

Pharmacy Management (PHP 301)

Program (s) on which the course is given:	Bachelor of Pharmaceutical Sciences and Pharmaceutical Industries
Department offering the program:	All Faculty Departments
Department offering the course:	Pharmacy Practice & Clinical Pharmacy
Academic year:	2014/2015
Approval Date:	September 2014

A. Basic Information

Course Title: Pharmacy Management	Course Code: PHP 301
Prerequisites: -----	
Students' Level/Semester:	Third Level/ Fifth Semester
Credit hours:	1
Actual teaching hours per week:	
Lectures: 1/week	Practical: 0/week Tutorial: N/A Total: 1/week

B. Professional Information

1. Overall Aim of Course

The course aims to give students a background about self-management pharmacy as a legal business; how to choose a location, products' arrangement, types of planning, operations, services, inventory, laboratory, modern pharmacy practice, types of pharmacies (community pharmacy and hospital pharmacy) and financial analysis. The student also understands basic managerial, organizational functions, and organization behavior to provide optimum care.

2. Intended Learning Outcomes (ILOs)

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

a- Knowledge and Understanding:

- a1. Define the different managerial functions
- a2. Identify the different factors that affect organization and organization behavior.
- a3. Describe the importance of customers, customer service, and purchasing and inventory management.
- a4. List steps of strategic planning.
- a5. Classify management functions.
- a6. Enumerate steps of planning process.
- a7. Outline purchasing process.
- a8. Determine types of inventory management reports.

b- Intellectual Skills:

- b1. Develop critical thinking and decision-making skills.
- b2. Practice the different planning types for specific cases.

b3. Discuss theoretical concepts and applied techniques in planning, and management.

c- Professional and Practical Skills:

- c1. Apply a variety of managerial concepts.
- c2. Demonstrate efficiency, effectiveness, conflict versus negotiation, and major job attitudes.
- c3. Analyze information and data from different companies in the pharmaceutical marketplace.

d- General and Transferable Skills:

- d1. Communicate effectively with others
- d2. Manage different situations professionally.
- d3. Apply gained skills of adaptability and flexibility in response to the ever-changing external environment.

3. Contents

Teaching Weeks	Topic	No. of hours	Lecture
One	<u>What to manage in a pharmacy?</u> Types of pharmacies, regulations, Pharmacy design and Products' arrangement.	1	1
Two	<u>What to manage in a pharmacy?</u> Finance and cash flow, Services, Inventory, Laboratory, Staff, and Building competitive advantage.	1	1
Three	<u>Management functions and managers.</u> Fayol's 5 management functions, Management activities cycle, Organizational performance, Efficiency and effectiveness, Efficiency versus effectiveness, Planning and types of planning	1	1

Four	<u>Management functions and managers.</u> Steps of the planning process, Barriers to effective planning, Business planning, Steps of strategic planning, Organizing + First Midterm Exam	1	1
Five	<u>Management functions and managers.</u> Organizational structure, Leading Controlling, Levels of management, Average, successful and effective managers, Management skills.	1	1
Six	<u>Organization and organizational behavior.</u> Attitudes & Major Job attitudes, Satisfied and dissatisfied employees The big 5 personality model, Personality features relevant to organizational behavior, What is perception?	1	1
Seven	<u>Organization and organizational behavior.</u> Selective perception versus stereotyping, Affect, emotions and moods, What is emotional intelligence? Leadership, power and legitimate powers Conflict versus negotiation Conflict resolution techniques The negotiation process (BATNA)	1	1
Eight	Second midterm exam		
Nine	<u>Purchasing and inventory management.</u> Purchasing objectives, Pharmacy purchasing process, Purpose of inventory, Types of stocks	1	1
Ten	<u>Customers and customer service.</u> <u>Who is customer? Customer roles,</u> <u>Types of customers, customer</u>	1	1

	<u>behavior, Characteristics of a service, Customer service, Requirements of delivering good customer service</u>		
Eleven	<u>Purchasing and inventory management.</u> Just-in-time inventory, Types of discounts, Factors to consider in inventory management	1	1
Twelve	Types of inventory management reports	1	1
Thirteen	Revision	1	1
Total no. of hours		12	12
Fourteen	Final Exams of Faculty		
Fifteen			
Sixteen			

4. Teaching and Learning Methods

- 4.1. Interactive learning through class discussions
- 4.2. Internet search and self-learning
- 4.3. Group based learning
- 4.4. Case Study

5. Student Assessment Methods

- 5.1. Written exams to assess knowledge and understanding as well as intellectual skills.
- 5.2. Semester Work (Assignments, Research and Case Study) to assess professional as well as general and transferrable skills

Assessment Schedule

Assessment 1 (First midterm)	(4 th Week)
Assessment 2 (2 nd Midterm written Exam)	(8 th Week)
Assessment 3 (Final Exam)	(15 th Week)
Assessment 4 Semester Work (Assignments/Research/Case Study)	(throughout the semester)

Weighting of Assessments

1 st Mid-Term Examination	10%
2 nd Midterm Examination	20%
Final-Term Examination	50%
Semester Work	20%
(Assignments / Research / Case Study)	
Total	100%

6. List of References

6.1 Course Notes: Handouts

6.2 Essential Books (Text Books)

Pharmacy Management, Desselle SP & Zgarrick DP, Graw-Hill Medical 2nd edition 2011

6.2 Recommended Books

Kotler, Philip, and Gary Armstrong. *Principles of marketing*. Pearson Education, 2010.

6.3 Periodicals, Websites,etc

www.Wikipedia.com

7 Facilities Required for Teaching and Learning

Computer and data show supplied with internet access
Smart board

Course Coordinator Dr. Hany Aboutabl

Head of Department Prof. Dr. Ebtissam Darweesh

Department Approval Date: September 2014

Pharmacy Legislation & Community Pharmacy

PHP 302

Program (s) on which the course is given:	Bachelor of Pharmaceutical Sciences and Pharmaceutical Industries
Department offering the program:	All Faculty Departments
Department offering the course:	Pharmacy Practice & Clinical Pharmacy
Academic year:	2014/2015
Approval Date:	September 2014

A. Basic Information

Course Title: Pharmacy Legislation & Community Pharmacy

Course Code: PHP 302 **Prerequisites:** Medical Terminology (PHL 102)

Students' Level/Semester: 3rd Level/ 6th Semester

Credit hours: 2 (2+0)

Actual teaching hours per week:

Lectures: 2/week **Practical:** 0/week **Tutorial:** N/A **Total:** 2/week

B. Professional Information

1. Overall Aim of Course

The aim of course is to familiarize the student with the roles of community pharmacy and provide knowledge and skills on recommendation of non-prescription medications. The topics aim to develop self-reliance and an adult approach to learning in support of continuing professional development. Pharmacy regulations for pharmacy profession, drug registration, and controlling the use of narcotic drugs are other aims.

Intended Learning Outcomes (ILOs)

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

a- Knowledge and Understanding:

- a1. Recognize the role of a community pharmacist.
- a2. Differentiate between simple ailments and major diseases.
- a3. Identify patient's primary complain and reason for seeking medical care.
- a4. Outline a structured response to symptoms in the community pharmacy for minor and moderate infantile and children diseases.
- a5. Illustrate the process of patient monitoring for other minor and moderate diseases.
- a6. Point out the responsibility and duty towards Egyptian pharmacy law.
- a7. Describe the process of drug registration in Egypt.

b- Intellectual Skills:

- b1. Perform selected aspects of physical assessment, appropriate

Course Specifications

- b2. Distinguish minor, moderate and severe illness.
- b3. Adopt a structured response (ASMETHOD) to symptoms in the Community Pharmacy to verify the degree of illness and hence treatment by non-prescription of prescription medication
- b4. Recommend non-pharmacological, pharmacological treatments or both for the management of a disease to ensure optimum drug therapy
- b5. Optimize drug therapy to minimize drug therapy problems
- b6. Evaluate his/her responsibilities for establishing a community pharmacy and dealing with medications according to Egyptian pharmacy law to comply with national regulations.

c- Professional and Practical Skills:

- c1. Practice clear, accurate and confident communication with patients and health care professionals to establish team working
- c2. Choose the most effective, safe and economic non-prescription medication based on best gathering of information to ensure patient's drug related needs
- c3. Implement a self-patient monitoring system to ensure achievement of the desired therapeutic outcomes
- c4. Apply learned knowledge to perform his job as a community pharmacist by the best professional and social behaviors .

d- General and Transferable Skills:

- d1. Communicate with patients, caregivers, other health care professionals, and the public using appropriate listening, verbal, nonverbal, and written communication skills
- d2. Apply gained information about ethics to exhibit a caring and respectful attitude.
- d3. Demonstrate empathy while establishing rapport and communicating with the patient and/or caregiver.
- d4. Demonstrate professionalism and leadership within professional and the society.

