Course Specifications
(2018 – 2019)

Pharmacology-3

PO 703

Course Specifications
(2018 – 2019)

Department of pharmacology and Toxicology

A. Basic Information

Program(s) on which the course is given:	Bachelor of Pharmacy (Clinical Pharmacy)
Department offering the course	Department of Pharmacology and Toxicology, Faculty of Pharmacy, Fayoum University
Faculty offering the program	Faculty of Pharmacy, Fayoum University
Dept. responsible for teaching the course	Department of Pharmacology and Toxicology, Faculty of Pharmacy, Fayoum University
Academic year / level	2018/2019 (Level 5)
Course title	Clinical pharmacology
Course code	PO 703
Contact hours (credit hours)	Lecture:(2), Practical: (1), Total: 3(2+1)
Pre-requisite of the course:	Pharmacology-2
Course coordinator	Dr Rasha Abdelhady
Major or Minor element of program	Major
Date of specification approval	09/2018

B. Professional Information

1. Overall Aims of Course

(The course aim and intended learning outcomes are based on that mentioned in the program specifications, with more course-related specific details.)

This Course provides students with definition, epidemiology, prevalence, risk and predisposing factors, pathophysiology, etiology, associated conditions and diagnosis, treatment general measures, non-pharmacological methods, medications and surgery and identification of certain infectious diseases, cardiovascular, psychiatric and neurological disorders.

2. Intended Learning Outcomes of Course (ILOs)

a- Knowledge and Understanding:

By the end of the course, the students should be able to:

a1. Recognize the general principles of pharmacotherapy

a2. Recognize the pharmacotherapeutic properties of different groups of drugs affecting body systems and effect of the body on drugs

a3. Describe the basic principles of drug pharmacological actions and their therapeutic uses, adverse effects and principles of dosing for different drugs and clinical manifestations of different diseases

a4. Identify infectious agents of medical importance and their clinical signs, symptoms, and complications.

a5. Identifying pathophysiology, etiology as well as risk/prognostic factors for all studied clinical conditions

b- Intellectual Skills

b1. Identify strategies to avoid or manage drug interactions

b2. Predict and apply drug design, therapeutic protocols for management of common diseases

By the end of this course, the student should be able to:

b3. Interpret specific symptoms and signs of the studies clinical condition and interpret the clinical laboratory findings for the diagnosis

c- Professional and Practical Skills

c1. Construct rational therapeutic strategies for both acute and chronic conditions considering economic issues and patients' variables that influence these strategies.

c2. Provide updated information to patients and healthcare professionals about the proper use of medicine and its probable adverse effects.

By the end of the course, the student should be able to:

c3. Apply the principles of diagnosis, medical care and risk management to interact correctly with patients and other health care providers.

d- General and Transferable Skills

By the end of the course, the student should be able to:

d1. Improve critical thinking regarding problems and situations where decisions should be made on bases of limited information.

d2. Developing and working in groups which increase the communication and knowledge regarding patient safety and outcome

d3- Present clearly and effectively a scientific topic among groups.

3. Contents

Teaching week	TOPIC	No. of lecture hours	Assessment of ILOs
1	Infectious diseases	Total: 3(2+1)	a1, a2, a3, a4, b2, c1
2	Infectious diseases	Total: 3(2+1)	a1, a2, a3, a4, b2, c1
3	Infectious diseases	Total: 3(2+1)	a1, a2, a3, a4, b2, c1
4	Psychiatric disorders (Anxiety)	Total: 3(2+1)	a1, a2, a3, a5, b1, b3, c2, c3
5	Psychiatric disorders (Depression)	Total: 3(2+1)	a1, a2, a3, a5, b1, b3, c2, c3
6	Cardiovascular system disorders (Stable Ischemic Heart Disease)	Total: 3(2+1)	a1, a2, a3, a5, b1, b3, c2, c3
7	Cardiovascular system disorders (Dyslipidemia)	Total: 3(2+1)	a1, a2, a3, a5, b1, b3, c2, c3
8	Neurological disorders (Alzheimer's disease)	Total: 3(2+1)	a1, a2, a3, a5, b1, b3, c2, c3
9	Neurological disorders (Parkinson disease)	Total: 3(2+1)	a1, a2, a3, a5, b1, b3, c2, c3
10	Revision and quiz	Total: 3(2+1)	d1, d2, d3
Total no of hours	30		
12	FINAL Exam		

4. Teaching and Learning Methods

4.1- Lectures (board, data show)

4.2- Assignments

4.3- Class discussion

5. Student Assessment Methods

5.1. Written exams to assess knowledge and understanding as well as intellectual skills.

5.2. Oral exams to assess all types of skills and mainly general and transferrable skills practice.

5.3. Practical exams

Assessment Schedule

Quiz 1	4th or 5th week
Quiz 2	8th or 9th week
Practical exam	10th week
Final exam	12th week; according to semester schedule
Oral exam	12th week; according to semester schedule

Weighting of Assessments

Periodical	10%
Practical	25%
Final exam	50%
Oral exam	15%
Total	100%

6. List of References

6.1- Course Notes: Lecture notes in Clinical Pharmacology by Staff Members of the Department of Pharmacology &Toxicology.

6.2- Essential Books (Textbooks)

1. Zeind, Caroline S., and Michael G. Carvalho. 2018. *Applied therapeutics: the clinical use of drugs*. http://pharmacy.lwwhealthlibrary.com/book.aspx?bookid=2324.\
2. BOOKSTAVER, P. B., CHISHOLM-BURNS, M. A., KOLESAR, J. M., LEE, K. C., MALONE, P. M., & SCHWINGHAMMER, T. L. (2019). Pharmacotherapy principles & practice.
3. Martin, S. and Dasta, J. (2016). *Pharmacotherapy*.

6.3- Periodicals: https://www.medscape.com

- **6.4- Web Sites:** globalrbh.com, drugs.com, lexicomp.org
- www.ekb.eg

Facilities required for teaching and learning

1. Lecture rooms with data show
2. Procurement of latest edition of the above-mentioned texts and others to update the education process

Course Coordinator: Dr Rasha Abdelhady

Course Specifications

A-Basic Information	
Course code:	PP703
Course name:	Hospital pharmacy
Credit hours of the course:	Lecture:2 Practical:1 Total:3
Pre-requisite of the course:	Registration
Department teaching the course:	Department of Pharmacy Practice
Program for which the course is given:	Clinical Pharmacy Program
Course Co-ordinator:	Dr. Azza Mancy
Head of the Department:	Prof. Dr. Mona Hetta
Date of specifications approval:	7-09-2017

B-Professional Information
1-Overall aims of the course:
By the successful end of this course, the students should have a sufficient background about the essentials of pharmacy practice and patient care activities inside different health care organisations, specially hospitals and pharmacy settings. Attention is also made to pharmaceutical manufacture inside these health care organizations and provision of pharmaceutical care to critically ill patients including parenteral nutrition and fluid management.

2-Intended learning outcomes (ILO's):

a-Knowledge and Understanding:

By the end of this course, the student should be able to:

a1-Know different clinical & supporting units of the hospital.

a2-Know clinical & non-clinical services of hospital pharmacist.

a3-Understand extra duties &/or resources of hospital pharmacy practice as compared to those practice in community

a4- Recognized different types of hospitals.

a5- Define the term hospital Pharmacy in comparison to clinical pharmacy term

a6- Distinguish the different organizations of hospital pharmacy departments , services and procedures.

b-Intellectual Skills:

By the end of this course, the student should be able to:

b1-Solve encountered problems of incompatibilities during dispensing or administration to the patient

b2-Design individualized total parenteral nutrition regimens for critically ill patients

b3-Evaluate exact fluid & electrolytes requirement of critically ill patients.

b4-Apply their knowledge to prepare safe and effective parenteral infusions for individual patient use.

c-Professional and Practical Skills:

By the end of this course, the student should be able to:

c1-Apply the rules of recruiting the most cost effective medications to create and maintain health institution drug formulary.

c2-Select the most appropriate empirical antimicrobial regimen for nosocomial infections

c3-Estimate the minimum facilities required to fulfill the pharmaceutical service component in hospital pharmacy

c4- asses risk of contamination of sterile IV admixtures, cytotoxics and total parenteral nutrition

d-General Skills:

By the end of this course, the student should be able to:

d1-Have the power to communicate & work effectively in a team in a variety of health care settings.

d2-Show appropriate methodologies of handling cytotoxic medications.

