



Course Specification of Hospital Pharmacy

I. Course Identification and General Information:						
1	Course Title:	Hospital Pharmacy				
2	Course Number & Code:	Ph21026				
3	Credit hours:	C.H				Total
		Theoretical	Practical	Training	Seminar	
		2	-	-	-	2
4	Study level/ semester at which this course is offered:	Fifth year, Second Semester				
5	Pre –requisite (if any):	Pharmaceutical Care (II) and Clinical Pharmacy I				
6	Co –requisite (if any):	Clinical Pharmacy II				
7	Program (s) in which the course is offered:	Bachelor of pharmacy				
8	Department (s) in which the course is offered:	Pharmaceutics				
9	Language of teaching the course:	English				
10	Location of teaching the course:	Faculty of pharmacy – Sana'a University				
11	Prepared by:	Prof. Dr. Ahmed Mohamed Sabati				
12	Date of approval:					

II. Course Description:

الموصف
ا.د. احمد سباتي

نائب العميد لشؤون الجودة
ا.د. محمود البريهي

رئيس القسم
ا.د. ماجد علوان

عميد الكلية
د. خالد الشوية

عميدة مركز التطوير وضمان الجودة
ا.م.د. هدى العماد

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This course covers the development, functions, organization and administration of pharmaceutical services within the hospital. This course also deals with the pharmaceutical services offered to in-patients and out-patients. It includes drug distribution, I.V. admixtures, total parenteral nutrition, and dosage calculations. Emphasis is also given to design and manufacture of formulations for hospital use including their quality assurance and packaging. **Overall Aims of Course:**

The student shall develop an understanding of the complete process of the drug distribution system, from the purchasing and receipt of drugs by the hospital including their administration to the patient. The resident shall also develop an understanding of an intravenous admixture service, including total parenteral nutrition and chemotherapy.

III. Intended Learning outcomes (ILOs) of the course:

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At the end of this course, the students will be able to:

1. Explain hospital organization/ PTC committee functions and the professional practice management skills
2. Demonstrate proper aspect technique and calculations in IV admixture compounding and prepare intravenous admixtures, total parenteral nutrition, and chemotherapy.
3. Recognize steps involved in drug therapy monitoring and requirements for stores management and inventory control.
4. Describe all legal requirements and professional standards that pertain to the drug distribution in hospitals and their contribution to patient- focused pharmacy practice
5. Recognize the polices of MMU (Medication Management and Use) Committee
6. Calculate the medicine doses and dosage regimen.
7. Interpret patient and clinical data, including patients records held within practice settings.
8. Interpret of prescription and other orders of medicines.
9. Identify potential drug- related problems that could occur as result of the hospital's distribution system and identify ways to prevent their occurrence.
10. Apply in practice setting the knowledge and understanding required to meet the needs of patient and other health professionals.
11. Interpret the appropriateness of medication order before preparing or permitting dispensing the patient dose.
12. Adjust unit dose and interpret/ check medication orders for completeness, appropriateness, and accuracy
13. Follow departmental procedures and pharmacy standards of practice to insure the integrity of drugs dispensed within the hospital.
14. Identify, document, evaluate and follow-up on medication errors, in accordance with hospital policy.
15. Effectively review, process and dispenses medication orders, according to hospital policies and procedures, including formulary drugs, non-formulary drugs, restricted drugs, drugs within therapeutic interchange policy, investigational and special access drugs, narcotic and controlled drugs. Accurately assess admixture solutions for appropriate concentrations, rate, compatibilities, stability, and storage
16. Communicate efficiently and effectively with patients and other healthcare professionals.
17. Reflect on the use of communication skills in counter prescribing.
18. Critically analyze published literature.

I. Intended learning outcomes (ILOs) of the course:

(A) Knowledge and Understanding:

Alignment of Course Intended Learning Outcomes (CILOs) to Program Intended Learning Outcomes (PILOs) in:
Knowledge and Understanding.

