascular	2			0.5	0.5				
9	Anatomy Lecture Male genital system Histology Lecture Cartilage	2	1	1						
	Practical Sessions Anatomy Male genital system Histology Cartilage	2			0.5	0.5				
10	Anatomy Lecture Female genital system Histology Lecture	2	1	1						

	Muscular T- assignment									
	Practical Sessions Anatomy Female genital system Histology Muscular T- assignment	2			0.5	0.5				
11	Anatomy Lecture Endocrine glands Histology Lectures Nervous T- assignment	2	1	1						
	Practical Sessions Anatomy Endocrine glands Histology Nervous T- assignment	2			0.5	0.5				
12	Anatomy lecture Nervous system Histology lecture Lymph	2	1	1						
	Practical Sessions Anatomy Activity (Presentation) Histology Lymph	2			0.5	0.5				
13	Anatomy Lecture Special senses and skin Histology Lecture Skin	2	1	1						
	Practical Sessions Anatomy Activiy (Presentation) Histology Skin	2			0.5	0.5				
14	Anatomy Lecture Skeletal system and vertebral column Histology Lecture Revision & Assignments delivery	2	1	1						
	Practical Sessions Anatomy Final Practical exam Histology Final Practical exam	2			0.5	0.5				
15	Final written exam									

6. Methods of students' assessment

No.	Assessment Methods * (Histology)	Assessment Timing (Week Number)	Marks/ Scores	Percentage of total course Marks
1	Exam 1 written (Mid-term Exam)	Week 7	10	10 %
2	Exam 2 (Semester work)	-	-	-
3	Final Written Exam	Week 15	60	60 %
4	Final Practical /Clinical/... Exam	Week 14	25	25%
5	Final Oral Exam	-	-	-
6	Project (Presentation and Assignments)	Week 12,13 Anatomy Presentation	5	5 %
		Week 10,11 Histology Assignment		
7	Other (Mention)	-	-	-

7- Learning Resources and Supportive Facilities*

Learning resources (books, scientific references, etc.) *	The main (essential) reference for the course (must be written in full according to the scientific documentation method)	- Student book of Histology approved by Histology Department (2020)
		- Student book of Anatomy approved by Anatomy Department (2020)

	Other References	- Histology :Ross M.H.& Pawlina W.: Histology: A Text and Atlas (Histology (Ross)) (2010). - Leslie Gartner, Textbook of Histology, Elsevier, 4th edition, 2016.
		- Anatomy Kindersley D.& Medi-Mation: The Concise Human Body Book: An Illustrated Guide to Its Structure, Function and Disorders (2009).
	Electronic Sources (Links must be added)	-
	Learning Platforms (Links must be added) <u>Electronic platform of Faculty of Pharmacy- Zagaig University for students</u>	-
	Other (to be mentioned)	-

Supportive facilities & equipment for teaching and learning *	Devices/Instruments	Black (white) board, Data show, laboratory microscopes, slides, stains
	Supplies	-
	Electronic Programs	5. Microsoft office
	Skill Labs/ Simulators	-
	Virtual Labs	-
	Other (to be mentioned)	-

Name and Signature
Course Coordinator of Histology
Prof. Khaled El Mesalamy
Course Coordinator of Anatomy
Prof. Mohey ElSayed Hulial

Name and Signature
Program Coordinator
Assist.Prof.Yassmine Sharaf

COURSE SPECIFICATION

Bachelor of Pharmacy

**(Pharm D - Clinical
Pharmacy)**

Physical pharmacy

PT202

First level –Semester 2

2025-2026

Course Specification

(2025-2026)

1. Basic Information

Course Title (according to the bylaw)	Physical pharmacy			
Course Code (according to the bylaw)	PT202			
Department/s participating in delivery of the course	Pharmaceutics department			
Number of credit hours/points of the course (according to the bylaw)	Theoretical	Practical	Other (specify)	Total
	2 hrs/week	1 hr/week	-	3 hrs/week
Course Type	Faculty Requirements			
Academic level at which the course is taught	Level 1- semester 2			
Academic Program	Bachelor of Pharmacy (Pharm D-Clinical Pharmacy)			
Faculty/Institute	Faculty of pharmacy			
University/Academy	Zagazig university			
Name of Course Coordinator	Prof.Dr. Nagia Ahmed El-Megrab			
Course Specification Approval Date	18/8/2025			
Course Specification Approval (Attach the decision/minutes of the department /committee/council)	Department Council			

2.Course Overview (Brief summary of scientific content)

This course provides students with knowledge of physical and chemical principles essential for the design and formulation of pharmaceutical products. Students are introduced to the fundamental concepts of states of matter, phase equilibrium, colligative properties, isotonicity, buffer, solubility, dissolution, partition coefficient, surface and interfacial phenomena, surface active agents, adsorption and its application in pharmacy and rheological behavior of dosage form. Drug reaction rate, stability and stabilization of drugs.