33- Perform according to professional and moral ethical codes

Topic	No. of hours		
	Lecture	Practical	Total
Orientation to hospital pharmacy practice	2	1	3
Sterile manufacturing in hospitals	2	1	3
Cytotoxic manipulations in hospitals	2	1	3
Parenteral fluids & administrations	4	2	6
Prevention of complications of critical Illness - nutrition in hospitalized patients	2	1	3
Total parenteral nutrition	4	2	6
Nosocomial infections inside hospital	2	1	3
Prevention of complications of critical Illness – correcting fluid & electrolyte imbalances	4	2	6
Pharmacy & therapeutic committee and hospital formulary	**2**	**1**	**3**
Total	**24**	**12**	**36**

4-Teaching and Learning Methods (lectures, open discussion, role plays, ..etc):

1. Self-Learning assignments
2. Interactive lectures & open discussions ((Tools; board, data show)
3. practical tutorials (tools; case studies, assignments)

4. Office hours for Probation Students

5- Student Assessment:	
a-Assessment Methods and Weighing:	
- Class participation (two quizzes, assignments/ presentations): 15 % - Practical exam: 20 % - Oral exam: 15 % - Final exam: 50 %	
b-Assessment Schedule:	
- Class participation:	Quiz 1: Week 4-5 Quiz 2: Week 8-9 Other activities: throughout the semester
- Practical exam:	Week 13-14
- Oral exam:	According to semester timetable
- Final exam:	According to semester timetable

6-List of References:	
Course Notes	Lectures and practical notes prepared by instructors
Required Books	N/A
Recommended Books	i. Comprehensive pharmacy revie; leon Shargeal; 7th edition; 2017 ii. Concepts in Sterile Preparations and Aseptic Technique Book by Jose A. Vega and Pamella S.Ochoa; 2014
Periodicals	i. European journal of hospital pharmacy ii. Hospital pharmacy journal
Web Sites	www.hospitalpharmacyeurope.com www.cppe.ac.uk

Course Coordinator: Dr. Azza Mancy

Head of Department: Prof. Dr. Mona Hetta **Date: 7-09-2017**

Course Specifications
(2017 –2018)

Biotechnology

PM704

Course Specifications
(2017 –2018)

Microbiology and Immunology

A. Basic Information

Program(s) on which the course is given	Clinical Pharmacy
Department offering the course	Microbiology and Immunology
Faculty offering the program	Pharmacy
Dept. responsible for teaching the course	Microbiology and Immunology
Academic year / level	4
Course title	Biotechnology
Course code	**PM704**
Contact hours (credit hours)	3(2+1)
Pre-requisite of the course:	-
Course coordinator	Dr/ Mahmoud Khalil
Major or Minor element of program	Major
Date of specification approval	07/09/2017

B. Professional Information

1. Overall Aims of Course

(The course aim and intended learning outcomes are based on that mentioned in the program specifications, with more course-related specific details.)

The course provides the students with concise information about the different concepts of fermentation and industrial microbiology in addition to different concepts of genetic engineering and gene therapy.

2. .Intended Learning Outcomes of Course (ILOs)

a- Knowledge and Understanding:

By the end of the course, the students should be able to:

a1-Know the principles of bioremediation.

a2-Know the role of genomics and biotechnology in drug development.

a3-Understand the genetic engineering Principles.

b- Intellectual Skills

By the end of this course, the student should be able to:

b1-Design the guidelines in pharmaceutical biotechnology.

b2-Evaluate the pharmacy practice requirements in handling of biotechnology products.

c- Professional and Practical Skills

By the end of the course, the student should be able to:

c1-Select qualitative and quantitative analysis of raw materials and pharmaceuticals

c2-Estimate commonly encountered problems in pharmaceutical manufacturing processes

d- General and Transferable Skills

By the end of the course, the student should be able to:

d1-Show the professional ethical, legal and safety guidelines in pharmacy practice

3. Contents

Teaching week	TOPIC	No. of lecture hours	Assessment of ILOs
1	Introduction to biotechnology	2	a1, a2,a3, b1,b2,c1,c2, d1
2	Industrial microorganisms and fermentation	2	a1, a2,a3, b1,b2,c1,c2, d1
3	bioreactor system and products Categories	2	a1, a2,a3, b1,b2,c1,c2, d1
4	Production of metabolites	2	a1, a2,a3, b1,b2,c1,c2, d1
5	Bioremediation	2	a1, a2,a3, b1,b2c1,c2, d1
6	Biotransformation	2	a1, a2,a3, b1,b2,c1,c2, d1
7	Biofuel	2	a1, a2,a3, b1,b2,c1,c2, d1

8	Vaccines and Immunological Products	2	a1, a2,a3, b1,b2,c1,c2, d1
9	Concept of Genetic engineering	2	a1, a2,a3, b1,b2,c1,c2, d1
10	Gene therapy.	2	a1, a2,a3, b1,b2,c1,c2, d1
11	Microorganisms and the recovery of metals	2	a1, a2,a3, b1,b2,c1,c2, d1
12	Immobilized-enzyme technology	2	a1, a2,a3, b1,b2,c1,c2, d1
Total no of hours	24		
15	FINAL Exam		

4. Teaching and Learning Methods

4.1- Lectures (board, data show)

4.2- Assignments

4.3- Class discussion

5. Student Assessment Methods

5.1. Written exams to assess knowledge and understanding as well as intellectual skills.

5.2. Oral exams to assess all types of skills and mainly general and transferrable skillspractice.

Assessment Schedule

Quiz 1	4th or 5th week
Quiz 2	8th or 9th week
Final exam	According to semester timetable
Oral exam	According to semester timetable

Weighting of Assessments

Periodical	10%
Practical	25 %
Final exam	50%

Oral exam	15%
Total	100%

6. List of References

6.1- Course Notes……

6.2- Essential Books (Textbooks): Fundamentals of Biotechnology, 2009

Molecular biology and biotechnology 5th edition, 2012

6.3- Periodicals …

6.4- Web Sites http://www.ms-biotech.wisc.edu/biotech-websites.cfm

7. Facilities required for teaching and learning

1. Lecture rooms with data show
2. Procurement of latest edition of the above-mentioned texts and others to update the education process

Course Coordinator: Dr/ Mahmoud Khalil

Head of Department: Prof. Mona Hetta

Date: 07/09/2017

Course Specifications
(2017 –2018)

Public Health and Preventive Medicine
Course code: MD710

Course Specifications
(2017 –2018)

Microbiology and Immunology

A. Basic Information

Program(s) on which the course is given:	Bachelor of Clinical pharmacy
Department offering the course	Microbiology and immunology
Faculty offering the program	Faculty of Pharmacy, Fayoum University
Dept. responsible for teaching the course	Microbiology and immunology
Academic year / level	Level 4, first semester
Course title	Public Health and Preventive medicine
Course code	MD710
Contact hours (credit hours)	Lecture 2(2)
Pre-requisite of the course:	Clinical Microbiology
Course coordinator	Dr/ Mahmoud Khalil
Major or Minor element of program	Major
Date of specification approval	07/09/2017

B. Professional Information

1. Overall Aims of Course

(The course aim and intended learning outcomes are based on that mentioned in the program specifications, with more course-related specific details.)

The aim of the course is to provide students with the basic knowledge of Epidemiology, communicable and non communicable diseases, control of communicable diseases, immunization, occupational medicine, environmental health, water-borne and food-borne diseases, milk-borne diseases, nutrition and family health, environmental pollution, waste water treatment, waste disposal

2. Intended Learning Outcomes of Course (ILOs)

a- Knowledge and Understanding:

By the end of the course, the students should be able to:

a1- Know the principle of-Epidemiology.

a2-Know food, water, milk-borne diseases.

a3-Understand the environmental pollution, waste water treatment

b- Intellectual Skills

By the end of this course, the student should be able to:

b1- Differentiate the Epidemiology methods.

b2-Determine sources of health threats.

b3- Determine sources of Environmental pollution.

c- Professional and Practical Skills

By the end of the course, the student should be able to:

c1- Identify epidemiological techniques.

c2-Apply hygiene and safety measurements

d- General and Transferable Skills

By the end of the course, the student should be able to:

d1- Identify the different mode of diseases transmission.

d2- Identify different protection precautions.

3. Contents

Teaching week	TOPIC	No. of lecture hours	Assessment of ILOs
1	Introduction	2	a1, b1,c1
2	Epidemiology	2	a1, b1,c1
3	Occupational-disease and Nosocomial Infections	2	a2, b2, d2
4	Communicable Disease Non communicable diseases	2	a2, b2, d2
5	Control of communicable diseases	2	a2, b2, d2

	Immunization		
6	**Food borne diseases** **Milk- borne disease**	2	a2, b2, d2
7	**water-borne diseases**	**2**	a2, b2, d2
8	**Nutrition** **Family health**	2	c2,d1,d2
9	**Environmental pollution**	2	a3, b3
10	**Waste water treatment** **Waste Disposal**	2	a3, b3
Total no of hours	**20**		
11, 12	**FINAL Exam**		

4. Teaching and Learning Methods

4.1- Lectures (board, data show) √

4.2- Assignments √

4.3- Class discussion √

5. Student Assessment Methods

5.1. Written exams to assess knowledge and understanding as well as intellectual skills.

5.2. Oral exams to assess all types of skills and mainly general and transferrable skillspractice.

Assessment Schedule

Quiz 1 4th week

Quiz 2 9th week

Practical exam 10th week

Final exam 12th week

Oral exam 12th week

Weighting of Assessments

Periodical 10%

Practical	- %
Final exam	75%
Oral exam	15%
Total	100%

6. List of References

6.1- Course Notes: Public Health and Preventive Medicine, Microbiology and Immunology Department.

6.2- Essential Books (Textbooks)

6.2.a. An Introduction to Community & Public Health, 9th Edition, James F. McKenzie , Robert R. Pinger, Denise Seabert.

6.2.b. Principles and Foundations of Health Promotion and Education, 7th Edition, Randall Cottrell, James Girvan, James McKenzie.

6.3- Periodicals ...

6.4- Web Sites ....