2. Contents

Week	Topic	No. of hours	Lecture
One	Community pharmacy introduction	2	2
Two	Pharmacy regulations, Pharmacy law for pharmacy professions , Drug registration in Egypt, drug handling and licensing and narcotics	2	2

Three	Cold & Flu Cough	2	2
Four	Sore Throat Allergic Rhinitis + First Midterm Exam	2	2
Five	Mouth Ulcers Heart Burn Indigestion	2	2
Six	Nausea & Vomiting Constipation Diarrhea	2	2
Seven	Headache Musculoskeletal problems	2	2
Eight	Second Midterm Exam		
Nine	Drug use in special populations Common Childhood Rashes	2	2
Ten	Acne Athlete's Foot Warts & Verrucae	2	2
Eleven	Communication Skills Patient Counselling Students' Cases Presentations	2	2
Twelve	Revision Students' Cases Presentations	2	2
Thirteen	Students' Cases Presentations	2	
Total		24	24
Fourteen	Final Exams of Faculty		
Fifteen			
Sixteen			

4. Teaching and Learning Methods

- a. Case Study
- b. Active learning
- c. Self-Learning
- d. Interactive lectures & open discussions
- e. Group-based learning for patient counseling

5. Student Assessment Methods

- 5.1. Written to assess knowledge and understanding as well as intellectual skills.
- 5.2. Student Activities (Research/Assignment) to assess all skills including transferrable & professional skills.
- 5.3. Case Presentation to assess general and transferrable skills.

Assessment Schedule

Assessment 1	1 st Mid-term Examination	4 th week
Assessment 2	2 nd Mid-Term Examination	8 th week
Assessment 3	Assignments/researches/Activities	Throughout the semester
Assessment 4	Final Written Examination	15 th week
Assessment 5	Case Presentation	Throughout the semester

Weighting of Assessments

1 st Mid-Term exam	10%
2 nd Mid-Term Examination	20 %
Final-Term Examination	50 %
Case presentation	10%
Written (Research / Assignment)	10%
Total	100%

6. List of References

6.1. Course Notes

- 6.1 Lectures handout

6.2. Essential Books (Text Books)

- .Wasson, John, et al. *The common symptom guide*. McGraw Hill Professional, 2009.

6.2. Recommended Books

- Blenkinsopp, Alison, Paul Paxton, and John Blenkinsopp. *Symptoms in the pharmacy: a guide to the management of common illness*. John Wiley & Sons, 2013.

6.4. Periodicals and Websites

- 6.4.1 www.drugs.com
- 6.4.2. www.pubmed.com

7. Facilities Required for Teaching and Learning

SMART boards supplied with internet access.

Powerpoint Slideshows

Course Coordinator Dr. Naglaa Bazan

Head of Department Prof. Dr. Ebtissam Darweesh

Department Approval Date: September 2014

Hospital Pharmacy-1 (PHP 421)

Program (s) on which the course is given:	Bachelor of Pharmaceutical Sciences and Pharmaceutical Industries
Department offering the program:	All Faculty Departments
Department offering the course:	Pharmacy Practice & Clinical Pharmacy
Academic year:	2014/2015
Approval Date:	September 2014

A. Basic Information

Course Title: Hospital Pharmacy 1	Course Code: PHP 421		
Prerequisites: Introduction to Pharmaceutics (PHT 212)			
Students' Level/Semester:	Fourth Level/ Seventh Semester		
Credit hours:	3 (2+1)		
Actual teaching hours per week:			
Lectures: 2/week	Practical: 2/week	Tutorial: N/A	Total: 4/week

B. Professional Information

1. Overall Aim of Course

The course was designed to provide pharmacy students with an overview in development, organization, services, practice and main strands of hospital pharmacy, pharmacy and therapeutic committee, hospital pharmacist function, drug distribution systems, patient counseling and education, hospital formulary, total parenteral nutrition, rational use of drugs, laboratory data review, reporting of medication errors, handling of cytotoxic drugs, intravenous admixture.

2. Intended Learning Outcomes (ILOs)

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

a- Knowledge and Understanding:

- a1.** Outline the contemporary role of hospital pharmacist.
- a2.** Determine hospital pharmacy activity.
- a3.** Identify organization of department of pharmaceutical services in hospitals.
- a4.** Review patient laboratory data.
- a5.** Describe IV admixture and TPN preparation.
- a6.** Enumerate the specifications and requirements for handling cytotoxic drugs.
- a7.** List the best patient drug related needs during TPN therapy.

b- Intellectual Skills:

- b1.** Distinguish the different organizations of hospital pharmacy departments, services and procedures.
- b2.** Indicate the best method for drug distribution in hospitals
- b3.** Choose the best methods for 1ry and 2ry IV drug administration.
- b4.** Interpret laboratory tests for patients.
- b5.** Indicate the best way to handle cytotoxic drugs.

b6. Outline medication errors problems.

c- Professional and Practical Skills:

- c1.** Calculate the doses for adults and pediatrics on scientific basis.
- c2.** Reconstitute dry powder medication with required concentration.
- c3.** Calculate the IV infusion rate for regular IV sets and IV pumps.
- c4.** Design a TPN supply for patients.

d- General and Transferable Skills:

- d1.** Communicate effectively verbally and nonverbally.
- d2.** Argue freely with the medical team using good command of medical terminology.
- d3.** Apply all aspects concerning drug purchase, supplies, storage, etc.
- d4.** Communicate with other health care providers and patients.

3. Contents

Teaching weeks	Topic	No. of Hours	Lecture	Practical
One	Hospital pharmacist functions, Main strands of hospital pharmacy, Hospital pharmacy practice.	4	2	
	Communication skills of hospital pharmacist.			2
Two	Facilities of hospital pharmacy, Hospital formulary.	4	2	
	Taking medication history of patients.			2
Three	Hospital Formulary, Pharmaceutical and clinical Services of hospital pharmacy; rational use of drugs.	4	2	
	Clinical case presentation.			2
Four	In-patient services, Drug distribution systems. + First Midterm Exam	4	2	
	Reconstitution of dry powders			2
Five	In-patient services: Intravenous admixtures.	4	2	
	Dosage calculation			2

Course Specifications

Six	In-patient services: Drug therapy monitoring.	4	2	
	Calculation of IV infusion rate.			2
Seven	Outpatient services and drug information services.	4	2	
	Adjustment of dose of insulin. Adjustment of dose of heparin.			2
Eight	2nd Mid-term Exam	0	0	0
Nine	Pharmaceutical procurement and control services.	4	2	
	Design of TPN therapy.			2
Ten	Handling of cytotoxic drugs.	4	2	
	Interpretation of medication label.			2
Eleven	Patient education and counseling. Reporting of medication errors and Drug-drug interactions	4	2	
	Review of lab data.			2
Twelve	Practical exam.	4	2	
				2
Total no. of hours		44	22	22
Thirteen	Final exams			
Fourteen				
Fifteen				

4. Teaching and Learning Methods

- a. Case Study
- b. Active learning
- c. Self-Learning
- d. Problem Solving
- e. Interactive open discussions
- f. Group-based learning for dosage regimen
- g. Role plays for practicing active communication skills and case presentation.

5. Student Assessment Methods

- 5.1. Written to assess knowledge and understanding as well as intellectual skills.
- 5.2. Practical to assess professional and practical skills.
- 5.3. Oral exam to assess all skills including transferable skills.
- 5.4. Active Participation/Research to assess general and transferrable skills.

Assessment Schedule

Assessment 1: Midterm Examinations	Weeks 4 th & 8 th .
Assessment 2: Semester activity (Active Participation) + research	throughout the semester
Assessment 3: Practical Examination	Week 12
Assessment 4: Final Examination	Week 15/16
Assessment 5: Oral Examination	Week 15/16

Weighting of Assessments

1 st Midterm Examination	5 %
2 nd Mid-Term Examination	15 %
Final-Term Examination	30 %
Oral Examination	10 %
Practical exam	30%
Active Participation/Research	10 %
Total	100%

6. List of References

6.1. Course Notes

Lectures handout, Dr / Mohamed H.H. AbouGhaly.

Lab manual: Practical Hospital Pharmacy, Dr / Mohamed H.H. AbouGhaly.

6.2. Essential Books (Text Books)

- 1) Mansoor A. Khan, Indra K. Reddy; Pharmaceutical and clinical calculations 2nd edition, 2000.
- 2) Brown, T.R., "Handbook of Institutional Pharmacy Practice 2006",

6.3. Recommended Books

William E. Hassan, JR. "Hospital Pharmacy", Lea and Febiger, Philadelphia 1986.

6.4 Periodicals, Websites,etc

Periodicals: European Journal of Hospital Pharmacy and Hospital Pharmacy Journal.

Websites: www.pubmed.com , www.Rxlist.com , www.Pharmweb.com

7. Facilities Required for Teaching and Learning

- a. Computers supplied with internet access.
- b. Smart board.

Course Coordinator Dr .Mohamed H.H. AbouGhaly.