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Program Intended Learning Outcomes (Sub- PILOs) in: Knowledge and Understanding		Course Intended Learning Outcomes (CILOs) in: Knowledge and Understanding	
After completing this program, students will be able to:		After completing this course, students will be able to:	
A1	Recognize the principles of physical, chemical, clinical, social, behavioral, health and Pharmaceutical sciences	a1-	Explain hospital organization/ PTC committee functions and the professional practice management skills
		a2	Demonstrate proper aspect techniques and calculations for IV admixture compounding and prepare intravenous admixtures, total parenteral nutrition, and chemotherapy.
A5	demonstrate the basic knowledge of pharmacoeconomics, pharmacovigilance, policy, legislation, marketing, administration and distribution of pharmaceutical and cosmetic products as well as ethics of health care	a3	Recognize steps involved in drug therapy monitoring and requirements for stores management and inventory control.
		a4	Describe all legal requirements and professional standards that pertain to the drug distribution in hospitals and their contribution to patient- focused pharmacy practice
		a5	Recognize the polices of MMU (Medication Management and Use) Committee.

Teaching And Assessment Methods For Achieving Learning Outcomes

Alignment of Learning Outcomes of Knowledge and Understanding to Teaching and Assessment Methods:			
Course Intended Learning Outcomes (CILOs) in Knowledge and Understanding		Teaching strategies/ methods to be used	Methods of assessment
completing this course, students will be able to:		Lectures methods , Computer based teaching and learning, group discussion and tutorial	Oral Exam, Quizzes, Attendance, Participation, Short answers, reports, homework, and Written exam.
a1-	Explain hospital organization/ PTC committee functions and the professional practice management skills		
a2	Demonstrate proper aspect technique and calculations in IV admixture compounding and prepare intravenous admixtures, total parenteral nutrition, and chemotherapy.		
a3	Recognize steps involved in drug therapy monitoring and requirements for stores management and inventory control.		

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a4	Describe all legal requirements and professional standards that pertain to the drug distribution in hospitals and their contribution to patient- focused pharmacy practice		
a5	Recognize the polices of MMU (Medication Management and Use) Committee.		

(B) Intellectual Skills:

Alignment of Course Intended Learning Outcomes (CILOs) to Program Intended Learning Outcomes (PILOs) in: Intellectual skills

Program Intended Learning Outcomes (Sub-PILOs) in Intellectual skills		Course Intended Learning Outcomes (CILOs) of Intellectual Skills	
After completing this program, students will be able to:		After completing this course, students will be able to:	
B4-	Plan a modern system for administration of medical foundations and merge the ethics to business during the drug marketing.	b1-	Calculate the medicine doses and dosage regimen.
		b2-	Interpret patient and clinical data, including patients records held within practice settings.
B5-	Interpret the prescriptions, patient and clinical data, Analysis all the encountered pharmaceutical problems and plan the strategies for their solution, to develop the health care.	b3-	Interpret of prescription and other orders of medicines.
		b4-	Identify potential drug- related problems that could occur as result of the hospital's distribution system and identify ways to prevent their occurrence.
		b5-	Apply in practice setting the knowledge and understanding required to meet the needs of patient and other health professionals.
		b6-	Interpret the appropriateness of medication order before preparing or permitting dispensing the patient dose.

Teaching And Assessment Methods For Achieving Learning Outcomes:

Alignment of Learning Outcomes of Intellectual Skills to Teaching Methods and Assessment Methods:

Course Intended Learning Outcomes (CILOs) in Intellectual Skills.	Teaching strategies/methods to be used	Methods of assessment
After completing this course, students will be able to:		

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b1-	Calculate the medicine doses and dosage regimen.	Lectures methods, Group Discussion, Problem solving	Oral Exam, Quizzes, Attendance, Participation,
b2-	Interpret patient and clinical data, including patients records held within practice settings.		
b3-	Interpret of prescription and other orders of medicines.	sessions, brainstorming and Computer based teaching and learning	Short answers, reports, homework, and Written exam.
b4-	Identify potential drug- related problems that could occur as result of the hospital's distribution system and identify ways to prevent their occurrence.		
b5-	Apply in practice setting the knowledge and understanding required to meet the needs of patient and other health professionals.		
b6-	Interpret the appropriateness of medication order before preparing or permitting dispensing the patient dose.		