3.Course Learning Outcomes CLOs

Matrix of course learning outcomes CLOs with program outcomes POs (NARS/ARS)

Program Outcomes (NARS/ARS) (according to the matrix in the program specs)		Course Learning Outcomes Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
1.1.1	Demonstrate understanding of knowledge of pharmaceutical, biomedical, social, behavioral, administrative, and clinical sciences.	1.C1.2.1	Enumerate types of (flow, surfactants and adsorption)
		1.C1.2.2	Define buffer, isotonicity, kinetic molecular theory, solubility and colligative properties of solution, partition coefficient and dissolution
		1.C1.2.3.	Outline the state of matter, application of viscosity and surface tension in pharmacy
2.2.4	Adopt the principles of pharmaceutical calculations, biostatistical analysis,	2.C2.12.1	Measure the viscosity, surface tension of different solutions and adsorption of active agent on adsorbate as well as drug solubility

Program Outcomes (NARS/ARS) (according to the matrix in the program specs)		Course Learning Outcomes Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
	bioinformatics, pharmacokinetics, and bio-pharmaceutics and their applications in new drug delivery systems, dose modification.	2.C2.12.2	Perform different pharmaceutical calculations related to buffer, isotonicity, drug stability kinetics
4.2.2	Use contemporary technologies and media to demonstrate effective presentation skills.	4.C2.3.1	Demonstrate good information technology skills as well as presentation skills.

4. Teaching and Learning Methods

1. Lectures (data show, board)
2. Practical sessions
3. Self-learning (Activity)

Course Schedule

Number of the Week	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected number of the Learning Hours			
			Theoretical teaching (lectures/discussion groups/)	Training (Practical/Clinical/)	Self-learning (Tasks/Assignments / Projects/ ...)	Other (to be determined)
1	Lecture -Rheology (1)	2	2	-	-	-
	Practical session -Introduction to Lab safety and equipment	2	-	1	-	-
2	Lecture -(2) Rheology	2	2	-	-	-
	Practical session -Determine of viscosity of certain liquid	2	-	1	-	-
3	Lecture -Rate of chemical reaction (reaction Kinetics) Stability testing	2	2	-	-	-
	Practical session -Solve problems about reaction kinetics	2	-	1	-	-
4	Lecture -State of matter and intermolecular forces -Assignment (Formative assessment)	2	2	-	-	-
	Practical session -Introduction to surface tension and surfactants	2	-	1	-	-
5	Lecture -Phase equilibrium and phase rule	2	2	-	-	-

	Practical session -Determination of surface tension of liquids	2	-	1	-	-
6	Lecture -Surface and Interfacial Phenomena, Surfactant	2	2	-	-	-
	Practical session -Solubilization	2	-	1	-	-
7	Midterm exam					
8	Lecture -Adsorption Isotherms	2	2	-	-	-
	Practical session -Determination of percentage of adsorbed substances	2	-	1	-	-
9	Lecture -Solution and solubility	2	2	-	-	-
	Practical session -Solubility expression and determine of solubility of certain pharmaceutical agent	2	-	1	-	-
10	Lecture -Partition coefficient and dissolution -Assignment (Formative assessment)	2	2	-	-	-
	Practical session -Problems on partition coefficient	2	-	1	-	-
11	Lecture -Collegative properties of solution	2	2	-	-	-
	Practical session	2	-	1	-*	-

	-Problems on adjusting isotonicity -Activity student (presentation)					
12	Lecture -Isotonic solution	2	2	-	-	-
	Practical session -Activity student (presentation)	2	-	1	-*	-
13	Lecture -Buffer solution and buffer capacity	2	2	-	-	-
	Practical exam	2	-	1	-	-
14	Lecture -Revision	2	2	-	-	-
	Practical session -----	-	-	-	-	-
15	Final written exam					

* As part of a self-learning activity in physical pharmacy course, a part of practical session in week 10 was specified for the explanation of activity guidelines, rules and assessment rubric. Also, practical sessions in weeks 11 and 12 were facilitated for students to present their reports on the various activity self-learning topics according to the announced student distribution on topics. Supervisors engaged students in a discussion to evaluate the key skills acquired, findings, and conclusions they reached. The activity was formally evaluated against a set of established criteria to ensure a rigorous and consistent assessment.

6.Methods of students' assessment

No.	Assessment Methods *	Assessment Timing (Week Number)	Marks/ Scores	Percentage of total course Marks
1	Exam 1 written (Mid-term Exam)	Week 7	10	10%

2	Exam 2 (Semester work)	-	-	-
3	Final Written Exam	Week 15	50	50%
4	Final <u>Practical</u> /Clinical/... Exam	Week 13	25	25%
5	Final Oral Exam	Week 15	10	10%
6	Project (<u>Self-learning Activity</u>)	Weeks 11,12	5	5%
7	Assignment (<u>Formative assessment</u>)	Weeks 4,10	-	-
8	Other (Mention)	-	-	-

6.Learning Resources and Supportive Facilities *

Learning resources (books, scientific references, etc.) *	The main (essential) reference for the course (must be written in full according to the scientific documentation method)	Student book and practical notes of “Physical Pharmacy” approved by the pharmaceuticals department 2025-2026.
	Other References	1. Hofmann, Andreas, 2018. Physical Chemistry Essentials. 2. Patrick J. Sinko, 2016. Martin's Physical Pharmacy and Pharmaceutical Sciences. 3. W. Cary Mobley, Mansoor M. Amiji, Thomas J. Cook. 2014, Applied Physical Pharmacy
	Electronic Sources (Links must be added)	https://www.ekb.eg/ http://chemwiki.ucdavis.edu/ http://en.wikipedia.org/ www.Pubmed.Com www.sciencedirect.com

	Learning Platforms (Links must be added) <u>Electronic platform of Faculty of Pharmacy- Zagaig University for students</u>	https://shorturl.at/sar8D
	Other (to be mentioned)	-
Supportive facilities & equipment for teaching and learning *	Devices/Instruments	Computer, board, data show
	Supplies	Chemicals, glass ware, digital balance, water bathes, viscometer and stallagmometer.
	Electronic Programs	6. Microsoft office 7. Microsoft teams
	Skill Labs/ Simulators	-
	Virtual Labs	-
	Other (to be mentioned)	-