7. Facilities required for teaching and learning

1. Lecture rooms with data show
2. Procurement of latest edition of the above-mentioned texts and others to update the education process

Course Coordinator: DR/ Mahmoud Khalil

Head of Department: Prof Mona Hetta

Date: /09/2017

Course Specifications

A-Basic Information	
Course code:	PP702
Course name:	clinical pharmacy-1
Credit hours of the course:	Lecture:2 Practical:1 Total:3
Pre-requisite of the course:	registration
Department teaching the course:	Department of Pharmacy Practice
Program for which the course is given:	Clinical Pharmacy Program
Course Co-ordinator:	Dr. Azza Mancy
Head of the Department:	Prof. Dr. Mona Hetta
Date of specifications approval:	7-9-2017

B-Professional Information
1-Overall aims of the course:
This course aims at introducing pharmacy students to the meaning, structured process, techniques, skills and ethics involved in clinical pharmacy practice real world. It provides students with a clear understanding of the principles of clinical pharmacy practice in different health care institutions as well as community pharmacies as well as the needed knowledge and skills for building a patient care practice. It also familiarize the student with the rational for the need as well as the expected therapeutic outcomes of the services provided by the clinical pharmacist in these facilities.
2-Intended learning outcomes (ILO's):

a-Knowledge and Understanding:

By the end of this course, the student should be able to:

a1-Know the role of a clinical pharmacist in different health care institutions.

a2-Know the most commonly provided clinical pharmacy services inside different health care institutions

a3-Understand different types of patient record forms

a4-Identify the function of physical assessment equipment

a5-Outline the commonly used physical assessment terms

a6-List fundamental physical assessment techniques and describe the way to perform each of them

a7-Define the process of patient monitoring for different disease states.

a8- Describe the principles of clinical pharmacy practice, including maintenance of patient profiles, proper documentation and drug filing systems

b-Intellectual Skills:

By the end of this course, the student should be able to:
b1-Solve encountered medication related problems

b2-Design the most rationale technique for achieving patient concordance.

b3-Evaluate the contents of medical, nursing and administrative sheets of patient record

b4-Distinguish between different laboratory, diagnostic tests & procedures that can diagnose different disease states

b5-Indicate a structured response to the Select

b6- Predict optimal therapeutic plan for minimizing drug therapy problems.

c-Professional and Practical Skills:

By the end of this course, the student should be able to:
c1-Apply the most important professional and ethical rules in handling patients' medical records

c2- Select the most appropriate laboratory, diagnostic tests & procedures to assess progression & regression of different disease states.

c3- Estimate the purpose of compiling patient medical records.

c4- Interpret common physical assessment abbreviations

c5- Interpret & assess specific finding reported by other health care professionals

c6- organize and present patient information

c7- employ proper documentation and drug filing system

d-General Skills:

By the end of this course, the student should be able to:
d1-Have the power to Search for information using reference books or internet
d2-Show professionalism and leadership within professionals and the society.
d3-Apply gained information about ethics to exhibit a caring and respectful attitude.
d4- Communicate written and orally with his colleagues
d5- Work under stress

3-Course contents:

Topic	No. of hours		
	Lecture	Practical	Total
Orientation to clinical pharmacy practice	2	0	2
Understanding Patient Medical Records	2	1	3
Physical assessment skills for clinical pharmacist Physical assessment techniques & equipment	2	1	3
Physical assessment of Different body organs & systems	2	1	3
common Laboratory tests & diagnostic procedures in medical practice cardiovascular system	2	1	3
common Laboratory tests & diagnostic procedures in medical practice neurological & gastrointestinal system	2	1	3
Patient counseling and achieving concordance	2	1	3
Obtaining patient history	2	1	3
Adverse drug reaction during pregnancy	2	1	3
Patient medication history	2	1	3
Monitoring drug therapies	2	1	3
Solving drug related problems	2	1	3
Total	24	12	36

4-Teaching and Learning Methods (lectures, open discussion, role plays, ..etc):
1. Self-Learning assignments 2. Interactive lectures & open discussions ((Tools; board, data show) 3. practical tutorials (tools; case studies, Group-based discussion) 4. Office hours for Probation Students

5- Student Assessment:
a-Assessment Methods and Weighing:
- Class participation (two quizzes, assignments/ presentations): 15 % - Practical exam: 20 % - Oral exam: 15 % - Final exam: 50 %
b-Assessment Schedule:
- Class participation: Quiz 1: Week 4-5 Quiz 2: Week 8-9 Other activities: throughout the semester - Practical exam: Week 13-14 - Oral exam: According to semester timetable - Final exam: According to semester timetable

6-List of References:	
Course Notes	Lectures and practical notes prepared by instructors
Required Books	N/A
Recommended Books	Clinical skills for pharmacists- a patient-focused approach; J tietze
Periodicals	Journal of pharmacy practice and education
Web Sites	www.ncbi.nlm.nih.gov

Course Coordinator: Dr. Azza Mancy

Head of Department: Prof. Dr. Mona Hetta

Date: 7-09-2017

Course specifications

A-Basic Information	
Course code	PC509
Course name	Pharmaceutical Medicinal Chemistry 1
Credit hours of the course	Lecture: 2 Practical: 1 Total: 3
Pre-requisite of the course	Pharmaceutical Organic Chemistry II
Department teaching the course	Pharmaceutical Medicinal Chemistry Department
Program for which the course is given	Clinical Pharmacy Program
Course coordinator	Dr. Mohammed Ibrahim Abd El Latif Hamed
Head of the department	Ass. Prof/ Farag Farouk Sherbiny
Date of specifications approval	07/9/2017

B-Professional Information

1-Overall aims of the course:

The aim of the course is to provide undergraduates who have a basic grounding in chemistry (organic and analytical) topics in anti-infective agents. It is the first course in pharmaceutical chemistry, which is a scientific discipline at the intersection of chemistry and pharmacology involved in identification, synthesis, and development of new drugs for suitable therapeutic use. This course includes the study of existing drugs that are used as chemotherapeutic agents i.e. study the use of drugs which are selective, more toxic to the invading microorganism than to the host (anti-infective agents, antibacterial antibiotics and sulphonamides, antimycobacterial drugs, antifungal, insecticides, anthelmintic and antiamebic drugs) and anticancer agents. It also includes the study Synthesis, biological properties, QSAR, mechanism of action and pharmacopeia methods for determination of these drugs

2-Intended learning outcomes (ILO's):-

a-Knowledge and Understanding:

By the end of this course, the student should be able to:

a1-Describe the mechanism of action of antibacterial antibiotics, antifungal drugs. anticancer drugs, antimycobacterials...etc

a2- State the use of different drugs.

a3-Recognize how to design and synthesis drugs.

a4-Understand the metabolism of drugs.

a5- List the different pharmacopeal methods for determination of drugs.

a6- Relates the chemical structure and biological activity of the drugs.

b-Intellectual Skills:

By the end of this course, the student should be able to:

b1- Practice tests of special impurities in the studied drugs.

b2-Evaluate significantly and interpret data derived from laboratory observations.

b3- Acquiring some skills for in the quantitative and qualitative estimation of some drugs.

b4-Be coherent with pharmaceutical ethical, legal and safety guidelines.

c-Professional and Practical Skills:

By the end of this course , the student should be able to:

c1-Set up the appropriate methods for the determining the purity of titled compounds.

c2- Practice the different tests of purity.

c3- Solve organic and stereo chemical problems.

c4- Select the appropriate drugs for the management of different diseases.

c5- Predict the adverse drug reactions, interactions and contra-indications of different pharmaceutical drug.

d-General Skills:

By the end of this course, the student should be able to:

d1- Use properly and safely new tools and equipment in the laboratories.

d2- Know how to explain the results obtained from the practical..

d3- Work independently or as a team

d4- Manage and organize his time.

d5- Evaluate and make decision to deal with different problems

Course content				
Topic		**No.of hours**		
	Lecturer	**Lecture**	**Practical**	**Total**
Introduction of chemotherapy and penicillin Lab safety and source of impurities	Dr.mohammed Ibrahim	2	1	3
Cephalosporins Test for chloride and difficulties in Limit test for chloride	Dr.mohammed Ibrahim	2	1	3
Tetracyclines and Macrolides. Limit test for sulphate and difficulties in limit test for sulphate	Dr.mohammed Ibrahim	2	1	3
Quinolones and Aminoglycosides Limit test for Iron (Egyptian and British pharmacopeia)	Dr.mohammed Ibrahim	2	1	3
Chloramphenicol, and Lincomycin Limit test for Lead and qualitative test for heavy metal.	Dr.mohammed Ibrahim	2	1	3
Sulphonamides, and Polypeptides Purity of ammonia sample	Dr.mohammed Ibrahim	2	1	3
Antimycobacterial Purity of hydrochloric acid sample	Dr.farag farouk	2	1	3
Antifungals Purity of sulphuric acid sample	Dr.farag farouk	2	1	3
Antiprotozoal and Anthelmintic Purity of phosphoric acid sample	Dr.farag farouk	2	1	3
Disinfectants, Antiseptics, and Insecticides. Purity of glycerol sample	Dr.farag farouk	2	1	3
Anticancer drugs (classical alkylating agent, topoisomerase inhibitors, and antimetabolites) Revision and tutorial	Dr.farag farouk	2	1	3
Anticancer drugs (Antimiotic agents, Signal transduction inhibitors, antibiotic anticancer Practical exam -	Dr.farag farouk	2	1	3
Total		24	12	36

4-Teaching and Learning Methods (lectures, open discussion, role plays . etc):-

4.1-Lectures (board, overhead projector, molecular models, software chemistry programs and data show)

4.2-Tutorials and discussion sessions

4.3-Practical sessions.