Head of Department Prof. Dr. Ebtissam Darwish.

Department Approval Date: September 2014

Promotion and Drug Marketing (PHP 422)

Program (s) on which the course is given:	Bachelor of Pharmaceutical Sciences and Pharmaceutical Industries
Department offering the program:	All Faculty Departments
Department offering the course:	Pharmacy Practice & Clinical Pharmacy
Academic year:	2014/2015
Approval Date:	September 2014

A. Basic Information

Course Title:	Promotion and Drug Marketing	Course Code:	PHP 422
Prerequisites:	Pharmacy Legislations and Community Pharmacy (PHP 302)		
Students' Level/Semester:	Fourth Level/ Eighth Semester		
Credit hours:	2		
Actual teaching hours per week:			
Lectures:	2/week	Practical:	0/week
		Tutorial:	N/A
		Total:	2/week

B. Professional Information

1. Overall Aim of Course

The course aims to give students a background of marketing principles as they specifically relate to the pharmaceutical industry and practice. It prepares students to a variety of careers in the pharmacy field including pharmaceutical sales, health information management, and pharmacy distribution system development.

2. Intended Learning Outcomes (ILOs)

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

a- Knowledge and Understanding:

- a1. Define the basic pharmaceutical marketing principles.
- a2. Select the major components of the marketing management process.
- a3. Identify the process and legal steps of new product development and promotion.
- a4. Define TQM, time management, segmentation, targeting & positioning.
- a5. Describe the different types of planning, steps, & barriers to effective planning.
- a6. Identify negation process & conflict resolution techniques.

b- Intellectual Skills:

- b1. Develop critical thinking and decision-making skills.
- b2. Practice marketing and communication activities for a specific product.
- b3. Apply theoretical concepts and techniques in marketing analysis, planning, and management.

c- Professional and Practical Skills:

- c1. Apply a variety of marketing concepts.
- c2. Detect segment, target, and position of a new product.
- c3. Analyze information and data from different segments of the pharmaceutical marketplace.

d- General and Transferable Skills:

- d1. Communicate effectively with others.
- d2. Argue professionally with others.
- d3. Set up different plans in response to the ever-changing external environment.

3. Contents

Teaching Weeks	Topic	No. of hours	Lecture
One	Introduction to the global and the Egyptian Pharmaceutical markets	2	2
Two	Definitions and approaches of Marketing and pharmaceutical marketing	2	2
Three	Pharmaceutical Marketing & market research analysis	2	2
Four	The Pharmaceutical marketing planning.	2	2
	+ First Midterm Exam		
Five	The Pharmaceutical product branding process.	2	2
Six	The Pharmaceutical promotional mix decisions	2	2
Seven	The Pharmaceutical product pricing policies and techniques.	2	2
Eight	2nd Midterm Exam		
Nine	Different Pharmaceutical distribution strategies.	2	2
Ten	New Pharmaceutical product Launch	2	2
Eleven	Pharmaceutical Marketing in the 21 st . century- Role of technology and new communication tools	2	2

Twelve	Ethics in Pharmaceutical Marketing	2	2
Thirteen	Revision	2	2
Total no. of hours		24	24
Fourteen	Final Exams		
Fifteen			
Sixteen			

4. Teaching and Learning Methods

- a. Case Study of products' marketing.
- b. Active learning
- c. Self-Learning
- d. Interactive open discussions
- e. Group-based learning for designing a marketing plan.

5. Student Assessment Method

5.1. Written exams to assess understanding, knowledge and intellectual skills

5.2. Semester work (Activities: Research, case study): to assess professional & intellectual skills as well as general and transferrable skills.

5.3. Assignments to assess intellectual skills.

Assessment Schedule

Assessment 1 (1 st First Midterm)	(Week 4)
Assessment 2 (2 nd Midterm Exam)	(Week 8)
Assessment 3 (Final Exam)	(Week 15)
Assessment 4 (Activities: Research/ Case study)	(throughout the semester)
Assessment 5 (Assignments)	(throughout the semester)

Weighting of Assessments

1 st Mid-Term Examination	10%
2 nd Midterm Examination	20%
Final-Term Examination	50%
Assignments (Marketing Plan Design)	10%
Case Presentation/Researches	10%
Total	100%

6. List of References

6.1. Course Notes: Handouts

6.2. Essential Books (Text Books)

- Kotler, Philip, and Gary Armstrong. Principles of marketing. Pearson Education, 2010.

6.3. Recommended Books

- Mickey C. Smith. Pharmaceutical Marketing: Strategy and cases. Haworth Press Inc – 1991

6.4. Periodicals, Websites,etc

www. Pharma-mkting.com

7. Facilities Required for Teaching and Learning

Computers equipped with data show and internet access.

White Board

Course Coordinator: Dr. Hany Abou Tabl

Head of Department: Prof. Dr. Ebtissam Darweesh

Department Approval Date: September 2014

Clinical Pharmacy 1 (PHP 511)

Program (s) on which the course is given:	Bachelor of Pharmaceutical Sciences and Pharmaceutical Industries
Department offering the program:	All Faculty Departments
Department offering the course:	Pharmacy Practice & Clinical Pharmacy
Academic year	2014/2015
Approval Date:	September 2014

A. Basic Information

Course Title: Clinical Pharmacy 1	Course Code: PHP 511		
Prerequisites: PHL 421: Clinical Pharmacology			
Students' Level/Semester:	Fifth Level/ Ninth Semester		
Credit hours:	3 (2+1)		
Actual teaching hours per week:			
Lectures: 2/week	Practical: 2/week	Tutorial: N/A	Total: 4/week

B. Professional Information

1. Overall Aim of Course

The course was designed to provide pharmacy students with an overview in selected topics of pharmaco-therapeutics. The course aims to make the final year students familiar with the etiology, pathophysiology, clinical picture, pharmacotherapy and patient care of certain acute and chronic disease states.

2. Intended Learning Outcomes (ILOs)

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

a- Knowledge and Understanding:

- a1. State the etiology, risk factors, and predisposing factors of the selected diseases.
- a2. Describe the pathophysiology of the selected diseases.
- a3. Describe the clinical picture & symptomology of the selected diseases.
- a4. Determine the lab testing and diagnostics of the selected diseases.
- a5. List the non-pharmacological and pharmacological treatment of the selected diseases.
- a6. Outline self and medical monitoring for drug effectiveness and adverse reactions of medications
- a7. List the patient's primary complaint(s) and reason(s) for seeking medical care.

b- Intellectual Skills:

- b1. Select cost-effective and safe medications.
- b2. Apply evidence based pharmacotherapy in real situations in the clinical setting
- b3. Interpret drug-related data needed to identify actual or potential drug therapy problems.
- b4. Perform patient counseling
- b5. Select the most appropriate therapy.
- b6. Individualize drug therapy.

c- Professional and Practical Skills:

- c1. Design patient monitoring plan, and clinical intervention for drug therapy problems to achieve the most effective, most safe, and economic drug regimen.
- c2. Communicate with prescribers, patients, caregivers, and other involved health care providers to engender a team approach to patient care.
- c3. Apply pharmaceutical care to patients to achieve the most effective, most safe, and economic drug regimen.
- c3. Revise prescriptions to avoid drug therapy problems to ensure optimal drug utilization and minimal drug therapy problems.
- c4. Practice provision of drug information to health care professionals and patients to make informed, rational, and evidence-based decisions.
- c5. Perform appropriate therapeutic drug monitoring to ensure optimal drug therapy and minimal adverse drug reactions
- c6. Report drug adverse effects and drug interactions to participate in active pharmacovigilance.

d- General and Transferable Skills:

- d1. Counsel patients for medication, disease, drug administration; side effects; contraindications; precautions; interactions; danger of non-adherence and storage to guarantee optimal adherence to medication
- d2. Respond efficiently to critical situations to establish collaborative relationships with other healthcare professionals that foster a team approach to patient care.
- d3. Apply gained information to compete professionally in providing pharmaceutical care by committing oneself to being an independent, self-initiated life-long learner
- d4. Apply ethics in regard of the health care systems.
- d5. Apply learned ethics to respect the patient's confidentiality.
- d6. Communicate with prescribers, patients, caregivers, and other involved health care providers to engender a team approach to patient care.