**Name and Signature
Course Coordinator**

**Name and Signature
Head of Department**

Prof.Dr. Nagia Ahmed El-Megrab

Prof.Dr. Sehreen Ahmed Sabry

COURSE SPECIFICATION

Bachelor of Pharmacy

(Pharm D - Clinical

Pharmacy)

Pharmacognosy I

PG 202

First level –Semester 2

2025-2026

Course Specification

(2025 - 2026)

1.Basic Information

Course Title (according to the bylaw)	Pharmacognosy I			
Course Code (according to the bylaw)	PG 202			
Department/s participating in delivery of the course	Pharmacognosy department			
Number of credit hours/points of the course (according to the bylaw)	Theoretical	Practical	Other (specify)	Total
	2 hrs/week	1 hr/week	-----	3 hrs/week
Course Type	Faculty requirements			
Academic level at which the course is taught	level 1/Semester 2			
Academic Program	Bachelor of Pharmacy- Pharm D (Clinical Pharmacy)			
Faculty/Institute	Pharmacy			
University/Academy	Zagazig			
Name of Course Coordinator	Prof. Dr\Fawkya Abbas			
Course Specification Approval Date	18/8/2025			

Course Specification Approval (Attach the decision/minutes of the department /committee/council)

Department council

2.Course Overview (Brief summary of scientific content)

On completion of the course, the student will be able to describe morphological, histological characters of medicinal flowers, barks, wood and seeds. He should identify active constituents, uses, chemical tests and adulteration of the studied drugs. He should differentiate between drugs in entire and powdered form.

3.Course Learning Outcomes CLOs

Matrix of course learning outcomes CLOs with program outcomes POs (NARS/ARS)

Program Outcomes (NARS/ARS) (according to the matrix in the program specs)		Course Learning Outcomes Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
1.1.1	Demonstrate understanding of knowledge of pharmaceutical, biomedical, social, behavioral, administrative, and clinical sciences.	1.C1.2.1	Describe morphological and histological characters of medicinal flowers, barks, woods and seeds.
		1.C1.2.2	Mention different active constituents of flowers, barks, wood and seeds.
1.1.3	Integrate knowledge from fundamental sciences to handle, identify, extract, design, prepare, analyze, and assure quality of synthetic/ natural pharmaceutical materials/products.	1.C1.9.1	Outline adulteration of different medicinal flowers, barks, woods and seeds
2.2.1	Isolate, design, identify, synthesize, purify, analyze, and standardize synthetic/ natural pharmaceutical materials.	2.C2.1.1	Handle microscope efficiently
		2.C2.1.2	Examine plant organs in entire and powdered form
		2.C2.1.3	Determine the active constituents of the studied drugs.

Program Outcomes (NARS/ARS) (according to the matrix in the program specs)		Course Learning Outcomes Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
2.3.1	Handle, identify, and dispose biologicals, synthetic/natural materials, biotechnology-based and radio-labeled products, and other materials/products used in pharmaceutical field.	2.C3.1.1	Handle and dispose chemicals, solvents, biological specimens, natural wastes and radiopharmaceuticals in an appropriate way avoiding any environmental hazards.
4.1.1	Demonstrate responsibility for team performance and peer evaluation of other team members, and express time management skills.	4.C1.1.1	Work effectively as part of a team.
		4.C1.3.1	Manage time and plan for work.
4.2.2	Use contemporary technologies and media to demonstrate effective presentation skills.	4.C2.3.1	Develop information technology skills and write and present reports.

4. Teaching and Learning Methods

1. Lectures (data show, board)
2. Practical sessions
3. Self-learning (Activity)
4. Field visit
5. Blended learning
6. Co-operative learning (Activity)
- 7.

Course Schedule

Number of the Week	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected number of the Learning Hours			
			Theoretical teaching (lectures/discussion groups/)	Training (Practical/Clinical/)	Self-learning (Tasks/ Assignments/ Projects/ ...)	Other (to be determined)
1	Lecture Overview on the course in pharmacognosy I and Introduction to medicinal flowers.	2	2	-	-	-
	Practical session Laboratory safety measures.	2	-	1	-	-
2	Lecture Study morphological and histological characters, constituents, uses, chemical tests and detection of adulteration in entire and powdered form of clove	2	2	-	-	-
	Practical session Identification of Clove in entire and powdered form.	2	-	1	-	-
3	Lecture Study morphological and histological characters, constituents, uses, chemical tests and detection of adulteration in entire and powdered form, German and Roman chamomile.	2	2	-	-	-
	Practical session Identification of Chamomile and Santonica in entire and powdered form.	2	-	1	-	-
4	Lecture Study morphological and histological characters, constituents, uses, chemical tests and detection of adulteration in entire and powdered form of Pyrethrum and Santonica.	2	2	-	-	-
	Practical session	2	-	1	-*	-

	Identification of Calendula, and Lavender in powdered form. * Activity 1					
5	Lecture Unofficial flowers.	2	2	-	-	-
	Practical session - Identification of Tilia in entire and powdered form. * Activity 2	2	-	1	-	-
6	Lecture Introduction to medicinal seeds Study morphological and histological characters, constituents, uses, chemical tests and detection of adulteration in entire and powdered form of Linseed, Cardamom and Nutmeg	2	2	-	-	-
	Practical session Identification of Linseed and Fenugreek in entire and powdered form.	2	-	1	-	-
7	Midterm exam					
8	Lecture Study morphological and histological characters, constituents, uses, chemical tests and detection of adulteration in entire and powdered form of Foenugreek, Colchicum, Strophanthus and Mustard. Study other medicinally importance seeds (unofficial seeds).	2	-	-	-	-
	Practical session Identification of Black mustard and Cardamom in entire and powdered form.	2	-	1	-	-