(C) Professional and Practical Skills:

Alignment of Course Intended Learning Outcomes (CILOs) to Program Intended Learning Outcomes (PILOs) in: Professional and Practical Skills			
Program Intended Learning Outcomes (Sub- PILOs) in Professional and Practical Skills		Course Intended Learning Outcomes (CILOs) in Professional and Practical Skills	
After completing this program, students will be able to:		After completing this course, students will be able to:	
C4-	Provide patient-oriented pharmaceutical care by collaboration with other health care professionals to optimize therapeutic outcomes.	c1-	Adjust unit dose and Interpret/ check medication orders for completeness, appropriateness, and accuracy
C5-		c2-	Follow departmental procedures and pharmacy standards of practice to insure the integrity of drugs dispensed within the hospital.

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Conduct research studies and utilize the results in different pharmaceutical fields.	c3	Identify document, evaluate and follow-up on medication errors, in accordance with hospital policy.
	c4-	Effectively review, process and dispenses medication orders, according to hospital policies and procedures, including formulary drugs, non-formulary drugs, restricted drugs, drugs within therapeutic interchange policy, investigational and special access drugs, narcotic and controlled drugs.
	c5-	Accurately assess admixture solutions for appropriate concentrations, rate, compatibilities, stability, and storage

Teaching And Assessment Methods For Achieving Learning Outcomes:

Alignment of Learning Outcomes of Professional and Practical Skills to Teaching and Assessment Methods:

Course Intended Learning Outcomes (CILOs) in Professional and Practical Skills		Teaching strategies/methods to be used	Methods of assessment
After completing this course, students will be able to:		Lectures methods, Group Discussion, Problem solving sessions, brainstorming and Computer based teaching and learning	Oral Exam, Quizzes, Attendance, Participation, Short answers, reports, homework, and Written exam.
c1-	Adust unit dose and Interpret/ check medication orders for completeness, appropriateness, and accuracy		
c2-	Follow departmental procedures and pharmacy standards of practice to insure the integrity of drugs dispensed within the hospital.		
c3-	Identify document, evaluate and follow-up on medication errors, in accordance with hospital policy.		

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c4-	Effectively review, process and dispenses medication orders, according to hospital policies and procedures, including formulary drugs, non-formulary drugs, restricted drugs, drugs within therapeutic interchange policy, investigational and special access drugs, narcotic and controlled drugs.	
c5-	Accurately assess admixture solutions for appropriate concentrations, rate, compatibilities, stability, and storage	

(D) General / Transferable Skills:

Alignment of Course Intended Learning Outcomes (CILOs) to Program Intended Learning Outcomes (PILOs) in: **General and Transferable skills**

Program Intended Learning Outcomes (PILOs) in General / Transferable skills		Course Intended Learning Outcomes (CILOs) in General / Transferable skills	
After completing this program, students will be able to:		After completing this course, students will be able to:	
D1-	Practice independent learning needed for continuous professional development	d1-	Communicate efficiently and effectively with patients and other healthcare professionals.
D2	Employ proper documentation and filing systems in different pharmaceutical fields	d2	Reflect on the use of communication skills in counter prescribing.
		d3	Critically analyze published literature.

Teaching And Assessment Methods For Achieving Learning Outcomes:

Alignment of Learning Outcomes of General and Transferable skills to Teaching and Assessment Methods:

Course Intended Learning Outcomes (CILOs) in General and Transferable Skills	Teaching strategies/methods to be used	Methods of assessment
After completing this course, students will be able to:		Oral Exam, Quizzes,

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d1-	Communicate efficiently and effectively with patients and other healthcare professionals.	Lectures methods, Group Discussion, Problem solving sessions, brainstorming and Computer based teaching and learning	Attendance, Participation, Short answers, reports, homework, and Written exam.
d2-	Reflect on the use of communication skills in counter prescribing.		
d3-	Critically analyze published literature.		