5- Student Assessment:

a. Assessment methods and weighing :

5.1-Quiz I to assess the knowledge and understanding of the first sections of the course.

5.2-written exam to assess the previously studied sections of the course.

5.3-Quiz 2 to assess the knowledge and understanding of the second sections of the course.

5.4-Practical exam to assess the latest practical skills gained by the students.

5.5-Final written exam to assess all the knowledge and understanding of the different sections of the course.

5.6-Oral examination to assess all the intellectual skills and knowledge of the different sections of the course. -

1. Class participation: 10% .

2. Practical exam: 25% .

3.Oral exam: 15% .

4.Final exam: 50% .

b-Assessment Schedule:

Class participation: Quiz 1: Week 4-5

Quiz 2: Week 8-9

Other activities: throughout the semester

Practical exam :Week 13-14

Oral exam: According to semester timetable

Final exam: According to semester timetable

6-list of references	
Course notes	On ELS
Required books	Wilson & Gisvold" Text book of Organic, Medicinal, and pharmaceutical chemistry" William Foye. "Principle of Medicinal Chemistry Burger Medicinal Chemistry. Graham L. Patrick Medicinal Chemistry.
Recommended books	Remington: the science and practice of pharmacy. Martindale: the complete drug reference Goodman and Gilman's: the pharmacological basis of therapeutics Different
Periodicals	pharmacopoeias (Egyptian & British) Merck Index.-
Web sites	Journal of Medicinal Chemistry - http://www.pubmed.com-

Course Coordinator: Dr/Mohammed Ibrahim Abd El Latif Hamed

Ass. Prof/ Farag farouk sherbiny

Head of Department: Ass. Prof./Farag farouk sherbiny

Date: / 09/2017

Course Specifications

Radiopharmaceutical

(PP 701)

Semester 7

Level 4

Course Specification

A-Basic Information	
Course code:	PP 701
Course name:	Radiopharmaceuticals
Credit hours of the course:	Lecture: 1 Practical: 0 Total: 1
Pre-requisite of the course:	--
Department teaching the course:	Pharmaceutics
Program for which the course is given:	Clinical Pharmacy Program
Course Co-coordinator:	Dr. Doaa Helal
Head of the Department:	Prof Dr. Mona Hetta
Date of specifications approval:	07/09/2017

B-Professional Information
1- Overall aims of the course:
By the end of this course the students should be able to recognize : Provide a comprehensive understanding of the principles of radiation and the application of radioactive compounds in medical diagnosis, therapy, and industrial applications. Equip students with the knowledge of radiopharmaceuticals, focusing on their preparation, quality control, and the rationale behind their use in clinical and diagnostic settings.
2-intended learning outcomes (ILO'S)
a- knowledge and understanding by the end of this course, the student should be able to :

A1. Explain the basic principles of radiation and the different types of radiation (Alpha, beta, gamma), including their physical properties, modes of interaction with matter, and applications in medicine and industry.

A2.Understand the role of radiopharmaceuticals in medical diagnostics and therapy, particularly in imaging techniques such as PET (Positron Emission Tomography), SPECT (Single Photon Emission Computed Tomography), and therapeutic applications like targeted radiation therapy.

A3. Describe the processes involved in the preparation of radiopharmaceuticals, including radiolabeling techniques, synthesis, and purification methods used in radio pharmacy.

A4. Identify the biological effects of ionizing radiation on living tissues, explaining how radiation exposure can lead to cellular damage, mutation, or tissue destruction, and the importance of safety protocols in mitigating these effects.

B. intellectual Skills

By the end of this course, the student should be able to:

B1.Analyze and evaluate the properties of different types of radiation (alpha, beta, gamma) and their interactions with biological systems, applying theoretical knowledge to assess the safety and effectiveness of radiopharmaceuticals in clinical settings.

B2.Apply critical thinking to the preparation and quality control of radiopharmaceuticals, solving problems related to radiolabeling, purification, and stability, and making decisions about the best approaches to ensure product quality and compliance with safety standards.

B3. Critically assess the biological effects of ionizing radiation on human tissues and evaluate the risks and benefits of radiopharmaceuticals for diagnostic and therapeutic purposes, particularly in relation to patient safety and minimizing radiation exposure

c-Professional and Practical Skill

By the end of this course, the student should be able to:

c1. Prepare radiopharmaceuticals in a laboratory setting by applying radiolabeling techniques, synthesizing radioactive compounds, and ensuring the correct handling and storage of radiopharmaceuticals to maintain their stability and efficacy.

C2. Perform quality control tests on radiopharmaceuticals to assess their purity, sterility, and stability. This includes conducting radiochemical purity testing, sterility testing, and endotoxin testing to ensure compliance with safety standards.

C3. Implement radiation safety protocols in the laboratory and clinical settings, including the safe handling, storage, and disposal of radioactive materials, and understanding the principles of shielding, contamination control, and personal protective equipment (PPE).

D-General Skills:

By the end of this course, the student should be able to:

D1.Work effectively in a laboratory and clinical setting, demonstrating good time management, organizational skills, and the ability to prioritize tasks in the preparation and quality control of radiopharmaceuticals.

D2.Apply critical thinking and problem-solving abilities when faced with complex situations in the preparation, quality control, or clinical application of radiopharmaceuticals, ensuring the safety, efficacy, and compliance of radiopharmaceutical products.

3- Course contents:			
Topic	**No. of hours**		
	Lecture	**Practical**	**Total**
Introduction to Radiopharmaceuticals	1	0	1
Radiation Types and Biological Effects	2	0	2
Radiopharmaceuticals in Medical Diagnostics	2	0	2
Radiopharmaceuticals in Therapy	2	0	2
Radiopharmaceutical Preparation Techniques	2	0	2
Clinical Applications of Radiopharmaceuticals	1	0	1
Regulatory and Safety Aspects	1	0	1
Quality Control of Radiopharmaceuticals	1	0	1
Total	12	0	12

4- Teaching and Learning Methods (lectures, open discussion, role plays…etc.):
- Lectures, using Power point presentation - Open discussion - Practical labs……

a- Assessment Methods and Weighing
- Class participation: 10% - Practical Exam: -- - Oral Exam :-- - Final Exam: 90%
b- Assessment Schedule:
- Class participation: Quiz 1: Week 4-5 Quiz 2: Week 8-9 Other activities: throughout the semester - Practical Exam: -- - Final Exam: According to semester timetable

Course Coordinator: Dr. Doaa Helal

Head of Department: Prof. Dr. Mona Hetta

Date: 07/09/2017

Course Specifications

Controlled drug delivery system (PT 704)

Level 4
Semester 7

جامعة الفيوم
Fayoum University

Clinical Pharmacy Program

A-Basic Information	
Course code:	PT704
Course name:	Controlled drug delivery systems
Credit hours of the course:	Lecture: 2 Practical: 0 Total: 2
Pre-requisite of the course:	Dosage Form 2
Department teaching the course:	Department of Pharmaceutics
Program for which the course is given:	Clinical Pharmacy Program
Course Co-ordinator:	Dr.Osama Sayed
Head of the Department:	Prof. Mona Hetta
Date of specifications approval:	07/09/2017

Course Specification

B-Professional Information
1- Overall aims of the course:

مدير وحدة ضمان الجودة

At the end of this course the student must be able to discuss the sustained and controlled drug delivery systems.

2-Intended learning outcomes (ILOs):

a- [illegible]e and Understanding:
E[illegible] this course, the student should be able A1-recognize the overall aims of the course ar
as[illegible]al sustained release drug formulations

جامعة الفيوم
Fayoum University

A2-. Discuss the difference between immediate-release and non-immediate release dosage farms the advantages as well as disadvantages of them.

a3-Describe the different aspects of oral sustained release drug delivery farmulsion, the kinetics of ٤٣. release from different types of controlled release dosage forms

a4-Describe different types of controlled release dosage forma

-Identify the process of microencapsulation

b-**Intellectual Skills**

By the end of this course, the student should be able to:

b1. Differentiate between controlled, sustained and prolonged is lease dosages forms.

b2-Differentiate between different types of b3. Compare between different routes of drug . administration polymer used in SRDFs.