	Orientation on Activity 2**					
9	Lecture Introduction to medicinal barks	2	2	-	-	-
	Practical session Identification of Cinnamon in entire and powdered form.	2	-	1	-	-
10	Lecture Study morphological and histological characters, constituents, uses, chemical tests and detection of adulteration in entire and powdered form of Cinnamon and Cassia.	2	2	-	-	-
	Practical session Identification of Cassia in entire and powdered form.	2	-	1	-	-
11	Lecture Study morphological and histological characters, constituents, uses, chemical tests and detection of adulteration in entire and powdered form of Cascarilla, Canella and Quillaia.	2	2	-	-	-
	Practical session -Identification of Galls in powdered form. - Identification of Quassia wood in entire and powdered form.	2	-	1	-	-
12	Lecture Study morphological and histological characters, constituents, uses, chemical tests and detection of adulteration in entire and powdered form of	2	2	-	-	-

	Pomegranate, Cinchona, Cascara and Frangula.					
	Practical exam	2	-	1	-	-
13	Lecture Introduction to medicinal Wood					
	Study morphological and histological characters, constituents, uses, chemical tests and detection of adulteration in entire and powdered form of Quassia wood and Galls.	2	2	-	-	-
	Practical exam	2	-	1	-	-
14	Lecture Revision	2	2	-	-	-
	Activity discussion					
15	Final written exam					

5. Methods of students' assessment

No.	Assessment Methods *	Assessment Timing (Week Number)	Marks/ Scores	Percentage of total course Marks
1	Exam 1 written (midterm exam)	Week 7	10	10%
2	Exam 2 (Semester work)	-	-	-
3	Final Written Exam	Week 15	50	50%
4	Final Practical /Clinical/... Exam	Week 12, 13	25	25%
5	Final Oral Exam	Week 15	10	10%
6	Project (activity)	Week 4, 5, 14	5	5%
7	Assignment (formative assessment)		-	-
8	Other (Mention)	-	-	-

1. Learning Resources and Supportive Facilities *

Learning resources (books, scientific references, etc.) *	The main (essential) reference for the course (must be written in full according to the scientific documentation method)	Student's book approved by Pharmacognosy Department on 2025-2026.
	Other References	- TEXT BOOK OF PHARMACOGNOSY AND PHYTOCHEMISTRY- II S. K. Panda, S. Sharma, S. Manimaran, S. Kshirsaga and P.Senniappan Shashwat Publication (2024). - Pharmacognosy, fundamentals, applications and strategies by Simone Badal and Rupika Delgoda (2017) -Trease and Evans, Pharmacognosy, 16thed., Saunders company, Nottingham,U.K. William Charles Evans (2009). - Pharmacognosy, fundamentals, applications and strategies Second Edition by Simone Badal and Rupika Delgoda (2023), Elsevier. -Leung A.Y. and Foster" Encyclopedia of Common Natural Ingredients Used in Food, Drugs and Cosmetics". (2011). -Janice, Glimm-Lacy and Peter B. Kaufman, Botany Illustrated, Introduction to plants, major groups, flowering plants families, 2nd ed. Springer 2006. - Martindale, "The extrapharmacopeia". 31st Edn., by James, E.F Reynolds. And Kathleen Parfitt, Royal Pharmaceutical Society, London (2007).
	Electronic Sources (Links must be added)	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
	Learning Platforms (Links must be added)	https://shorturl.at/sar8D
	Other (to be mentioned)	-
Supportive facilities & equipment for teaching and learning *	Devices/Instruments	Computer, board
	Supplies	Chemicals, glasswares
	Electronic Programs	Microsoft office Microsoft teams
	Skill Labs/ Simulators	-
	Virtual Labs	-
	Other (to be mentioned)	-

Name and Signature

Course Coordinator

Prof. Dr. Fawkya Abbas

Name and Signature

Head department

Assoc. Prof. Dr. Islam Mostafa

COURSE SPECIFICATION
Bachelor of Pharmacy
(Pharm D - Clinical Pharmacy)
Psychology
UR 203
First level –Semester 2
2025-2026

Course Specification

(2025-2026)

1.Basic Information

Course Title (according to the bylaw)	Psychology			
Course Code (according to the bylaw)	UR 203			
Department/s participating in delivery of the course	Psychology department (Faculty of Arts)			
Number of credit hours/points of the course (according to the bylaw)	Theoretical	Practical	Other (specify)	Total
	1 hr/week	--	--	1 hr/week
Course Type	University Requirements			
Academic level at which the course is taught	Level 1- semester 2			
Academic Program	Bachelor of Pharmacy Pharm D (Clinical Pharmacy)			
Faculty/Institute	Faculty of pharmacy			
University/Academy	Zagazig university			
Name of Course Coordinator	Prof.Dr. Emad M. Mekhmer			
Course Specification Approval Date	25/8/2025			
Course Specification Approval (Attach the decision/minutes of the department /committee/council)	Council of quality assurance			

2.Course Overview (Brief summary of scientific content)

بنهاية هذا المقرر يكون الطالب قادرا على توضيح أهمية علم النفس في مجال الصيدلة ،وتحديد أساليب التواصل الفعال وأساليب تقديم العون والمساعدة للآخرين.