II. Course Content:

1 – Course Topics/Items:

Order	Topic List / Units	CILOs (symbols)	No. of week	Contact Hours
1	Introduction : Organization and Structure Organization of a hospital and hospital pharmacy - Responsibilities of a hospital	a1, d1-3	1	2

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	pharmacist			
2	Pharmacy and therapeutic committee- Hospital hospital formulary	formulary Contents, preparation and revision of a1, d1-3	1 2	
	Drug Store Management and Inventory Control:		1	2
3	□ Organization of a drug store □ Storage conditions. Purchase and Inventory Control - Principles -	a1, a2, a3, a4		
4	Procurement and stocking	purchase procedures - a3, a4, d1-3	2	order -
5	Inpatient pharmacy services: Dose adjustment.	Inpatient pharmacy services: Dose adjustment. a2, a3, b1-	1	Dose a2, b1, c1, d1- 1 2 adjustment. 3
6	(TDM)	- Intravenous admixture (TPN) - drug 2 3, c1, c5, d1-3 monitoring		Therapy
7		a4, b2, b3, b6, Outpatient dispensing - methods adopted.	1 2	
8		c2, c4, d1-3 a4, b3, b4,	1	Drug Distribution Systems in Hospitals: 2 d1-3
9	Types of drug distribution systems. - Charging policy – labeling - Dispensing of drugs to	a4, b3, b4, b6, c2, c4, d1-	1	2

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	ambulatory patients. Dispensing of controlled drugs.	3		
10	Polices of MMU (Medication Management and Use) Committee	a5, d1-3	1	2
11	Reporting system Medication Errors and Near Miss Events	c3, d1-3	1	2
12	Dispensing - High Alert Medications-Medication	b6, c2,c4, d13	1	2
13	CPR Crush Cart - PARENTERAL THERAPY	a2, a3,b1-3,c1, c5,d1-3	1	2
14	Overseeing Medication Use - Distribution and Control of Narcotics	a4, b3, b4, d1-3	1	2
Number of Weeks /and Units Per Semester			14	28

I. a-Teaching strategies of the course:

Lecture method, Group Discussion, Problem solving sessions, case study, Computer based teaching and learning, tutorials, brainstorming and Practical sessions.

b- Assessment Methods:

Quizzes, Attendance, Participation, Short answers, reports, homework, and Written exam and reports.

I. Schedule of Assessment Tasks for Students During the Semester:

No.	Assessment Method	Week Due	Mark	Proportion of Final Assessment	Aligned Course Learning Outcomes (CILOs symbols)
1	Participation, Assignments and quizzes	All weeks	10	10%	a1-5, b1-6, c1-6, d1-3
2	Mid-semester exam	8	20	20%	a1-4, b1-3, b6, c1,c2,c4, c5

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3	Final Exam	16	70	70%	a1-5, b1-6, c1-6
Total			50	100%	

I. Students' Support:

Office Hours/week	Other Procedures (if any)
2hrs	

II. Learning Resource (MLA style or APA style)S:

1- Required Textbook(s) (maximum two)

M. C. Allwood and J. T. Fell. 1980. "Textbook of Hospital Pharmacy" Blackwell Scientific Publications, Oxford.

2- Recommended Readings and Reference Materials

□ W.E. Hassan "Hospital Pharmacy" 3rd ed. Lea and Febiger, Philadelphia, 1974. \ □
Clinical Pharmacy - Jankins, Superandio and Laticlasis.

3- Essential References

Course notes (lecture notes and practical notes) prepared by teacher of the subject.

4- Electronic Materials and Web Sites etc.

Websites in international network (internet)

5- Other Learning Material:

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I. Facilities Required:

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1 - Accommodation:	<ul style="list-style-type: none"> - Well-equipped lecture halls with data show facilities, whiteboards, net connection, etc. - Well-equipped laboratories with all required equipment and reagents.
2 - Computing resources:	<ul style="list-style-type: none"> - Computer laboratory with internet facilities.

II. Course Improvement Processes:

1- Strategies for obtaining student feedback on effectiveness of teaching

- Student-based assessment of the effectiveness of teaching using a questionnaire designed by the Quality Assurance Unit at the end of the semester.
- Meeting with students and faculty (once per semester).