:c-Professional and Practical Skills

By the end of this course, the student should be able to:

c1-Dramatize the drug release from different non immediate in lease dosage forms, different barriers ١. affecting drug absorption from oral route

c2-Demonstrate the importance of controlled release dosage forms and different factors affecting the ١٢. design of sustained release dosage forms

c3-Illustrate the advantages and disadvantages of different methods used for microencapsulation, ٣ different types of liposomes, advantages and disadvantages of different types of liposomes

:d-General Skills

:By the end of this course, the student should be able to

.d1. Demonstrate profession competence in internet

d2. Communicate clearly by verbal and written means:

4- Teaching and Learning Methods (lectures, open discussion, role plays,...etc.):

- **Lectures,**
- **Tutorial classes**
- **Research in library and web.....**

3- Course contents:

Topic	No. of hours		
	Lecture	Practical	Total
Oral controlled drug delivery system	2	--	2
Transdermal drug delivery system	2	--	2
Preformulation studies	2	--	2
nanoparticales	2	--	2
Vesicular dosage forms	2	--	2
Total	10		10

5- Student Assessment:

a- Assessment Methods and Weighing:

- Class participation: 10%
- Practical Exam: 0%
- Oral Exam: 15%
- Final Exam: 75%

b- Assessment Schedule:

- Class participation:	Quiz 1: Week 4-5 Quiz 2: Week 8-9 Other activities: throughout the semester
- Practical Exam:	-
- Oral Exam:	According to semester timetable
- Final Exam:	According to semester timetable

6- List of References:

Course Notes	Handout in controlled drug delivery system
Required Books	Remington's pharmaceuticals science 21st edition ,Lippincott Williams and Wilkins
Recommended Books	Novel drug delivery system - Marcel Dekker NY. Second Edition, Revised and Expanded by Yei W. Chine Vol- 50 Revised and Expanded by | R. Robinson and Vincent H. L. Les. Val-29 - Bentley's rebooks of pharmaceuticals EA Realin Novel and conwalled drug delivery systems-NK. Jain Advances in Novel and Controlled Drug Delivery-N.K. Jain Robinson JR. & Lee, V.HI: Controlled and Novel Drug Delivery Marcel Dekker, New York
Periodicals	
Websites	

Coordinator: Dr. Osama Ssayed

Head of Department: Prof. Mona Hetta

Date: 07/09/2017

Fayoum University **Faculty of Pharmacy**

Clinical Pharmacy Program

Course Specifications

A-Basic Information	
Course code:	PP805
Course name:	clinical pharmacy 2
Credit hours of the course:	Lecture: 2 Practical:1 Total:3
Pre-requisite of the course:	clinical pharmacy-1, code PP702
Department teaching the course:	Department of Pharmacy Practice
Program for which the course is given:	Clinical Pharmacy Program
Course Co-ordinator:	Dr. Azza Mancy
Head of the Department:	Prof. Dr. Mona Hetta
Date of specifications approval:	7-01-2018

B-Professional Information
1-Overall aims of the course:
This course aims at familiarizing the student with some of geriatrics, pediatrics and pregnancy illnesses, their medications and prescribing as well as the prescribing of medications in patients with different types of anemia.
2-Intended learning outcomes (ILO's):
a-Knowledge and Understanding: By the end of this course, the student should be able to: a1-Know the role of a clinical pharmacist and understand medication prescribing variation in

special populations.
a2-Know some of the most common diseases in Geriatrics and pediatrics.
a3-Understand the age-related changes and their effect on medication prescribing.
a4- List the guidelines for treatment of each of the studied disease.
a-5 Define the process of patient monitoring for major diseases.

b-Intellectual Skills:

By the end of this course, the student should be able to:
b1-Solve the problem of needing individualized specialized dosage regimen in special population for minimizing drug therapy problems
b2- Design non-pharmacological, and pharmacological treatments or both for the management of a disease to ensure optimum drug therapy.

b3-Evaluate finding of physical assessment of special populations.

c-Professional and Practical Skills:

By the end of this course, the student should be able to:
c1-Apply the benefit risk ratio according to patient's case
c2-Select creative appropriate communication ways for such special population
c3-Estimate self-patient monitoring plans for achievement of desired therapeutic outcomes.

c4-Apply learned knowledge to perform his job as a clinical pharmacist by the best professional and social behaviors.

d-General Skills:

By the end of this course, the student should be able to:

d1-Have the power to adapt and respond to ever going changes in therapeutic response of such special population

d2- Show a caring and respectful attitude to patients of such special populations.
d3- Adopt empathy and professionalism while establishing rapport and communicating with patient and/or caregiver.

Topic	No. of hours		
	Lecture	Practical	Total
Medications Prescribing & Use in Geriatrics	2	1	3
Geriatric urological disorders-chronic urinary incontinence	2	1	3

Acute urinary incontinence	2	1	3
Geriatric neurological disorders- dementias	2	1	3
Alzheimer disease	2	1	3
Introduction to pediatric pharmacotherapy	2	1	3
Medication use during pregnancy	2	1	3
Nutrient deficiency anemia	2	1	3
Thalassemia	2	1	3
Sickle cell disease	2	1	3
Gynecological diseases	2	1	3
Obstetric diseases	2	1	3
Total	24	12	36

4-Teaching and Learning Methods (lectures, open discussion, role plays, ..etc):

1. Self-Learning assignments
2. Interactive lectures & open discussions (Tools; board, data show)
3. practical tutorials (tools; case studies, role plays)
4. Office hours for Probation Students

5- Student Assessment:

a-Assessment Methods and Weighing:

- Class participation (two quizzes, role plays):: 15 %
- Practical exam: 20%
- Oral exam:15 %
- Final exam:50 %

b-Assessment Schedule:

- Class participation: Quiz 1: Week 4-5
  Quiz 2: Week 8-9
  Other activities: throughout the semester
- Practical exam: Week 13-14
- Oral exam: According to semester timetable
- Final exam: According to semester timetable

6-List of References:

Course Notes	Lectures and practical notes prepared by instructors

Required Books	N/A
Recommended Books	1. Applied therapeutics; the clinical use of drugs, 10th edition, alldredge et al; 2013
Periodicals	Journal of Clinical Pharmacy and Therapeutics
Web Sites	www.drugs.com

Course Coordinator: Dr. Azza Mancy

Head of Department: Prof. Dr. Mona Hetta

Date: -01-2018

Course specifications

A-Basic Information	
Course code	PC610
Course name	Pharmaceutical Medicinal Chemistry II
Credit hours of the course	Lecture: 2 Practical: 1 Total: 3
Pre-requisite of the course	Pharmaceutical Medicinal Chemistry I
Department teaching the course	Pharmaceutical Medicinal Chemistry Department
Program for which the course is given	Clinical Pharmacy Program
Course coordinator	Dr. Mohammed Ibrahim Abd El Latif Hamed
Head of the department	Prof. Dr./ Mona Hetta
Date of specifications approval	07/01/2018

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B-Professional Information

1-Overall aims of the course:

This course is aimed at undergraduates in order to teach them some classes of drugs for suitable therapeutic use. By the end of this course the student can demonstrate knowledge upon chemical structure, nomenclature, synthesis, metabolism, mechanism of action and the therapeutic uses of .Hormones, Ant diabetic Drugs, Central Nervous System Depressant, and cardiovascular drugs

2-Intended learning outcomes (ILO's):

a-Knowledge and Understanding:

By the end of this course, the student should be able to:

:By the end of this course, the student should be able to

a1- Describe the mechanism of action of the studied drugs
a2- State the use of different drugs
a3- Recognize how to design and synthesize drugs
a4- understand the metabolism of drugs
a5-.List the different pharmacopeal methods for determination of drugs
a6-.Relate the chemical structure with the biological activity of drugs

b-Intellectual Skills:

By the end of this course, the student should be able to:
c1- Solve organic and Stereochemical problems
c2- Convert one compound to the other
c3- Outline the appropriate methods for the analysis of titled compounds.

c-Professional and Practical Skills:

By the end of this course , the student should be able to:
b1-Assay, synthesis of antipyretic, analgesic drugs.....etc
b2.Perform the limit tests of the related impurity present in these drugs
b3- Carry out identity tests for the studied drugs
b4- Understanding the laboratory data as regards their significance and theoretical basis
b5- Identify some drugs using infra-red spectroscopy and/or UV spectroscopy

d-General Skills:

By the end of this course, the student should be able to:
d1- Use properly and safely new tools and equipments in the laboratories
d2- Know how to explain the results obtained from the practical
d3- Acquiring an ethical attitude and approach

3-Course contents			
Topic	**No. of hours**		
	Lecture	**Practical**	**Total**
.Steroidal hormones	2	1	3
Oral hypoglycemic drugs	2	1	3
Diuretic drugs	2	1	3
.Antihypertensive drugs	2	1	3
Antidepressant drugs	2	1	3
Antianginal drugs	2	1	3
Antiarrhythemic drugs	2	1	3
Narcotic Analgesic drugs	2	1	3
Sedative and hypnotics	2	1	3
Antiepileptic drugs	2	1	3
Antipsychotic drugs	2	1	3
Antipyretic, Analgesic and Anti-Inflammatory drugs	2	1	3
Total	24	12	36

4-Teaching and Learning Methods (lectures, open discussion, role plays . etc.):-

4.1-Lectures (board, overhead projector, data show)

4.2- practical training

4.3- class activity

4.4- discussion

5- Student Assessment:

a. Assessment methods and weighing :

5.1-Quiz 1 to assess the knowledge and understanding of the first sections of the course.

5.2-written exam to assess the previously studied sections of the course.

5.3-Quiz 2 to assess the knowledge and understanding of the second sections of the course.

5.4-Practical exam to assess the latest practical skills gained by the students.

5.5-Final written exam to assess all the knowledge and understanding of the different sections of the course.

5.6-Oral examination to assess all the intellectual skills and knowledge of the different sections of the course. -

1. Class participation: 10% .

2. Practical exam: 25% .

3.Oral exam: 15% .