3.Course Learning Outcomes CLOs

Matrix of course learning outcomes CLOs with program outcomes POs (NARS/ARS)

Program Outcomes (NARS/ARS) (according to the matrix in the program specs)		Course Learning Outcomes Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
1.1.1	Demonstrate understanding of knowledge of pharmaceutical, biomedical, social, behavioral, administrative, and clinical sciences.	1.C1.4.1.	يعرف مبادئ علم النفس في مجال الصيدلة
		1.C1.4.2.	يحدد مكونات التواصل الفعال في مجال الصيدلة
		1.C1.4.3.	يحدد أساليب التواصل الفعال في مجال الصيدلة
		1.C1.4.4.	يتعرف على أساليب تقديم العون والمساعدة للآخرين
2.1.2	Adopt ethics of health care and pharmacy profession respecting patients' rights and valuing people diversity	2.C1.4.1	يقارن بين مجالات علم النفس النظرية والتطبيقية يستنتج فوائد تقديم المساعدة للآخرين
		2.C1.6.1	يستنتج أساليب التواصل الفعال في مجال التعامل مع الجمهور بالصيدلة
4.1.2	Retrieve and critically analyze information, identify, and solve problems, and work autonomously and effectively in a team.	4.C1.5.1.	يستطيع العمل تحت الضغط يستطيع العمل في جماعة يستطيع امتلاك مهارات العرض الفعال يستطيع اقناع الآخرين والتأثير عليهم

3. Teaching and Learning Methods

1. Lectures (data show, board)
2. Self- learning (Activity)
3. Blended- learning (Activity)

Course Schedule

Number of the Week	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected number of the Learning Hours		
			Theoretical teaching (lectures/discussion groups/.....)	Self-learning (Tasks/Assignments / Projects/ ...)	Other (to be determined)
1	مدخل إلى علم النفس الصيدلي	1	1	-	-
2	أهمية علم النفس في مجال الصيدلة	1	1	-	-
3	مهارات التواصل الفعال وبناء العلاقة العلاجية والتحالف العلاجي للصيدلي	1	1	-	-
4	ما الذي يساعد الصيدلي على النجاح في العمل والأسرة	1	1	Activity	-
5	التواصل والرعاية الصيدلانية	1	1	-	-
6	التواصل في الحياة العامة	1	1	-	-
7	Midterm exam				
8	عناصر الاتصال الفعال	1	1	-	-
9	العوامل التي تساعد على نجاح الاتصال	1	1	-	-
10	ما الأمور التي تفعلها حتى تشعر الآخرين بقيمتهم	1	1	-	-
11	عوامل تسهم في تقوية العلاقات الإنسانية	1	1	Activity	-
12	أشكال تقديم المساعدة للآخرين	1	1	-	-
13	خطوات سلوك تقديم المساعدة للآخرين	1	1	-	-
14	النظريات المفسرة لسلوك تقديم المساعدة	1	1	-	-
15	Final written exam				

5.Methods of students' assessment

No.	Assessment Methods *	Assessment Timing (Week Number)	Marks/ Scores	Percentage of total course Marks
1	Exam 1 written (Mid-term Exam)	Week 7	15	15%
2	Activity	Week 4&11	10	10%
3	Final Written Exam	Week 15	75	75%
8	Other (Mention)	-	-	-

6.Learning Resources and Supportive Facilities *

Learning resources (books, scientific references, etc.) *	The main (essential) reference for the course (must be written in full according to the scientific documentation method)	كتاب محاضرات في علم النفس في مجال الصيدلة
	Other References	قائمة المراجع في كتاب محاضرات علم النفس في مجال الصيدلة للاستزادة في موضوعات المقرر باربارا اندرسون (2005) : التفاوض الفعال ، مهارات التفاوض الفعال ، القاهرة ، مكتبة الهلال . بريان كريسن (2017) : علم نفس النجاح ، ترجمة : عبد اللطيف الخياط، المملكة العربية السعودية . ثناء محمد سليمان (2014) : سيكولوجية الاتصال الانساني ومهاراته ، القاهرة ، عالم الكتب . جوده بنى جابر (2004) : علم النفس الاجتماعي ، المملكة الاردنية الهاشمية ، عمان ، دار التقاء للنشر . Care Res Dev. 2007;8:112-20. 18. French AC, Kaunitz AM. Pharmacy access to emergency hormonal contraception in Jacksonville, FL: a secret shopper survey. Contraception. 2007;75:126-30

		Clark . D., Beck , A. & Brown. G (1989) : Cognitive Meditation in General psychiatric outpatient. A test of the content specificity hypothesis. Journal of personality and Social Psychology, Vol, 56, No 6, pp. 958-964
	Other (to be mentioned)	-
Supportive facilities & equipment for teaching and learning *	Devices/Instruments	Computer, board, Datashow
	Other (to be mentioned)	-

Name and Signature
Course Coordinator
Prof. Dr. Emad M. Mekhmer

Program Coordinator
Ass. Prof. Dr.Yassmine Sharaf

COURSE SPECIFICATIONS
Bachelor of Pharmacy
(Pharm D - Clinical Pharmacy)
Cell biology
PB 201
First level – Semester 2
2025-2026

Course Specification (2025-2026)