Contents

Teaching Weeks	Topic	No. of Hours	Lecture	Practical
One	Congestive heart failure	4	2	
	Case study on congestive heart failure			2
Two	hypertension	4	2	
	Case study on hypertension			2
Three	Angina	4	2	
	Case study on angina			2
Four	bronchial asthma + First Midterm Exam	4	2	
	Case study on bronchial asthma			2
Five	COPD	4	2	
	Case study on COPD			2
Six	Upper respiratory tract infection	4	2	
	Case study on upper respiratory tract infection			2
Seven	lower respiratory tract infection	4	2	
	Case study on lower respiratory tract infection			2
Eight	2nd Midterm Exam			
Nine	pregnancy	4	2	
	Case Study on pregnancy			2
Ten	diabetes millets	4	2	
	Case study on diabetes millets			2
Eleven	Epilepsy	4	2	
	Case study on epilepsy			2
Twelve	Revision	2	2	
	Practical exam			2
Thirteen	Revision	2	2	

Course Specifications

Total no. of hours		46	24	22
Fourteen	Final Exam			
Fifteen				
Sixteen				

3. Teaching and Learning Methods

- 4.1. Theoretical lectures
- 4.2. Active & Interactive learning
- 4.3. Practical sessions by Problem-Computer-based learning and electronic BNF
- 4.4. Group-based learning
- 4.5. Role-Play
- 4.6. Case study
- 4.7. Self learning through project presentation

4. Student Assessment Method

- 5.1. Written to assess knowledge and understanding as well as intellectual skills.
- 5.2. Practical to assess professional and practical skills.
- 5.3. Lab participation to assess knowledge and understanding of the practical part, intellectual skills as well as professional and practical skills
- 5.4. Oral exam to assess all skills including transferable skills.
- 5.5. Role play to assess general and transferrable skills.
- 5.6. Practical Quiz to assess knowledge and understanding of the practical part
- 5.7. Semester Activity (Assignments/ Research) to assess all types of skills.

Assessment Schedule

Assessment 1: Midterm Examinations	Weeks 4 & 8.
Assessment 2: Semester activity (Ass./res.)	throughout the semester
Assessment 3: Practical Examination+ Quiz	Week 12
Assessment 4: Final Examination	Week 15
Assessment 5: Oral Examination	Week 15
Assessment 6: Lab participation	throughout the semester
Assessment 7: Role Play	throughout the semester

Weighting of Assessments

First Mid-term exam	5%
Second Mid-term Examination	15 %

Course Specifications

Practical	30%
Practical Examination	15%
Role Play	5%
Practical Quiz 1	5%
Lab Participation	5%
Final Written Examination	30%
Final Oral Examination	10%
Semester Assignments/Research	10%
Total	100%

5. List of References

6.1. Course Notes

- i. Lectures handout
- ii. Practical Manual

6.2. Essential Books (Text Books)

6.2.1. Wells, Barbara G., et al. *Pharmacotherapy principles & practice*. New York:

McGraw- Hill, 2013.

6.2.2. Electronic BNF 56

6.3. Recommended Books

- i. Koda-Kimble, Mary Anne. Koda-Kimble and Young's applied therapeutics: the clinical use of drugs. Eds. Brian K. Alldredge, Robin L. Corelli, and Michael E. Ernst. Lippincott Williams & Wilkins, 2012.
- ii. William D. Linn, PharmD et al Pharmacotherapy in Primary Care: Graw Hill 2011
- iii. Walker, Roger, and Cate Whittlesea. *Clinical pharmacy and therapeutics*. Elsevier Health Sciences, 2011.

6.4. Periodicals, Websites,etc

- i. www.pubmed.com
- ii. www.drugs.com
- iii. www.pharmacotherapyonline.com
- iv. www.Medscape.com

7. Facilities Required for Teaching and Learning

- 7.1. Smart board for lectures
- 7.2. Computers with internet

- 7.3. Audiovisuals
- 7.4. E-library
- 7.5. Medication Samples
- 7.6. Medical Devices for patient assessment
- 7.7. Medications' Brochures

Course Coordinator Prof. Dr. Ebtisam Darweesh

Head of Department Prof. Dr. Ebtisam Darweesh

Department Approval Date: September 2014

Clinical Pharmacokinetics (PHP 512)

Program (s) on which the course is given:	Bachelor of Pharmaceutical Sciences and Pharmaceutical Industries
Department offering the program:	All Faculty Departments
Department offering the course:	Pharmacy Practice and Clinical Pharmacy
Academic year:	2014/2015
Approval Date:	September 2014

A. Basic Information

Course Title: Clinical Pharmacokinetics	Course Code: PHP 512		
Prerequisites: Biopharmaceutics & Pharmacokinetics (PHT 431)			
Students' Level/Semester:	Fifth Level/ Ninth Semester		
Credit hours:	3 (2+1)		
Actual teaching hours per week:			
Lectures: 2/week	Practical: 2/week	Tutorial: N/A	Total: 4/week

B. Professional Information

1. Overall Aim of Course

The course provides the students with basic concepts of clinical pharmacokinetics comprising linear versus non-linear pharmacokinetics, clearance, volume of distribution, half-life, elimination rate constant, bioavailability and bioequivalence. The course makes the students aware of drug dosing in special populations suffering from renal disease, hepatic disease and heart failure. It provides the student with the principals of clinical pharmacokinetics of certain drugs including antibiotics and cardiovascular agents and effect of disease states and conditions on their pharmacokinetic parameters as well as drug interactions.

2. Intended Learning Outcomes (ILOs)

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

a- Knowledge and Understanding:

- a1. Define clearance, apparent volume of distribution, half-life and elimination rate constant.
- a2. State different types of bioavailability.
- a3. Define bioequivalence.
- a4. Name drug characteristics that affect dialysis removal.
- a5. Identify drug interactions with different antibiotics, cardiovascular agents as well as other drugs.

b- Intellectual Skills:

- b1. Differentiate between linear and non-linear pharmacokinetics.
- b2. Measure hemodialysis clearance.

b3. Classify different types of drug interactions.

c- Professional and Practical Skills:

- c1. Estimate pharmacokinetic parameters for liver metabolized drugs.
- c2. Modify the dose of drugs in case of presence of drug interaction.
- c3. Choose the most appropriate drug for treatment of a certain disease in presence of other drugs intake.
- c4. Solve problems related to renal clearance of drugs.
- c5. Distinguish between pharmaceutical equivalents, pharmaceutical alternatives and therapeutic equivalents of different drug products.
- c6. Calculate absolute bioavailability and relative bioavailability using given data following extravascular administration of a certain drug.
- c7. Calculate creatinine clearance.

d- General and Transferable Skills:

- d1. Plan dosage regimens for patients to accomplish a desired steady state in multiple drug administration.
- d2. Recommend new dosage regimens in case of patients suffering renal impairment.

3. Contents

Teaching Weeks	Topic	No. of hours	Lecture	Practical
One	Part I: Basic Concepts <ul style="list-style-type: none"> • Linear versus non-linear pharmacokinetics. • Clearance • Volume of distribution. • Half-life and elimination rate constant. 	4 hrs.	2 hrs.	
	<ul style="list-style-type: none"> • Clinical Pharmacokinetics and Pharmacodynamic concepts. 			2 hrs
Two	<ul style="list-style-type: none"> • Bioavailability • Bioequivalence. 	4 hrs.	2 hrs.	

Course Specifications

	<ul style="list-style-type: none"> One Compartment Model Equations for linear pharmacokinetics. 			2 hrs.
Three	<ul style="list-style-type: none"> Drug dosing in special populations: <ul style="list-style-type: none"> -Renal disease <ul style="list-style-type: none"> a. Measurement and estimation of creatinine clearance. b. Estimation of drug dosing and pharmacokinetic parameters using creatinine clearance. 	4 hrs.		2 hrs.
	<ul style="list-style-type: none"> Exercices on one-compartment model linear pharmacokinetics. 			2 hrs.
Four	<ul style="list-style-type: none"> Drug dosing in special populations <ul style="list-style-type: none"> - Hepatic disease (Estimation of drug dosing and pharmacokinetic parameters for liver metabolized drugs.) - Heart failure. <p style="text-align: center;">+ First Midterm Exam</p>	4 hrs.		2 hrs.
	<ul style="list-style-type: none"> Intermittent intravenous infusion. 			2 hrs.
Five	<ul style="list-style-type: none"> Dialysis <ul style="list-style-type: none"> - Drug characteristics that affect dialysis removal. - Methods to measure hemodialysis clearance. - Peritoneal dialysis 	4 hrs.		2 hrs.
	<ul style="list-style-type: none"> Exercices on intermittent 			2 hrs.

	intravenous infusion			
Six	<ul style="list-style-type: none"> • Obesity 	4 hrs.	2 hrs.	
	<ul style="list-style-type: none"> • Measurement and estimation of creatinine clearance. 			2 hrs.
Seven	<p>Part II : Antibiotics</p> <ul style="list-style-type: none"> • The aminoglycoside antibiotics <ul style="list-style-type: none"> - Therapeutic and toxic concentrations (Conventional dosing, extended-interval dosing). 	4 hrs.	2 hrs.	
	<ul style="list-style-type: none"> • Exercises on measurement and estimation of creatinine clearance. 			2 hrs.
Eight	2nd Midterm Exam	0	0	0
Nine	<ul style="list-style-type: none"> • The aminoglycoside antibiotics <ul style="list-style-type: none"> - Basic clinical pharmacokinetic parameters (Effects of disease states and conditions on aminoglycoside antibiotics pharmacokinetics and parameters). - Drug interactions 	4 hrs	2 hrs.	