4.Final exam: 50% .

b-Assessment Schedule:

Class participation: Quiz 1: Week 4-5

Quiz 2: Week 8-9

Other activities: throughout the semester

Practical exam :Week 13-14

Oral exam : According to semester timetable

Final exam : According to semester timetable

6-list of references	
Course notes	On ELS
Required books	Wilson & Gisvold" Text book of Organic, Medicinal, and pharmaceutical chemistry" William Foye. "Principle of Medicinal Chemistry Burger Medicinal Chemistry. Graham L. Patrick Medicinal Chemistry.
Recommended books	Remington: the science and practice of pharmacy. Martindale: the complete drug reference Goodman and Gilman's: the pharmacological basis of therapeutics Different
Periodicals	pharmacopoeias (Egyptian & British) European journal of medicinal chemistry Merck Index.-
Web sites	http://www.pubmed.com-

Course Coordinator: Dr/Mohammed Ibrahim Abd El Latif Hamed

Head of Department: prof. Dr. Mona Hetta

Date: /01/2018

Course Specifications
(2019 – 2020)

Oncology

PP 908

Clinical Pharmacy Department

Course Specifications
(2019 – 2020)

A. Basic Information

Program(s) on which the course is given	Bachelor of Clinical Pharmacy
Department offering the course	Clinical Pharmacy Department
Faculty offering the program	Faculty of Pharmacy, Fayoum University
Dept. responsible for teaching the course	Clinical Pharmacy Department
Academic year / level	Fifth level ,first semester
Course title	Oncology
Course code	**PP908**
Contact hours (credit hours)	Lecture 2(2)+practical 2(1):Total 4(3)
Pre-requisite of the course:	Pathology &Pharmacology-2
Course coordinator	Dr Marwa Kamal Ahmed
Major or Minor element of program	Major
Date of specification approval	01/2019

B. Professional Information

1. Overall Aims of Course

After completing the course, the student should be able to understand major concepts of pharmaceutical care of the cancer disease states, their pathophysiology, and the therapeutic skills in their management.

2. Intended Learning Outcomes of Course (ILOs)

a- Knowledge and Understanding:

By the end of the course, the students should be able to:

a1- understand the concept of Oncology Therapeutics.

A2-understand the concept of drug interactions, adverse drug reactions, dosing monitoring & patient counselling.

a3-understand the basic principles of oncology (breast cancer, leukemia,endometrium & prostate cancer).

a4-understand the theories, basics and specialized information in clinical pharmacy.

a5-understand the ethical and legal principles of professional practice in clinical pharmacy.

a6-understand the principles and basics of quality related to professional practice in clinical pharmacy.

a7-understand the effectiveness of professional practice on the environment & its preservation & conservation.

b- Intellectual Skills

By the end of this course, the student should be able to:

b1- effectively summarize different pathological conditions of oncology.

B2-Identify & analyze problems in clinical pharmacy.

B3-Solve problems in clinical pharmacy.

B4-Read & critically analyze published literature.

B5-Make professional decisions in light of the available information.

c- Professional and Practical Skills

By the end of the course, the student should be able to:

c1- counsel the patients about their prescribed medications.

C2-design a complete therapeutic plan for provided complete cases in oncology.

C3-identified and solve different drug – drug and drug – disease interactions.

C4-Apply professional skills in clinical pharmacy

C5-Write professional reports

d- General and Transferable Skills

By the end of the course, the student should be able to:

d1- Solve problems, relating to qualitative and quantitative information, extending to situations where evaluations have to be made on the basis of limited information.

d2-acquire the necessary communication skills with both patients and other different healthcare professionals.

d3-work in team.

d4-Acquisition, transformation, interpretation and critical evaluation of data

d5-Critical evaluation, synthesis and interpretation of pharmaceutical information and data, production of pharmacy-specific scientific documentation, and presentation of pharmaceutical information and arguments clearly and correctly in writing and orally.

3. Contents

Teaching week	TOPIC	No. of lecture hours	No. of tutorial hours	Assessment of ILOs
1	Introduction to Cancer etiology&pathophysiology& Types of tumors	2		A1,a4,a5,a6,a7
2	Supportive care of cancer patients (Antiemetic&Pain management)	2	2	B1,b2,b3,b4,b5
3	Supportive care of cancer patients (Neutropnia& Tumor lysis syndrome Hypercalcemia&Extravasation)	2	2	B1,b2,b3,b4,b5
4	Pthophysiology , etiology &types & Management of acute lymphocytic leukemia	2	2	A3,c2,c5,c4
5	Bone marrow transplantation	2	2	A3,c2
6	Endometrium cancer	2	2	A3,c2,c4
7	Breast cancer	2	2	A3,c2,c4
8	Prostate cancer	2	2	A3,c2,c4
9	Cancer Chemotherapy 1	2	2	A2,c1, c3
10	Cancer Chemotherapy 2	2	2	A2,c1,c3
Total no of hours		20	18	
		FINAL Exam		

4. Teaching and Learning Methods

4.1- Lectures (board, data show)

4.2- Assignments

4.3- Class discussion

5. Student Assessment Methods

5.1. Written exams to assess knowledge and understanding as well as intellectual skills.

5.2. Oral exams to assess all types of skills and mainly general and transferrable skills practice.

5.3. Practical exams

Assessment Schedule

Quiz 1	4th week
Quiz 2	9th week
Practical exam	10 . th week

Weighting of Assessments

Periodical	15%
Practical	25%
Final exam	50%
Oral exam	10%
Total	100%

6. List of References

6.1- Course Notes……

Oncology PP 908, by clinical pharmacy staff members

6.2- Essential Books (Textbooks)……

Handbook of systemic treatment for cancer , 8th edition

Textbook of oral cancer

6.3- Periodicals …

Journal of cancer education

-Supportive care in cancer

6.4- Web Sites

http://www.webmd.com/default.htm

http://online.lexi.com/lco/action/home/switch

http://www.ncbi.nlm.nih.gov/pubmed

7. Facilities required for teaching and learning

1. Lecture rooms with data show
2. Procurement of latest edition of the above-mentioned texts and others to update the education process

Course Coordinator: Dr Marwa Kamal

Head of Department: Dr Mona Hetta

Date: 07/09/2018

Course Specifications

Biopharmaceutics And Pharmacokinetics (PT 609)

Semester 3

Level 6

Fayoum University

Clinical Pharmacy Program

Course Specification

A-Basic Information	
Course code:	PT 609
Course name:	Biopharmaceutics and pharmacokinetics
Credit hours of the course:	Lecture: 2 Practical: 1 Total: 3
Pre-requisite of the course:	Dosage forms 2
Department teaching the course:	pharmaceutics
Program for which the course is given:	Clinical Pharmacy Program
Course Co-ordinator:	Dr. Doaa Helal
Head of the Department:	Prof Dr. Mona Hetta
Date of specifications approval:	17/1/2017

B-Professional Information
1- Overall aims of the course:
By the end of this course the students should be able to recognize : **Provide a comprehensive understanding of the principles of radiation** and the application of radioactive compounds in medical diagnosis, therapy, and industrial applications. **Equip students with the knowledge of radiopharmaceuticals,** focusing on their preparation, quality control, and the rationale behind their use in clinical and diagnostic settings.
2-intended learning outcomes (ILO'S)
a- knowledge and understanding by the end of this course, the student should be able to :

1 .Define and understand the meaning of pharmacokinetics, biopharmaceutics, pharmacodynamics, absorption, distribution, metabolism, and excretion

2. Understand the components of a standard pharmacokinetic study

3. Understand the differences between the pharmacokinetic models and know the . advantages: and limitations of each model

4. Demonstrate understanding of the physiological and biological factors that affect drug absorption

5. Relate the physicochemical properties of the drug to its systemic absorption

6. Appreciate the effects of the formulation

B. Intellectual Skills

By the end of this course, the student should be able to:

1. Solve different pharmacokinetic problems that depend on data graphing
2. Solve different problems related to drug pharmacokinetics
3. Solve different problems related to drug clearance, and bioavailability
4. Correlate quantitatively the pharmacokinetic theories with development, evaluation and preparation of effective and sale dosage form
5. Suggest alternative dosage forms

c-Professional and Practical Skill

By the end of this course, the student should be able to:

1. Estimate the values of different pharmacokinetic parameters from plasma drug concentration and urinary excretion data

2. Write pharmacokinetic analysis reports.

3. Predict systemic drug absorption based on the biological environment in which it is located. the physiochemical properties of the drug, the formulation factors and the dosage form

4. Evaluate patient characteristics that may influence drug selection and the delivery system.

5.Estimate the absolute and relative drug bioavailabilities using plasma and urinary data

6. Design and evaluate of bioequivalence studies

- **D-General Skills**:
  - Demonstrate good oral and written communication
- Write well-structured reports
- Work independently and in groups
- IT Skills
- At the end of this course the student must be able to
- Use relevant software (eg MS Word and Excel) Use current IT facilities, including on-line internet information
- Practice and demonstrate literature retrieval skills
- Group working:
- During the course, the students will
- Work as part of a group in order to produce the written presentation.
- Work within groups and separately in carrying out experiments

3- Course contents:

Topic	Hours		
Introduction to pharmacokinetics (definitions and pharmacokinetics-pharmacodynamics relationship , mathematic review, a brief background on drug analysis in biological fluids ,plasma and urinary data)	2	2	4
Absorption ,distribution , elimination kinetics	2	2	4
Compartmental pharmacokinetics model(assumptions advantages limitation and pharmacokinetics parameters):	1	1	2
One compartmental model :iv bolus	1	1	2
One compartmental model :iv infusion	1	1	2
One compartmental model EV administration	1	1	2
Two compartment model : iv bolus	1	1	2
Multiple administration	1	1	2
bio pharmaceutics	1	1	2
Bioavailability and bioequivalence	1	1	2
total	12	12	24

4- Teaching and Learning Methods (lectures, open discussion, role plays…etc.):

1- Lectures
2- Practical laboratory sessions

5.. Student Assessment

a-Assessment Methods and Weighing

1- Class participation: 5%
2- Practical exam: 25%

3- Oral exam 15%

4- Final exam: 50%

b- Assessment Schedule:

1- Class participation: Quiz 1: Week 4-5

Quiz 2: Week 8-9
Other activities throughout the semester

2- Practical exam: Week 13-14

3- Oral exam: According to semester timetable
4- Final exam: According to semester timetable

Course Coordinator: Dr. Doaa Helal

Head of Department: Prof. Dr. Mona Hetta

Date: /01/2017

Course Specifications
(2017 – 2018)

Course title: Clinical Biochemistry

Course code: PB 803

A. Basic Information:

Course Title:	Clinical Biochemistry		
Course Code:	PB 803		
Program on which the course is given:	Clinical		
Department offering the course:	Biochemistry		
Academic year/ level:	2nd Semester 2017/2018	Level:4	
Prerequisite:	Biochemistry 1		
Credit hours:	Lecture:2	Practical:1	Total:3

B. Professional Information

1. Course Aims:

This course provides an overview of how biochemical investigations are employed to develop a clinical diagnosis. To understand the biochemical changes accompanied to metabolic disorders and the role of endocrine system in its regulation. It describes disorders of lipids lipoproteins and Plasma protein abnormalities. It illustrates clinical enzymology, tumor markers and different techniques and applications of molecular biology that used in in clinical biochemistry laboratory.

2. Intended Learning Outcomes (ILOs):

a. Knowledge and understanding:

At the end of this course, student should be able to:

A1	a1.	Describe major concepts and applications of clinical biochemistry.
	a2.	Recognize the functions and blood levels of hormones, including adrenal gland, thyroid gland, pituitary gland, gonads and insulin hormone, in health and disease state.
A11	a3.	Define the principles of laboratory diagnosis (the reference range) and clinical aspects of different disorders in cases of lipids, lipoproteins, plasma protein abnormalities and carbohydrate metabolism disorders.
	a4.	Recall main Techniques of molecular biology used in diagnosis of different diseases

		(liver, kidney and heart dieases)
	a5.	Define tumor markers and outline the most common tumor markers used for laboratory diagnosis of different malignancies

b. Intellectual Skills:

At the end of this course, student should be able to:

B13	b1.	Interpret laboratory results based on relevant biochemical principles
B14	b2.	Evaluate evidence-based information (complete blood counts and blood indices) needed in clinical decisions
B17	b3.	Formulate a systemic approach for the laboratory clinical diagnosis using clinical enzymology and tumor markers in lipids, lipoproteins, plasma protein abnormalities and endocrine disorders
B18	b4.	Integrate basic biochemical and physiological facts in cancer with clinical data
B21	b5.	Interpret clinical laboratory tests in carbohydrate metabolism disorders with the impact of clinical symptoms.

c. Professional and Practical Skills:

At the end of this course, student should be able to:

C1	c1.	Utilize the proper information about endocrine system, clinical enzymology and complete blood counts to communicate with other health care professionals
C5	c2.	Apply good pharmacy practice by proper understanding of human physiology and pathophysiology of endocrine system disorders, cancer, Inborn errors of CHO metabolism
C11	c3.	Conduct scientific research using internet materials followed by presentation, analysis and interpretation of the results.

d. General and Transferable Skills:

At the end of this course, student should be able to:

D3	d1.	Work effectively as a part of a team to perform the required tasks
D6	d2.	Develop skills required for self-learning
D11	d3.	Generate effective and reasonable solutions for rising problems based on the available information.

3. Contents:

3.1. Lectures:

Study	Topics	No. of

week		Credit Hours
1.	Disorders of lipids & Lipoproteins	2
2.	Endocrine disorders	2
3.	Endocrine disorders	
4.	Plasma protein abnormalities	2
5.	Inborn errors of CHO metabolism	2
6.	Prenatal diagnosis	2
7.	Tumor markers	2
8.	Haemoglobin disorders	2
9.	Recombinant DNA technology	2
10.	Techniques & application of molecular biology	2
11.	Techniques & application of molecular biology	2
12.	**Final Exam**	Total: 2 credit hours
13.		

3.2. Practical:

Study week	Topics	No. of Credit Hours
1.	Introduction, handling processes and safety Clinical Enzymology	1
2.	Clinical enzymology	1
3.	Liver Function Tests	1
4.	Bilirubin and cases on liver disease	1
5.	Case study on Diabetes mellitus	1
6.	Serum cholesterol determination and case study	1
7.	Triglycerides determination and case study	1

8.	Molecular biology	1
9.	PCR (Polymerase Chain Reaction)	1
10.	Revision	1
11.	**Practical Exam**	
12.	**Final Exam**	Total: 1 credit hour

4. Teaching and Learning Methods:

4.1.	Lectures
4.2.	Research in library and web (homework and assignments)
4.3.	Discussion
4.4.	Practical lab
4.5.	E- learning and demonstrating videos

5. Student Assessment Methods:

5.1. Assessment methods:

1. Written exam	to assess knowledge, understanding, intellectual and professional skills.
2. Practical exam	to assess professional and practical skills.
3. Course work	to assess knowledge, understanding, intellectual skills, general and transferable skills.
4. Oral exam	to assess knowledge, understanding, intellectual skills, general skills and confidence.
5. Quizzes	to assess knowledge, understanding and intellectual skills.

5.2 Assessment schedule:

Assessment 1	Quiz 1	4th week
Assessment 2	Mid-Term	8th week
Assessment 5	Practical exam	11th week
Assessment 6	Oral exam	12th & 13th weeks

Course Specifications
(2017 – 2018)

Course: Drug Marketing

Course code: PP 806

Course Specifications
(2017 – 2018)

A. Basic Information

Program(s) on which the course is given:	Clinical
Department offering the course	Clinical pharmacy
Faculty offering the program	Pharmacy
Dept. responsible for teaching the course	Clinical pharmacy
Academic year / level	4th
Course title	Drug Marketing
Course code	PP 806
Contact hours (credit hours)	1
Pre-requisite of the course:	No
Course coordinator	Dr. Ahmed Adel
Major or Minor element of program	Minor
Date of specification approval	07/01/2018

B. Professional Information

1. Overall Aims of Course

Marketing analysis, orientation to decision making, management of new product venture, advertising distribution, marketing information system.

2. Intended Learning Outcomes of Course (ILOs)

a- Knowledge and Understanding:

By the end of the course, the students should be able to:

a1. Perform suitable marketing analysis

a2. Discuss marketing information system.

b- Intellectual Skills

b1. Apply marketing analysis on different business models

b2. Apply different strategies for management of new product venture and advertising distribution

By the end of this course, the student should be able to:

c- **Professional and Practical Skills**

c1. Utilize proper marketing strategy for selected product

By the end of the course, the student should be able to:

c- General and Transferable Skills

By the end of the course, the student should be able to:

d1. Communicate verbally using marketing analysis, orientation to decision making, management of new product venture, advertising distribution, marketing information system.

Contents

Teaching week	TOPIC	No. of lecture hours	No. of Practical hours
1	Introduction and principles of marketing and marketing strategies	1	0
2	Orientation to decision making	1	0
3	Orientation to decision making	1	0
4	Training on decision making	1	0
5	Management of new product venture	1	0
6	Management of new product venture	1	0
7	**First periodic exam**	1	0
8	Advertising distribution	1	0
9	Training on advertising distribution	1	0
10	Marketing information system	1	0
11	Application of marketing information system	1	0
12	Second periodic exam	1	0
Total no of	12		

hours	
13	FINAL Exam

3. Teaching and Learning Methods

4.1- Lectures (board, data show)

4.2- Assignments

4.3- Class discussion

4. Student Assessment Methods

5.1. Periodic exams to assess knowledge and understanding as well as intellectual skills.

5.2. Written exams to assess all types of skills and mainly general and transferrable skills practice.

Assessment Schedule

Quiz 1 — 7th week

Quiz 2 — 12th week

Final exam — 13th week; according to semester schedule

Weighting of Assessments

Periodical — 10%

Final exam — 90%

Total — 100%

5. List of References

6.1- Course Notes: Lecture notes in Drug Marketing

6.2- Essential Books (Textbooks)

1. **Pharmaceutical** marketing: Practical guide: Dimitris Dogramatzis

Facilities required for teaching and learning

1. Lecture rooms with data show
2. Procurement of latest edition of the above-mentioned texts and others to update the education process

Course Coordinator: Dr. Ahmed Adel

Course Specifications
(2017 – 2018)

Head of Department: Prof. Mona Hetta

Date: 07 /01/2018

Course Specifications
(2020 –2021)

Clinical Microbiology

(PM502)

Course Specifications
(2020 –2021)

Clinical Microbiology

A. Basic Information

Program(s) on which the course is given	Clinical Pharmacy
Department offering the course	Microbiology and immunology
Faculty offering the program	Faculty of Pharmacy, Fayoum University
Dept. responsible for teaching the course	Microbiology and immunology
Academic year / level	Level 3, first semester
Course title	Clinical Microbiology
Course code	PM502
Contact hours (credit hours)	3(Lecture 2+ practical 1)
Pre-requisite of the course:	Basic Microbiology and Immunology
Course coordinator	Dr/ Mahmoud Khalil
Major or Minor element of program	Major
Date of specification approval	17/09/2016

B. Professional Information

1. Overall Aims of Course

The course Provides concise information about most medically important infectious diseases related to different groups. It gives detailed information about the biology of the etiological agent(s), mode of transmission, pathogenesis and clinical symptoms, immunogenicity, laboratory diagnosis as well as prophylaxis, control and treatment for each disease.