1-Basic Information

Course Title (according to the bylaw)	Cell Biology			
Course Code (according to the bylaw)	PB 201			
Department/s participating in delivery of the course	Biochemistry			
Number of credit hours/points of the course (according to the bylaw)	Theoretical	Practical	Other (specify)	Total
	1 hrs/week	1 hrs/week	-	2 hrs/week
Course Type	Faculty Requirements			
Academic level at which the course is taught	Level 1- semester 2			
Academic Program	Bachelor of Pharmacy (Pharm D) (Clinical pharmacy)			
Faculty/Institute	Faculty of pharmacy			
University/Academy	Zagazig university			
Name of Course Coordinator	Prof. Dr. Sousou Ibrahim			
Course Specification Approval Date	18/8/2025			
Course Specification Approval (Attach the decision/minutes of the department /committee/council)	Department Council			

2.Course Overview (Brief summary of scientific content)

This course provides students with knowledge about the principles of cell biology and molecular genetics and enable them to describe the detailed structure and function of cell membrane and cellular organelles and to differentiate between mitosis and meiosis as well as necrosis and apoptosis.

3.Course Learning Outcomes CLOs

Matrix of course learning outcomes CLOs with program outcomes POs (NARS/ARS)

Program Outcomes (NARS/ARS) (according to the matrix in the program specs)		Course Learning Outcomes Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
1.1.1	Demonstrate understanding of knowledge of pharmaceutical, biomedical, social, behavioral, administrative, and clinical sciences.	1.C1.1.1	Identify the principles of cell biology including cell theory and different types of cells, cell organelles, cell cycle, necrosis and apoptosis.
		1.C1.1.2	Explain the principles of molecular genetics and gene expression.
3.1.1	Apply the principles of body function and basis of genomics in health and disease states to manage different diseases.	3.C1.1.1	Illustrate the functions and detailed structure of different cellular organelles as well as the different phases and types of cell division.
4.2.2	Use contemporary technologies and media to demonstrate effective presentation skills.	4.C2.3.1	Demonstrate the ability to write a report and present it in an appropriate manner

4. Teaching and Learning Methods

1. Lectures (data show, board)
2. Practical sessions
3. Self- learning (Report)
4. Blended-learning (Assignment on faculty platform)

Course Schedule

Number of the Week	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected number of the Learning Hours			
			Theoretical teaching (lectures/discussion groups/)	Training (Practical/Clinical/)	Self-learning (Tasks/ Assignments/ Projects/ ...)	Other (to be determined)
1	Lecture - Cell theory - Animal and Plant cell - Prokaryotic cell - Eukaryotic cell	1	1	-	-	-
	Practical session - Introduction - Types and parts of microscope - Micrographs of plant and animal cells at E.M level	2	-	1	-	-
2	Lecture - Structure of cell membrane - Cytoplasm - Transport across membrane - Nucleus (Chromatin and chromosomes)	1	1	-	-	-
	Practical session - Micrograph of cell membrane at E.M level	2	-	1	-	-

3	Lecture - Endoplasmic reticulum - Golgi apparatus - Lysosomes	1	1	-	-	-
	Practical session - Micrograph of nucleus at E.M level	2	-	1	-	-
4	Lecture - Chloroplasts - Mitochondria - Cytoskeleton - Micro-bodies Formative assessment (quiz 1)	1	1	-	-	-
	Practical session - Micrograph of smooth and rough endoplasmic reticulum	2	-	1	-	-
5	Lecture - Cell growth - Cell division (Mitotic)	1	1	-	-	-
	Practical session - Micrograph of Golgi apparatus at E.M level - Micrograph of lysosomes at E.M level	2	-	1	-	-
6	Lecture - Cell division (Meiosis) - Cell cycle regulation	1	1	-	-	-
	Practical session - Micrograph of mitochondria at E.M level	2	-	1	-	-
7	Midterm exam					

8	Lecture - Molecular genetics - DNA and RNA synthesis	1	1	-	-	-
	Practical session - Micrograph of chloroplasts at E.M level	2	-	1	-	-
9	Lecture - Protein synthesis - Mutation points	1	1	-	-	-
	Practical session - Micrograph of cytoskeleton (microtubules)	2	-	1	-	-
10	Lecture - Difference between necrosis and apoptosis	1	1	-	-	-
	Practical session - Micrograph of different stages of cell division - Activity orientation	2	-	1	-*	-
11	Lecture - Extrinsic pathway of apoptosis	1	1	-	-	-
	Practical session - Revision	2	-	1	-	-
12	Lecture - Intrinsic pathway of apoptosis Formative assessment (quiz 2)	1	1	-	-	-
	Practical exam	2	-	1	-	-
13	Lecture - Apoptosis and its relation to diseases	1	1	-	-	-

	Practical session Discussion and Assessment of activity	2	-	1	_*	-
14	Lecture - Revision and open discussion	1	1	-	-	-
	Practical session Discussion and Assessment of activity	2	-	1	_*	-
15	Final written exam					

* As part of a self-learning activity in cell biology, a part of practical session in week 10 was specified for the explanation of activity guidelines, rules and assessment rubric. Also, practical sessions in weeks 13 and 14 were facilitated for students to present their reports on the various activity self-learning topics according to the announced student distribution on topics. Supervisors engaged students in a discussion to evaluate the key skills acquired, findings, and conclusions they reached. The activity was formally evaluated against a set of established criteria to ensure a rigorous and consistent assessment.