Course Specifications

	<ul style="list-style-type: none"> • Hemodialysis 			2 hrs.
Ten	<ul style="list-style-type: none"> • Vancomycin <ul style="list-style-type: none"> - Therapeutic and toxic concentrations. - Basic clinical pharmacokinetic parameters. - Effects of disease states and conditions on vancomycin pharmacokinetics and parameters. - Drug interactions. 	4 hrs.	2 hrs.	
	<ul style="list-style-type: none"> • Exercises on hemodialysis. 			
Eleven	<ul style="list-style-type: none"> • Digoxin <ul style="list-style-type: none"> - Therapeutic and toxic concentrations. - Basic clinical pharmacokinetic parameters. - Effects of disease states and conditions on digoxin pharmacokinetics and parameters. • Drug interactions. 	4 hrs.	2 hrs.	
	<ul style="list-style-type: none"> • Peritoneal dialysis 			
Twelve	<ul style="list-style-type: none"> • Lidocaine 			

Course Specifications

	<ul style="list-style-type: none"> - Therapeutic and toxic concentrations. - Basic clinical pharmacokinetic parameters. - Effects of disease states and conditions on lidocaine pharmacokinetics and parameters. • Drug interactions. 	4 hrs.	2 hrs.	
	Final Practical Exam			2 hrs.
Thirteen	<ul style="list-style-type: none"> • Procainamide / N-acetyl procainamide <ul style="list-style-type: none"> - Therapeutic and toxic concentrations. - Basic clinical pharmacokinetic parameters. - Effects of disease states and conditions on Procainamide / N-acetyl procainamide pharmacokinetics parameters. - Drug interactions. • Quinidine <ul style="list-style-type: none"> - Therapeutic and toxic concentrations. - Basic clinical pharmacokinetic parameters. - Effects of disease states and conditions on quinidine pharmacokinetics and parameters. • Drug interactions. 	2 hrs.	2 hrs.	

Total no. of hours		46	24	22
Fourteen	Final exams of Faculty			
Fifteen				
Sixteen				

4. Teaching and Learning Methods

- 4.1. Theoretical lectures using active learning.
- 4.2. Practical sessions using problem based learning and critical thinking.
- 4.3. Learning by cases: analytical and problem solving learning

5. Student Assessment Methods

- 5.1. Written to assess knowledge and understanding as well as intellectual skills.
- 5.2. Practical to assess professional and practical skills.
- 5.3. Lab performance to assess knowledge and understanding of the practical part, intellectual skills as well as professional and practical skills
- 5.4. Oral exam to assess all skills including transferable skills.
- 5.5. Quiz to assess knowledge and understanding of the practical part.
- 5.6. Class Work (Activities/discussions) to assess all types of skills.

Assessment Schedule

Assessment 1	First Midterm Exam	Week	4
Assessment 2	Second Midterm exam	Week	8
Assessment 3	Practical exam + Quiz	Week	12
Assessment 4	Final Written Exam	Week	15
Assessment 5	Class Work (Activities/discussions) throughout the semester.		
Assessment 6	Oral Exam	Week	15
Assessment 7	Lab performance	throughout the semester.	

Weighing of Assessments

First Midterm Examination	5%
Second Mid-Term Examination	15%
Final-Term Examination	30%
Oral Examination	10%
Practical	30%
Practical Examination	20%
Lab Performance	5%
Quizzes	5 %

<u>Class Work (Activities/discussions)</u>	<u>10%</u>
Total	100%

6. List of References

6.1. Course Notes

Course handout.

6.2. Essential Books (Text Books)

Bauer, Larry A., “Applied Clinical Pharmacokinetics”, 3rd edition, 2011

6.3. Recommended Books

Shargel L., Pong, Susanna, WU. & B.C., Andrew, “Biopharmaceutics & Pharmacokinetics” 6th Ed McGraw-Hill

6.4. Periodicals, Websites,etc

www.Pubmed.com

www.rxlist.com

www.cpsa.com

7. Facilities Required for Teaching and Learning

7.1. Computers equipped with data Show.

7.2. White Board & Markers.

7.3. Cartesian and semilog graph copybooks.

Course Coordinator Prof. Dr. Hussein Ammar

Head of Department Prof. Ebtissam Abdel Ghaffar

Department Approval Date: September 2014

First Aid (PHP 522)

Program (s) on which the course is given:	Bachelor of Pharmaceutical Sciences and Pharmaceutical Industries
Department offering the program:	All Faculty Departments
Department offering the course:	Pharmacy Practice & Clinical Pharmacy
Academic year:	2014/2015
Approval Date:	September 2014

A. Basic Information

Course Title: First Aid	Course Code: PHP 522		
Prerequisites: Medical Terminology (PHL 101)			
Students' Level/Semester:	Fifth Level/Ninth Semester		
Credit hours:	1		
Actual teaching hours per week:			
Lectures: 1/week	Practical: 0/week	Tutorial: N/A	Total: 1/week

B. Professional Information

1. Overall Aim of Course

The topics presented in this course aim to expand the student knowledge and understanding of the most current theory and practical guidelines for rendering emergency first aid.

2. Intended Learning Outcomes (ILOs)

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

a- Knowledge and Understanding:

- a1. Identify the basic principles of first aid.
- a2. Recognize the steps of cardiopulmonary resuscitation (CPR).
- a3. Describe the first aid of choking.
- a4. List the steps for the first aid of coma.
- a5. Outline the first aid of convulsions.
- a6. Distinguish types of wounds, convulsions, shocks, .. etc.
- a7. Outline methods of extraction of foreign objects

b- Intellectual Skills:

- b1. Express the first aid of wounds.
- b2. Determine the appropriate first aid of hemorrhage.
- b3. Illustrate the first aid of shock.
- b4. Evaluate the degree of burn.
- b5. Explain the basic principles of first aid on intoxicated persons.

c- Professional and Practical Skills:

- c1. Apply the basic principles of first aid by simulation.
- c2. Prioritize managing life threatening conditions

d- General and Transferable Skills:

- d1. Manage time effectively
- d2. Counsel patients while establishing aspects of ethics respect.
- d3. Work effectively within a team.

3. Contents

Teaching Weeks	Topic	No. of hours	Lecture
One	Basic principles of First Aid.	1	1
Two	First Aid of Convulsions & Coma	1	1
Three	Cardiopulmonary Resuscitation (CPR).	1	1
Four	First Aid of Chocking & Drowning + First Midterm Exam	1	1
Five	First Aid of Wounds & Injuries Of Special Organs	1	1
Six	First Aid of injuries of the Head & Spines	1	1
Seven	First Aid of Bone & Muscle Injuries	1	1
Eight	2nd Mid-Term Exam		
Nine	First Aid of Foreign Bodies in The Eye, Ear and Nose	1	1
Ten	First Aid of Hemorrhage & Shock	1	1
Eleven	First Aid of Snake, Scorpion & Spider bites	1	1
Twelve	First Aid of intoxicated persons	1	1

Thirteen	First Aid of Thermal Injuries	1	1
Total no. Hours		12	12
Fourteen	Final Exams of Faculty		
Fifteen			
Sixteen			

4. Teaching and Learning Methods

- 4.1. Lectures.
- 4.2. Research & Assignments
- 4.3. Role Play and simulations.
- 4.4. Educational Videos.
- 4.5. Open Discussions

5. Student Assessment Methods

- 5.1. Written to assess knowledge and understanding as well as intellectual and professional skills.
- 5.2. Student projects to assess all skills including transferrable & professional skills

Assessment Schedule

Assessment 1: First Midterm Exam.	Week 4
Assessment 2: 2 nd mid-exam.	Week 8
Assessment 3: Written final exam.	Week 15
Assessment 4: projects	throughout the semester

Weighting of Assessments

Fifth Week Exam	10%
Mid-Term Examination	20 %
Final-Term Examination	50 %
Student projects	20 %
Total	100 %

6. List of References

6.1. Course Notes

Lectures handout

6.2. Essential Books (Text Books):

P. Blakiston's son. American National Red Cross Text-Book on First Aid and Relief Columns; a Manual of Instruction; How to Prevent Accidents and What to Do for Injuries and Emergencies Publisher: Philadelphia, 2010.

6.3. Recommended Books

Le, Tao and Kendall Krause. First Aid for the Basic Sciences: Organ Systems. McGraw Hill Professional, 2011.

St John Ambulance, St Andrew'S. Ambulance. "Association, British Red Cross (2009) First Aid Manual." Ninth editioa Dorling Kindersley, London.