2. Intended Learning Outcomes of Course (ILOs)

a- Knowledge and Understanding:

By the end of this course, the student should be able to:
a1-Know the sources of infectious diseases.
a2-Know the mode of transmission of infectious diseases.
a3-Understand the scientific basis for the relation between the disease and the virulence factors of the causative agent.

b- Intellectual Skills

By the end of this course, the student should be able to:

b1-Design the conceptual and methodological aspects of medical microbiology.
b2-Evaluate the relation between the disease and the virulence factors of the causative agent

c- Professional and Practical Skills

By the end of this course, the student should be able to:

c1-Select the characteristic clinical symptoms of the diseases

c2-apply the laboratory diagnosis of infectious diseases.
c3-Estimate the planning policies for treatment as well as prophylactic measures for each disease.

d- General and Transferable Skills

By the end of the course, the student should be able to:

By the end of this course, the student should be able to:

d1-Have the power to differentiate between diseases with related symptoms

d2-Show the measures for control of infectious diseases

3. Contents

Teaching week	TOPIC	No. of lecture hours	Assessment of ILOs	Practical
1	Introduction to microbial infection	2+1	a1, a2, a3	laboratory safety measures
2	Bacteriology- Gram positive cocci	2+1	a3, b1, b2, c1, c2, c3, d1, d2	Laboratory diagnosis of clinical specimens
3	Gram negative cocci & Gram positive bacilli	2+1	a3, b1, b2, c1, c2, c3, d1, d2	Gram positive cocci
4	Gram negative bacilli-1	2+1	a3, b1, b2, c1, c2, c3, d1, d2	Staphylococci
5	Gram negative bacilli-2	2+1	a3, b1, b2, c1, c2, c3, d1, d2	Gram positive cocci
6	Gram negative bacilli-3	2+1	a3, b1, b2, c1, c2, c3, d1, d2	Streptococci
7	Gram negative bacilli-4	2+1	a3, b1, b2, c1, c2,	Enterococci

			c3, d1, d2	
8	Acid fast bacteria	2+1	a3, b1, b2, c1, c2, c3, d1, d2	Gram negative cocci
9	Chylamydiae, Mycoplasma &Rickettsiae	2+1	a3, b1, b2, c1, c2, c3, d1, d2	Neisseria
10	Virology-1	2+1	a3, b1, b2, c1, c2, c3, d1, d2	Non-spore forming Gram positive bacilli
11	Virology-2	2+1	a3, b1, b2, c1, c2, c3, d1, d2	(C. diphtheriae)
12	Mycology	2+1	a3, b1, b2, c1, c2, c3, d1, d2	Spore forming Gram positive bacilli
Total no of hours	**24+12**			
13	**FINAL Exam**			

4. Teaching and Learning Methods

4.1- Lectures (board, data show) √

4.2- Assignments √

4.3- Class discussion √

5. Student Assessment Methods

5.1. Written exams to assess knowledge and understanding as well as intellectual skills.

5.2.Oral exams to assess all types of skills and mainly general and transferrable skillspractice.

5.3. Practical exams

Assessment Schedule

Quiz 1 — 4th week

Quiz 2 — 9th week

Practical exam — 12th week

Final exam	13th week
Oral exam	13th week

Weighting of Assessments

Periodical	10%
Practical	25%
Final exam	50%
Oral exam	15%
Total	100%

6. List of References

6.1- Course Notes: Clinical Microbiology, Microbiology and Immunology Department.

6.2 - Essential Books (Textbooks): Medical Microbiology, 8th Edition

Microbiology: A Clinical Approach by Anthony J. Strelkauskas

7. Facilities required for teaching and learning

1. Lecture rooms with data show

Course Coordinator: Dr/ Mahmoud Khalil

Head of Department: Prof. Mona Hetta

Date: /09/2016

Course Specifications

Cosmetic Preparation (PT E13)

Elective Course

Course Specification

A-Basic Information	
Course code:	PT E13
Course name:	cosmetic preparations
Credit hours of the course:	Lecture: 2 Practical: - Total: 2
Pre-requisite of the course:	Registration
Department teaching the course:	Pharmaceutics
Program for which the course is given:	Clinical Pharmacy Program
Course Co-coordinator:	Dr. Doaa Helal
Head of the Department:	Prof. Dr.Mona Hetta
Date of specifications approval:	07/1/2018

B-Professional Information
1- Overall aims of the course:
By the end of this course the students should be able to recognize (1) Provide foundational knowledge of cosmetic products, including their definition, classification, and the principles behind their formulation and preparation for personal care and hygiene. (2) Equip students with the skills required to formulate a variety of cosmetic products, including hair care preparations, skin care products, fragrances, make-up products, nail lacquers, shaving products, and more.
2-intended learning outcomes (ILO'S):
a- knowledge and understanding by the end of this course .the student should be able to :

A1. Define key concepts and terminology related to cosmetic preparations, including classifications, formulations, and the role of cosmetic products in personal care and hygiene.
A2. Identify and describe the various types of cosmetic preparations, including hair care products, skin care products, fragrances, make-up, nail lacquers, shaving products, and other hygiene-related formulations.
A3.Explain the basic principles of cosmetic formulation, including the selection and function of excipients, active ingredients, and preservatives in the development of safe and effective cosmetic products.
A4.Understand the formulation techniques for different cosmetic products, including emulsions, suspensions, gels, and other systems commonly used in the cosmetic industry.

B-Intellectual Skills

By the end of this course, the student should be able to:
B1.Analyze and evaluate the composition of cosmetic products, identifying the role of each ingredient in the formulation and understanding its impact on the final product's performance, stability, and safety.
B2. Apply principles of cosmetic formulation to design and modify products based on specific requirements, such as desired texture, consistency, and targeted consumer needs (e.g., moisturizing, anti-aging, or fragrance-free).
B3. Critically assess the quality control methods used for cosmetic products, including stability testing, microbiological safety assessments, and performance evaluations, and propose appropriate modifications when necessary.
B4 Evaluate the regulatory and ethical considerations in the cosmetic industry, including adherence to safety guidelines, labeling regulations, and environmental considerations in the formulation and marketing of products

c-Professional and Practical Skills

By the end of this course, the student should be able to
C1. Formulate a range of cosmetic products (e.g., hair care, skin care, fragrances, makeup, shaving preparations) using appropriate ingredients and techniques, ensuring product efficacy and safety.
C2.Prepare and handle cosmetic formulations in a laboratory setting, demonstrating proficiency in the use of laboratory equipment and techniques for compounding, mixing, and packaging products.
C3.Perform quality control tests on cosmetic products, including stability testing (e.g., temperature, light, and humidity stability), pH measurements, viscosity testing, and microbiological evaluations to ensure product safety and effectiveness.

d-General Skills:

By the end of this course, the student should be able to:
D1. Adapt to emerging trends and technologies in the cosmetic industry, staying informed about new ingredients, formulation techniques, regulatory changes, and sustainability practices that impact the development of cosmetic products.
D2. Demonstrate attention to detail in both practical and theoretical aspects of the course, ensuring accuracy in experimental work, record-keeping, and analysis of cosmetic formulations.
D3. Show initiative and creativity in designing new cosmetic products, improving existing formulations, or exploring novel concepts in cosmetic science to meet consumer needs and industry demands.

3- Course contents:			
Topic	**No. of hours**		
	Lecture	**Practical**	**Total**
Introduction to Cosmetic Preparations	2	0	2
Classification of Cosmetic Products	2	0	2
Make-up Preparations	2	0	2
Nail Lacquers and Shaving Preparations	2	0	2
Skin Care and Anal Hygiene Products	1	0	1
Antiperspirants and Deodorants	1	0	1
Bath and Fragrance Preparations	1	0	1
Hair Care Preparations	1	0	1
Total	12	0	12

4- Teaching and Learning Methods (lectures, open discussion, role plays,…etc.):
- Lectures, using Power point presentation - Open discussion -

a- Assessment Methods and Weighing
- Class participation: 10% - Practical Exam: 0 - Oral Exam - Final Exam:90%
b- Assessment Schedule:
- Class participation: Quiz 1: Week 4-5 Quiz 2: Week 8-9 Other activities: throughout the semester - Practical Exam: -- - Oral Exam: -- - Final Exam: According to semester timetable

Course Coordinator: Dr. Doaa Helal

Head of Department: Prof. Dr. Mona Hetta

Date: 07/01/2018