5.Methods of students' assessment

No.	Assessment Methods *	Assessment Timing (Week Number)	Marks/ Scores	Percentage of total course Marks
1	Exam 1 written (Mid-term Exam)	Week 7	10	10%
2	Exam 2 (Semester work)	-	-	-
3	Final Written Exam	Week 15	50	50%
4	Final Practical /Clinical/... Exam	Week 12	25	25%
5	Final Oral Exam	Week 15	10	10%
6	Project (Self-learning Activity)	Week 10, 13,14	5	5%
7	Assignment (Formative assessment)	Week 4, 12	-	-
8	Other (Mention)	-	-	-

* The methods mentioned are examples, the organization may add and/or delete

6-Learning Resources and Supportive Facilities *

Learning resources (books, scientific references, etc.) *	The main (essential) reference for the course (must be written in full according to the scientific documentation method)	- Student book of cell biology approved by biochemistry department 2025-2026. - Practical notes of cell biology approved by biochemistry department 2025-2026.
	Other References	- Essential cell biology, 6th edition 2023, Bruce Alberts, Karen Hopkin, Alexander Johnson, David Morgan, Keith Roberts, Peter Walter, Rebecca Heald. - Molecular Biology of the Cell, 7th Edition 2022, Bruce Alberts, Alexander Johnson, Julian Lewis, David Morgan, Martin Raff, Keith Roberts, and Peter Walter. - Cell biology, 3rd edition 2017, Thomas D. Pollard, William C. Earnshaw, Jennifer Lippincott-Schwartz, Graham Johnson. - Encyclopedia of cell biology, 1st edition 2015, Ralph A. Bradshaw, Philip D. Stahl. - Molecular cell biology, 8th edition 2016, Harvey Lodish, Arnold Berk, S Lawrence Zipursky, Paul Matsudaira, David Baltimore, and James Darnell. New York: W. H. Freeman.
	Electronic Sources (Links must be added)	https://pubmed.ncbi.nlm.nih.gov/ https://www.sciencedirect.com/ https://www.ekb.eg/
	Learning Platforms (Links must be added) <u>Electronic platform of Faculty of Pharmacy- Zagazig University for students</u>	https://shorturl.at/sar8D
	Other (to be mentioned)	_____

Supportive facilities & equipment for teaching and learning *	Devices/Instruments	- whiteboard - Overhead projectors - Data show
	Supplies	Colored white board markers
	Electronic Programs	- Microsoft office - Microsoft teams
	Skill Labs/ Simulators	_____
	Virtual Labs	_____
	Other (to be mentioned)	_____

*** The list mentioned is an example, the institution may add and/or delete depending on the nature of the course**

Name and Signature
Course Coordinator
 Prof. Dr. Sousou Ibrahim

Name and Signature
Head of Department
 Ass. Prof. Dr. Rana Eissa

COURSE SPECIFICATION

Bachelor of Pharmacy

**(Pharm D - Clinical
Pharmacy)**

English II

UR 204

First level –Semester 2

2025-2026

Course Specification

(2025-2026)

1.Basic Information

Course Title (according to the bylaw)	English II			
Course Code (according to the bylaw)	UR 204			
Department/s participating in delivery of the course	English Department - Faculty of Education			
Number of credit hours/points of the course (according to the bylaw)	Theoretical	Practical	Other (specify)	Total
	1 hrs/week	-	-	1 hr/week
Course Type	university Requirements			
Academic level at which the course is taught	Level 1- semester 2			
Academic Program	Bachelor of Pharmacy (Pharm D) (Clinical pharmacy)			
Faculty/Institute	Faculty of pharmacy			
University/Academy	Zagazig university			
Name of Course Coordinator	Dr. Ahmed Abd El-Salam Edries			
Course Specification Approval Date	25/8/2025			
Course Specification Approval (Attach the decision/minutes of the department /committee/council)	Council of quality assurance			

2.Course Overview (Brief summary of scientific content)

On completion of the course, students will be able to use English language and medical terms in pharmacy study and practice and recognize the fundamentals of effective scientific writing. It also develop students' oral and written English language skills necessary to communicate in basic social and professional interactions related to their field of specialization (Pharmacy).

3.Course Learning Outcomes CLOs

Matrix of course learning outcomes CLOs with program outcomes POs (NARS/ARS)

Program Outcomes (NARS/ARS) (according to the matrix in the program specs)		Course Learning Outcomes Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
1.1.1	Demonstrate understanding of knowledge of pharmaceutical, biomedical, social, behavioral, administrative, and clinical sciences.	1.C1.1.1	Enumerate different writing styles as well as paraphrasing techniques
		1.C1.1.2	Outline the components and essential steps of writing scientific reports, proposal and manuscript
		1.C1.1.3	Identify common mistakes in writing scientific reports
1.1.2	Utilize the proper pharmaceutical and medical terms, abbreviations and symbols in pharmacy practice	1.C1.8.1	Recognize medical terms and vocabulary items used in pharmacy study and practice
4.1.1	Demonstrate responsibility for team performance and peer evaluation of other team members, and express time management skills	4.C1.3.1	Deliver assignments in due time
4.2.1	Demonstrate effective communication skills verbally, non-verbally, and in writing with professional health care team, patients, and communities	4.C2.1.1	Develop students' oral and written English language skills necessary to communicate in basic social and

Program Outcomes (NARS/ARS) (according to the matrix in the program specs)		Course Learning Outcomes Upon completion of the course, the student will be able to:	
Code	Text	Code	Text
			professional interactions related to their field of specialization

4. Teaching and Learning Methods

1. Lectures
2. Library and internet materials for independent learning, research assignments or listening comprehension.
3. Self-learning (Assignment)
4. Teaching strategies :
 - Peer Correction Strategy
 - Think-Pair-Share strategy
 - Three Reads Strategy