6.4. Periodicals, Websites,etc.

www.pubmed.com

<http://firstaid.about.com/>

<http://www.focusonfirstaid.co.uk/>

7. Facilities Required for Teaching and Learning:

Computer and data show

Smart board

Videos

Plastic Dummies

Course Coordinator Prof. Dr. Ossama El-Barany

Head of the department Prof. Dr. Ebtissam Darweesh

Department Approval Date: September 2014

Drug Interaction and Drug Information (PHP-513)

Program (s) on which the course is given:	Bachelor of Pharmaceutical Sciences and Pharmaceutical Industries
Department offering the program:	All Faculty Departments
Department offering the course:	Pharmacy Practice and Clinical Pharmacy
Academic year:	2014/2015
Approval Date:	September 2014

A. Basic Information

Course Title: Drug Interaction and Drug Information

Course Code: PHP 513

Prerequisites: Clinical Pharmacology (PHL 421)

Students' Level/Semester: Fifth Level/ Tenth Semester

Credit hours: 2

Actual teaching hours per week:

Lectures: 2/week **Practical:** 0/week **Tutorial:** N/A **Total:** 2/week

B. Professional Information

1. Overall Aim of Course

The topics presented in this course aim to expand the student knowledge and understanding of drug interactions-pharmacy's challenge as well as information resources. The course will get the student familiar which drug information centres, interactions literature, references and drug interaction software. The student will also get the basic principles of pharmacovigilance, recall design, pharmacoepidemiology, drug interactions, patient and other factors affecting drug actions and interactions. Drug interactions will be focused on assessment and application of drug interaction information and identification and management of commonly encountered drug interactions by therapeutics category.

2. Intended Learning Outcomes (ILOs)

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

a- Knowledge and Understanding:

- a1.** Define drug information and drug information centers DIC.
- a2.** Ensure the Role of DIC.
- a3.** Enumerate drug information resources.
- a4.** Identify mechanisms of drug interactions.
- a5.** Outline the clinical significance of the interaction.
- a6.** Determine drug-drug interactions.
- a7.** Outline the factors affecting drug interactions.

- a8. List the importance and methodologies of pharmacovigilance, recall design and pharmacoepidemiology.

b- Intellectual Skills:

- b1. Describe the clinical significance of the interaction.
b2. Estimate appropriate management that the-evidence – based and patient specific.

c- Professional and Practical Skills:

- c1. Analyse case-based activities that require application of previous knowledge, assessment of patient specific variables.
c2. Interpret primary, secondary, tertiary information resources.
c3. Distinguish rational, practical and individualized recommendations.

d- General and Transferable Skills:

- d1. Judge drug-drug interaction cases.
d2. Compare different drug interaction related software.
d3. Write an abstract
d4. Work in a team
d4. Communicate professionally with patients and physicians regarding drug actions and interactions.
d5. Interact efficiently with classmates.

3. Contents

Teaching Weeks	Topic	No. of hours	Lecture
One	Drug information center DIC	2	2
Two	Design of DIC	2	2
Three	Role of DIC	2	2
Four	Information Resources: Primary resources + First Midterm Exam	2	2
Five	Secondary and Tertiary resources	2	2
Six	Pharmacoepidemiology, Recall design Importance and methodology of pharmacovigilance	2	2

Seven	Introduction to drug interactions, Basic principles of drug interaction	2	2
Eight	Second Midterm exam	0	0
Nine	Drug interactions literature , and references	2	2
Ten	Drug interaction software	2	2
Eleven	Patient and other factors affecting drug actions and interactions	2	2
Twelve	Professional communications regarding drug interactions	2	2
Thirteen	Revision	2	2
Total No. of hours		24	24
Fourteen	Final Exams of Faculty		
Fifteen			
Sixteen			

4. Teaching and Learning Methods

- a. Case Study
- b. Active learning
- c. Self-Learning
- d. Problem solving
- e. Interactive open discussions
- f. Group-based learning for patient counseling

5. Student Assessment Methods

- 5.1. Written to assess knowledge and understanding as well as intellectual skills.
- 5.2. Oral exam to assess all skills including transferable skills.
- 5.3. Research/Assignments to assess professional skills as well as general and transferrable skills.
- 5.4. Semester work (Active performance & participation) to assess all types of skills.

Assessment Schedule

Assessment 1: Midterm Examinations	Weeks 4 & 8.
Assessment 2: Semester work (Active performance & participation) throughout the semester	
Assessment 3: Final Written Examination	Week 15/16
Assessment 4: Oral Examination	Week 15/16
Assessment 5: Research/ Assignments	throughout the semester

Weighting of Assessments

1 st Mid-Term Examination	5%
2 nd Mid-Term Examination	15%
Final-Term Examination	50%
Oral Examination	10%
Active participation & performance	10%
/Research/Assignments	10%
Total	100%

6. List of References

6.1. Course Notes

Lecture handouts

6.2. Essential Books (Text Books)

6.2.1 Drug information: a guide for pharmacists. McGraw-Hill, Medical Pub. Division, 2014.

6.2.2 Lacy, Charles F., et al. Drug information handbook with international trade names index. Lexi-Comp Inc, 2007.

6.3. Recommended Books

Preston, Claire L., ed. Stockley's drug interactions. London: Pharmaceutical Press, 2010.

6.4. Periodicals, Websites,etc

- WWW.pubmed.com

- www.drugs.com
- www.micromedex.com

7. Facilities Required for Teaching and Learning

Computer equipped with data show

White board

Drug Interaction software

Course Coordinator Dr. Yasser Omar

Head of Department Prof. Dr. Ebtissam Abd El Ghaffar

Department Approval Date: September 2014

Clinical Pharmacy - 2 (PHP 614)

Program (s) on which the course is given:	Bachelor of Pharmaceutical Sciences and Pharmaceutical Industries
Department offering the program:	All Faculty Departments
Department offering the course:	Pharmacy Practice & Clinical Pharmacy
Academic year:	2014/2015
Approval Date:	September 2014

A. Basic Information

Course Title: Clinical Pharmacy -2	Course Code: PHP 614		
Prerequisites: PHL 421: Clinical Pharmacology			
Students' Level/Semester:	(Elective)		
Credit hours:	2 (1+1)		
Actual teaching hours per week:			
Lectures: 1/week	Practical: 2/week	Tutorial: N/A	Total: 3/week

B. Professional Information

1. Overall Aim of Course

The course was designed to provide pharmacy students with updated pharmacotherapeutics of selected diseases. The course focuses on the incidence, etiology, predisposing factors, pathophysiology, guidelines, medications, patient counseling and monitoring of some selected diseases of internal medicine.

2. Intended Learning Outcomes (ILOs)

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

Knowledge and Understanding:

- a1. Define risk factors and predisposing factors of the selected diseases.
- a2. Describe the pathophysiology of the selected diseases.
- a3. Describe the clinical picture & symptomology of the selected diseases.
- a4. Determine the lab testing and diagnostics of the selected diseases.
- a5. List the non-pharmacological and pharmacological treatment of the selected diseases.
- a6. Differentiate between simple ailments and major diseases
- a7. Outline self-monitoring for drug effectiveness and adverse reactions of medications
- a8. Select dose regimen based on patients requirements.

Intellectual Skills:

- b1. Select safe medications to be applied in real situations
- b2. Plan self and medical patient follow-up plan to ensure optimal therapy and minimal drug therapy problems
- b3. Apply clinical intervention to solve solution and prevention of therapy problems to achieve the most effective, most safe, and economic drug regimen.

- b4. Analyze scientific literature to make informed, rational, and evidence-based decisions.

Professional and Practical Skills:

- c1. Apply pharmaceutical care to patients for achieving the most effective, most safe, and economic drug regimen.
- c2. Review prescription for ensuring patient's most appropriate drug; dosage form and dose regimen, drug related needs, in excessive medication use or unnecessary drug duplication and preventing drug therapy problems to ensure optimal drug utilization and minimal drug therapy problems .
- c3. Plan patient monitoring to ensure achievement of desired therapeutic outcomes.
- c4. Select the appropriate dose, dosage schedule, and drug delivery system.
- c5. Relate updates in guidelines to specific disease disorder

General and Transferable Skills:

- d1. Argue with other health care members, with patients and with the public.
- d2. Operate in various health-care settings.
- d3. Perform clinical researches and pharmacovigilance studies.
- d4. Assign for continuous education and long-life learning.
- d5. Judge critical situations.
- d6. Practice patient counseling of the selected diseases
- d7. Apply patient counseling for the improvement of patient adherence to ensure positive therapeutic outcomes and alleviate drug therapy problems.
- d8. Practice accurate, compassionate, confident and persuasive communication with patients, caregivers, other health care professionals, and the public using appropriate listening, verbal, nonverbal, and written communication skills to initiate team working discipline.