Course Schedule

Number of the Week	Scientific content of the course (Course Topics)	Total Weekly Hours	Expected number of the Learning Hours			
			Theoretical teaching (lectures/discussion groups/.....)	Training (Practical/Clinical/.....)	Self-learning (Tasks/Assignments/Projects/...)	Other (to be determined)
1	Introduction + Unit One Pharmacy in ancient Egypt (Part 1) (Components of an Effective Paragraph: Topic Sentences & Supporting details)	1	1	-	-	-
2	Unit One: Pharmacy in ancient Egypt (Part 2) (Components of an Effective Paragraph: Concluding Sentences)	1	1	-	-	-

3	Unit Two: Side effects and Drug Interactions (Part 1) (Methods & Techniques of paraphrasing)	1	1	-	-	-
4	Unit Two: Side effects and Drug Interactions (Part 2) (Common mistakes in scientific writing)	1	1	-	-	-
5	Unit Three: Pharmacy and Drugs (Part 1) (Different writing styles)	1	1	-	-	-
6	Unit Three: Pharmacy and Drugs (Part 2) (How to write a scientific report)	1	1	-	-	-
7	Midterm exam					
8	a. Most Commonly used Pharmaceutical Abbreviations b. Root Words and Affixes (Prefixes Infixes & Suffixes) in Medical English	1	1	-	-	-
9	Unit Four: Pharmacists and Pharmacy Technicians (Part 1) (How to write proposals and manuscripts)	1	1	-	-	-
10	Unit Four: Pharmacists and Pharmacy Technicians (Part 2) (Writing a practical research paper)	1	1	-	-	-
11	Unit Five: Current Trends in Pharmacy Practice (Part 1) (Optimizing paragraph and sentence structure in scientific writing)	1	1	-	-	-
12	Unit Five: Current Trends in Pharmacy Practice (Part 2)	1	1	-	-	-

	(Coherence in scientific writing) + Activity					
13	Unit Six: At the pharmacy (Part 1) (Cohesion in scientific writing)	1	1	-	-	-
14	Unit Six: At the pharmacy (Part 2) (Transitions in scientific writing)	1	1	-	-	-
15	Final written exam					

5.Methods of students' assessment

No.	Assessment Methods *	Assessment Timing (Week Number)	Marks/ Scores	Percentage of total course Marks
1	Exam 1 written (Mid-term Exam) + Project	Week 7	15	15%
	(Self-learning Activity)	Week 12	10	10%
2	Final Written Exam	Week 15	75	75%

6.Learning Resources and Supportive Facilities *

Learning resources (books, scientific references, etc.) *	The main (essential) reference for the course (must be written in full according to the scientific documentation method)	- Student book of English language II approved by English department 2025-2026.
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	Other References	- Page, M., E., P. (2006). ESL Intermediate/Advanced Writing (English as a Second Language Series), Research & Education Association. - Gallagher, C. (2016). Writing in English is Easy!, CreateSpace Independent Publishing Platform. - Scholastic (2010). Scholastic Success with Reading Comprehension, Teaching; Illustrated edition. - Beare, K. (2002) Speaking English for Medical Purposes. - Parkinson, J. (1998). English for Science and Technology. - Paltridge, B., Starfield, S. and Parkinson, J. (2012). English for Science and Technology; Published Online. - Orr, T (2012). English for Science and Technology; by Published Online. - Trimble, L. and Swan, M. (Editor). English for Science and Technology : A Discourse Approach, Cambridge University Press. - Master, P. A. Science, Medicine, and Technology: English Grammar and Technical Writing, Publisher: Prentice Hall. - Thomas N. Huckin, Leslie A. Olsen (1983) English for science and technology: a handbook for nonnative speaker: McGraw-Hill, 1983 - Language Arts & Disciplines. - Ram Krishna Singh, R. K. (1998) Using English in Science and Technology.
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	Electronic Sources (Links must be added)	- Medical English for Pharmacist http://www.englishmed.com/pharmacists/ - Learn English Vocabulary for the Pharmacy https://www.canlearnenglish.com/english-at-the-pharmacy/ - English at the Pharmacy https://www.canlearnenglish.com/english-at-the-pharmacy/ - English for Pharmacist https://competencyrx.com/images/pdf/English_for_Pharmacist.pdf - Medical English https://www.medicalenglish.com/ - English as a Second Language https://shorturl.at/INDJR - The English Journal http://www.ncte.org/journals/ej - TESOL Quarterly http://www.tesol.org/read-and-publish/journals/tesol-quarterly - ESL Journal http://www.esljournal.org/ - ESP journal http://www.esp-world.info/ - Grammarly: Great Writing, Simplified https://shorturl.at/WdQO1
	Learning Platforms (Links must be added) <u>Electronic platform of Faculty of Pharmacy- Zagazig University for students</u>	https://shorturl.at/sar8D
	Other (to be mentioned)	_____

Supportive facilities & equipment for teaching and learning *	Devices/Instruments	- whiteboard - Overhead projectors - Data show
	Supplies	Colored white board markers
	Electronic Programs	- Microsoft office - Microsoft teams
	Skill Labs/ Simulators	_____
	Virtual Labs	_____
	Other (to be mentioned)	_____

*** The list mentioned is an example, the institution may add and/or delete depending on the nature of the course**

**Name and Signature
Course Coordinator**

Dr. Ahmed Abd El-Salam Edries

**Name and Signature
Program coordinator**

Ass. Prof. Dr. Yassmine Sharaf