3. Contents

Week	Topic	No. of hours	Lecture	Practical
One	Pharmacotherapy of DVT	3	1	
	Case Study for DVT			2
Two	Pharmacotherapy of GERD	3	1	
	Case Study for GERD			2
Three	Pharmacotherapy of PUD	3	1	
	GIT cases			2
Four	International Collaboration Week (UCC) (New oral anticoagulants, GIT disorders) + First midterm exam	3	1	
	GERD, Dyspepsia, Peptic Ulcer			2
Five	Hyperthyroidism	3	1	

Course Specifications

	Thyroid gland case 1			2
Six	Pharmacotherapy of Hypothyroidism	3	1	
	Case Study for Thyroid gland case 2			2
Seven	TB	3	1	
	TB			2
Eight	2nd Midterm Exam			
Nine	Free Medical Checkup event	3	1	
	Medical Checkup Workshop			2
Ten	Project Presentation	3	1	
	Revision			2
Eleven	Revision	3	1	
				2
Twelve	Practical Exam	1	1	
Thirteen	Revision	1	1	
Total Hours		36	12	24
Fourteen	Final Exams of Faculty			
Fifteen				
Sixteen				

4. Teaching and Learning Methods

- a. Case Study
- b. Active learning
- c. Self-Learning
- d. Problem Solving
- e. Interactive open discussions
- f. Group-based learning for patient counseling
- g. Workshop for free medical check-up & patient assessment
- h. Role plays for practicing active communication skills and case presentation.

5. Student Assessment Methods

- 5.1. Written to assess knowledge and understanding as well as intellectual skills.
- 5.2. Practical to assess professional and practical skills.
- 5.3. Workshop/Role Play to assess general and transferrable skills.
- 5.4. Presentation to assess all types of skills.

Course Specifications

- 5.5.** Semester Work (Active Participation/Research) to assess all types of skills.

Assessment Schedule

Assessment 1: Midterm Examinations	Weeks 4 & 8.
Assessment 2: Semester work (Participation/Research)	throughout the semester
Assessment 3: Practical Examination	Week 12
Assessment 4: Final Examination	Week 15/16
Assessment 5: Workshop/Role Play	throughout the semester
Assessment 6: Presentation	throughout the semester

Weighting of Assessments

1 st Mid-Term Examination	5%
2 nd Mid-Term Examination	15%
Final-Term Examination	40%
Practical	30%
Practical Examination	20%
Workshop/Role Play	5%
Presentation	5%
Semester Work (Active participation / Research)	10%
Total	100%

6. List of References

6.1. Course Notes

- 6.1.1. Lectures handout
- 6.1.2. Practical Manual

6.2. Essential Books (Text Books)

- 6.2.1. Pharmacotherapy Principles & Practice, Marie A. Chisholm-Burns, Barbara G. 3rd ed. DiPiro MC Graw Hill 2013
- 6.2.2. BNF 56 application

6.3 Recommended Books

- 6.3.1 Koda-Kimble, Mary Anne. Koda-Kimble and Young's applied therapeutics: the clinical use of drugs. Eds. Brian K. Alldredge, Robin L. Corelli, and Michael E. Ernst. Lippincott Williams & Wilkins, 2012.
- 6.3.2 William D. Linn, PharmD et al Pharmacotherapy in Primary Care:

Graw Hill 2011

6.3.3 Walker, Roger, and Cate Whittlesea. Clinical pharmacy and therapeutics.
Elsevier Health Sciences, **2011.**

6.4 Periodicals and Websites

- 6.4.1. www.pubmed.com
- 6.4.2. www.drugs.com
- 6.4.3. WWW.pharmacotherapyonline.com
- 6.4.4. www.PDR.net
- 6.4.5. www.pdr.health
- 6.4.6. www.FDA.com
- 6.4.7. www.medlineplus.com
- 6.4.8. www.Martindale.com
- 6.4.9. www.Druginteractionscenter.com
- 6.4.10.. [www. Medicinenet.com](http://www.Medicinenet.com)
- 6.4.11. [www.Drugs A – Z list.com](http://www.DrugsA-Zlist.com)
- 6.4.12. [www. Multi Drug Interactions.com](http://www.MultiDrugInteractions.com)

7. Facilities Required for Teaching and Learning

- 7.1. Smart board for lectures
- 7.2. Computers with internet
- 7.3. Audiovisuals
- 7.4. E-library
- 7.5. Medication Samples
- 7.6. Medical Devices for patient assessment
- 7.7. Medications' Brochures

Course Coordinator Prof. Dr. Ebtessam Darweesh

Head of Department Prof. Dr. Ebtessam Darweesh

Department Approval Date: September 2014

Clinical pharmacy- 3 (PHP 615)

Program (s) on which the course is given:	Bachelor of Pharmaceutical Sciences and Pharmaceutical Industries
Department offering the program:	All Faculty Departments
Department offering the course:	Pharmacy Practice & Clinical Pharmacy
Academic year:	2014/2015
Approval Date:	September 2014

A. Basic Information

Course Title: Clinical Pharmacy -3	Course Code: PHP 615
Prerequisites: PHL 614 – Clinical Pharmacy-2	
Students' Level/Semester:	(Elective)
Credit hours:	2 (1+1)
Actual teaching hours per week:	
Lectures: 1/week	Practical: 2/week
	Tutorial: N/A
3/week	Total:

A. Professional Information

1. Overall Aim of Course

The course was designed to provide pharmacy students with updated pharmacotherapeutics of selected diseases. The course focuses on the incidence, etiology, predisposing factors, pathophysiology, differential diagnosis, guidelines, medications, patient counseling and monitoring of selected diseases

2. Intended Learning Outcomes (ILOs)

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

a- Knowledge and Understanding:

- b- a1. State the etiology, risk factors, and predisposing factors of the selected diseases.
- c- a2. Describe the pathophysiology of the selected diseases.
- d- a3. Describe the clinical picture & symptomology of the selected diseases.
- e- a4. Determine the lab testing and diagnostics of the selected diseases.
- f- a5. List the non-pharmacological and pharmacological treatment of the selected diseases.
- g- a6. Outline self and medical monitoring for drug effectiveness and adverse reactions of medications
- h- a7. List the patient's primary complaint(s) and reason(s) for seeking medical care.

b- Intellectual Skills:

- b1. Select of cost-effective and safe medications to be applied in real situations
- b2. Plan self and medical patient follow-up plan to ensure optimal therapy and minimal drug therapy problems
- b3. Identify clinical intervention to solve solution and prevention of therapy problems to achieve the most effective, most safe, and economic drug regimen.
- b4. Analyze scientific literature to make informed, rational, and evidence-based decisions.

c- Professional and Practical Skills:

- c1. Apply pharmaceutical care to patients for achieving the most effective, most safe, and economic drug regimen.
- c3. Review prescription for ensuring patient's most appropriate drug; dosage form and dose regimen, drug related needs, unexcessive medication use or unnecessary drug duplication and preventing drug therapy problems to ensure optimal drug utilization and minimal drug therapy problems .
- c4. Plan patient monitoring to ensure achievement of desired therapeutic outcomes.
- c5. Select the appropriate dose, dosage schedule, and drug delivery system.
- c6. Interpret scientific literature to make informed, rational, and evidence-based decisions.

D-General and Transferable Skills:

- d1. Argue with other health care members, with patients and with the public.
- d2. Inform patients about medication, disease, administration, side effects, contraindications, precautions, drug interactions, and storage.
- d3. Collaborate in various health-care settings.
- d4. Perform clinical researches and pharmacovigilance studies.
- d5. Prepare for continuous education and long-life learning.
- d6. Judge critical situations.
- d7. Practice patient counseling of the selected diseases
- d8. Apply patient counseling for the improvement of patient adherence
- d9. Practice accurate, compassionate, confident and persuasive communication with patients, caregivers, other health care professionals, and the public using appropriate listening, verbal, nonverbal, and written communication skills

3. Contents

Week	Topic	No. of hours	Lecture	Practical
One	Pharmacotherapy of Viral Hepatitis	3	1	
	Case Study for Hepatitis C			2
Two	Pharmacotherapy of Collagen disorders (OA Vs RA)	3	1	
	Case Study for RA			2
Three	Pharmacotherapy of Liver Cirrhosis	3	1	
	Case Study for ESLD			2
Four	Pharmacotherapy of Liver Cirrhosis	3	1	
	Case Study for complications of Cirrhosis (Ascites,SBP, hepatic coma) + First Midterm Exam			2
Five	Pharmacotherapy of Arrhythmias	3	1	
	Differences between the variant Pharmacological options for Arrhythmias			2
Six	Pharmacotherapy of Arrhythmias	3	1	
	Case Study for Arrhythmias			2
Seven	Brief introduction of Multiple Sclerosis	3	1	
	Pharmacological Options of MS Tx			2
Eight	Second Midterm Exam			
Nine	Free Medical Checkup event	3	1	
	Project presentation session 1			2
Ten	Brief introduction of Multiple Sclerosis	3	1	
	Case study for MS			2
Eleven	Project Presentation session 2	3	1	
				2
Twelve	Practical Final Exam			
Thirteen	Revision	1	1	
No. of total hours		31	11	20

Fourteen	Final Written Examinations of Faculty
Fifteen	
Sixteen	

4. Teaching and Learning Methods

4.1. Theoretical lectures using:

- Active learning
- Critical thinking
- Problem-based learning
- Effective communication
- Group-based learning

4.2. Practical sessions by:

- Critical thinking
- Problem-Computer-based learning
- OSCE
- Group-based learning for patient's counseling
- Role play for patient counseling
- Doing as patient assessment

4. Teaching and Learning Methods

- a. Case Study
- b. Active learning
- c. Self-Learning
- d. Problem Solving
- e. Interactive open discussions
- f. Group-based learning for patient counseling
- g. Workshop for free medical check-up & patient assessment
- h. Role plays for practicing active communication skills and case presentation.

5. Student Assessment Methods

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

5.2.Practical to assess professional and practical skills.

5.3.Semester Work (Project presentation) to assess general and transferrable skills.

Assessment Schedule

Assessment 1: Midterm Examinations

Weeks 4 & 8.

. Assessment 2: Semester work (Project Presentation)	Weeks 9, 11
Assessment 3: Practical Examination	Week 12
Assessment 4: Final Examination	Week 15/16

Weighting of Assessments

1 st Mid-Term Examination	5%
2 nd Mid-Term Examination	15%
Final-Term Examination	40%
Practical	30%
Semester Work (Project Presentation)	10%
Total	100%

6. List of References

6.1. Course Notes

- 6.1.1. Lectures handout
- 6.1.2. Practical Manual

2. Essential Books (Text Books)

- 6.2.1. Wells, Barbara G., et al. *Pharmacotherapy principles & practice*. New York: McGraw- Hill, 2013.
- 6.2.2. BNF 56 application

6.3 Recommended Books

- 6.3.1 Koda-Kimble, Mary Anne. Koda-Kimble and Young's applied therapeutics: the clinical use of drugs. Eds. Brian K. Alldredge, Robin L. Corelli, and Michael E. Ernst. Lippincott Williams & Wilkins, 2012.
- 6.3.2 William D. Linn, PharmD et al *Pharmacotherapy in Primary Care*: Graw Hill 2011
- 6.3.3 Walker, Roger, and Cate Whittlesea. *Clinical pharmacy and therapeutic* Elsevier Health Sciences, 2011.

6.4 Periodicals and Websites

- 6.4.1. www.pubmed.com
- 6.4.2. www.drugs.com
- 6.4.3. WWW.pharmacotherapyonline.com
- 6.4.4. www.PDR.net
- 6.4.5. www.pdr.health
- 6.4.6. www.FDA.com
- 6.4.7. www.medlineplus.com
- 6.4.8. www.Martindale.com
- 6.4.9. www.Drug_interactionscenter.com
- 6.4.10.. www.Medicinenet.com

- 6.4.11. www.Drugs A – Z list.com
- 6.4.12. www. Multi Drug Interactions.com

7. Facilities Required for Teaching and Learning

- 7.1. Smart board for lectures
- 7.2. Computers with internet
- 7.3. Audiovisuals
- 7.4. E-library
- 7.5. Medication Samples
- 7.6. Medical Devices for patient assessment
- 7.7. Medications' Brochures

Course Coordinator Prof. Dr. Ebtessam Darweesh

Head of Department Prof. Dr. Ebtessam Darweesh

Department Approval Date: September 2014

Hospital Pharmacy 2 (PHP 616)

Program (s) on which the course is given:	Bachelor of Pharmaceutical Sciences and Pharmaceutical Industries
Department offering the program:	All Faculty Departments
Department offering the course:	Pharmacy Practice & Clinical Pharmacy
Academic year:	2014/2015
Approval Date:	September 2014

A. Basic Information

Title: Hospital Pharmacy-2	Code: PHP 616	
Prerequisites: PHP 421	Hospital Pharmacy -1	
Credit Hours: 2	Lecture: 2 hrs/week	Practical: N/A
Tutorial: N/A	Total: 2 hrs/week	

B. Professional Information

1. Overall Aim of Course

The course was designed to provide pharmacy students with an overview in development, organization, services, practice and main strands of hospital pharmacy, pharmacy and therapeutic committee, hospital pharmacist function, drug distribution systems, patient counseling and education, hospital formulary, total parenteral nutrition, rational use of drugs, laboratory data review, reporting of medication errors, handling of cytotoxic drugs, intravenous admixture.

2. Intended Learning Outcomes (ILOs)

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

a- Knowledge and Understanding:

- a1.** Outline the contemporary role of hospital pharmacist.
- a2.** Recognize hospital pharmacy activity.
- a3.** Recognize organization of department of pharmaceutical services in hospitals.
- a4.** Review patient laboratory data.
- a5.** Describe IV admixture and TPN preparation.
- a6.** Enumerate the specifications and requirements for handling cytotoxic drugs.

b- Intellectual Skills:

- b1.** Distinguish the different organizations of hospital pharmacy departments, services and procedures.
- b2.** Indicate the best method for drug distribution in hospitals
- b3.** Choose the best methods for 1ry and 2ry IV drug administration.
- b4.** Identify the best patient drug related needs during TPN therapy.

- b5. Interpret laboratory tests for patients.
- b6. Indicate the best way to handle cytotoxic drugs.
- b7. Outline medication errors problems.

c- Professional and Practical Skills:

- c1. Calculate the doses for adults and pediatrics on scientific basis
- c2. Reconstitute dry powder medication with required concentration.
- c3. Calculate the IV infusion rate for regular IV sets and IV pumps.
- c4. Design a TPN supply for patients.

d- General and Transferable Skills:

- After completing this course, the student will acquire the following skills
- d1. Communicate effectively verbally and nonverbally.
 - d2. Deal freely with the medical team using good command of medical terminology.
 - d3. Apply all aspects concerning drug purchase, supplies, storage, etc.
 - d4. Communicate with other health care providers and patients.

3. Contents

Week	Topic	No. of Hours	Lecture	Practical
One	Hospital pharmacist functions & Hospital pharmacy practice.	3	1	
	Applied Communication skills of hospital pharmacist.			2
Two	In-patient services, Drug distribution systems and Patient medical record.	3	1	
	Taking medication history of patients.			2
Three	Outpatient services and drug information services.	3	1	
	Introduction of chemotherapeutics			2
Four	Intravenous admixture. + First Midterm Exam	3	1	
	Venipuncture simulation			2
Five	Handling of cytotoxic drugs.	3	1	
	Dosage calculation & pharmacokinetics of Methotrexate and Vancomycin			2
Six	Patient counseling of chemotherapeutic agents	3	1	

	Case study for MTX dosage calculations.			2
Seven	Total parenteral nutrition.	3	1	
	Designing & formulation different types of central PN.			2
Eight	Second Midterm Exam			
Nine	Total parenteral nutrition TPN.	3	1	
	Designing & formulation different types of peripheral PN.			2
Ten	Reporting of medication errors and identification of chemotherapy inducing adverse drug reactions.	3	1	
	Brief introduction of Oncology supportive care			2
Eleven	Therapeutic drug monitoring of zero order kinetics drugs	3	1	
	Handling of extravasation			2
Twelve	Vesicants , Irritants & Corrosives	3	1	
	Practical Revision.			2
Thirteen	Therapeutic drug monitoring of Narrow therapeutic Index drugs.	3	1	
	Practical exam.			2
Total no. of hrs.		36	12	24
Fourteen	Final exams of Faculty			
Fifteen				
Sixteen				

4. Teaching and Learning Methods

- 4.1. Power point lectures.
- 4.2. Practical Labs.
- 4.3. Internet search.
- 4.4. Group based learning.

5. Student Assessment Methods

- 5.1. Written exams to assess overall knowledge and intellectual skills.
- 5.2. Practical exam to assess professional and practical skills.
- 5.1. Semester Work (Evaluation of assignments) to assess theoretical background of the practical part.

Assessment Schedule

Assessment 1 First Midterm Exam	Week 4
Assessment 2 Second mid-term exam	Week 8
Assessment 3 Practical exam	Week 13
Assessment 4 Final Written Exam	Week 15
Assessment 5 Semester Work (Evaluation of Assignments)	(During the semester)

Weighting of Assessments

First Midterm Examination	5 %
Second Mid-Term Examination	15 %
Final-Term Examination	40 %
Practical Examination	30 %
Semester Work	10 %
Total	100%

6. List of References

6.1. Course Notes

Lectures handout,
Lab manual: Practical Hospital Pharmacy

6.2. Essential Books (Text Books)

- 1) Mansoor A. Khan, Indra K. Reddy; Pharmaceutical and clinical calculations,
- 2) Brown, T.R., "Handbook of Institutional Pharmacy Practice",

6.3. Recommended Books

William E. Hassan, JR. "Hospital Pharmacy", Lea and Febiger, Philadelphia.

6.4. Periodicals, Websites,etc.

www.Wikipedia.com

7. Facilities Required for Teaching and Learning

- a. Personal computer equipped with a data show.
- b. White board.
- c. Internet searching.
- d. Special software (BNF).

Course Coordinator

Head of Department

Prof. Dr. Ebtissam Darwish.

Department Approval Date: September 2014