2- Other strategies for evaluation of teaching by the instructor or by the department.

- Assessment of the course syllabus and contents by the teachers using a questionnaire designed by the Quality Assurance Unit of the university at the end of the semester.
- Regular meeting and discussion of the course content between the Head of Department and the teaching staff of the course (for theory and practice).

3- Processes for improvement of teaching.

- Revision of the course specification and its teaching strategies every three academic years after consideration of all issues raised by the teachers and/or students during regular meetings and discussions.
- Exploring any possible defects in the course that might be encountered by the teaching staff and their mitigation in subsequent improved versions of course specification.

4- Processes for verifying standards of students' achievement

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	<ul style="list-style-type: none"> ▪ Checking of a sample of students' work by an independent faculty member. ▪ Periodic exchange and check marking of a sample of students' assignments with a faculty member from another institution. ▪ Adoption of scoring rubrics to assess the students' achievement (both for ongoing or summative assessments). ▪ Regular follow-up of laboratory logbooks to assess the practical achievement of students.
<p>5th Procedures for periodically reviewing of course effectiveness and planning for improvement</p>	
	<ul style="list-style-type: none"> ▪ Student rating and feedback ▪ Peer rating and feedback ▪ Regular meeting of the Curriculum Committee of the faculty.
<p>6- Course development plans</p>	
	<ul style="list-style-type: none"> ▪ Conducting regular workshops for the staff for improving their course specification skills. ▪ Regular revision of course specification and syllabus items.

<p>VIII. Course Policies: (including plagiarism, academic honesty, attendance etc)</p>	
<p>The University Regulations on academic misconduct will be strictly enforced. Please refer to -----</p>	
1	<p>Class Attendance:</p> <ul style="list-style-type: none"> ▪ Attendance of all lectures and practical sessions is required. Unexcused absence exceeding 25% of the lectures or practical sessions will disqualify the student from entering the final exam.
2	<p>Tardy:</p> <p>- Roll will be called in the very beginning of each lecture and practical class. Retardation for more than three weeks without a reasonable excursion, the student involved shall not be allowed to attend the class any longer and consequently shall be considered to be absent.</p>

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3	Exam Attendance/Punctuality: <ul style="list-style-type: none"> Exam attendance is obligatory unless being excused by the department and faculty. Absence from assignments or exams will be dealt with according to the general policy of the university.
4	Assignments & Projects: <ul style="list-style-type: none"> Assignments: Written and oral; Laboratory logbook signed by the responsible demonstrator. ■ Projects: Not applicable.
5	Cheating: <ul style="list-style-type: none"> Punishment of cheating will be according to the general policy of the university in this respect.
6	Plagiarism: <ul style="list-style-type: none"> Plagiarism in written essays, reports, etc. is not accepted, and students who plagiarize the works of others will be punished according to the general policy of the university.
7	Other policies: <ul style="list-style-type: none"> General policies of the Students' Affairs of the University and the Quality Assurance Unit.

Course Plan of Hospital Pharmacy

I- Information about Faculty Member Responsible for the Course:						
Name of Faculty Member	Office Hours					
Location & Telephone No.	SAT	SUN	MON	TUE	WED	THU
E-mail						

II- Course Identification and General Information:

1-	Course Title:	Hospital Pharmacy
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2-	Course Number & Code:	Ph21026				
3-	Credit hours:	C.H				Total
		Th.	Seminar	Pr.	F. Tr.	
		2	-	-		2
4-	Study level/year at which this course is offered:	5 th level /2 nd semester				
5-	Pre –requisite (if any):	Pharmaceutical Care (II) and Clinical Pharmacy I				
6-	Co –requisite (if any):	-				
7-	Program (s) in which the course is offered	Bachelor of pharmacy				
8-	Language of teaching the course:	English				
9-	System of Study:	Semesters				
10-	Mode of delivery:	Regular				
11-	Location of teaching the course:	Faculty of Pharmacy- Sana`a university				

IV. Course Description:

This course covers the development, functions, organization and administration of pharmaceutical services within the hospital. This course also deals with the pharmaceutical services offered to in-patients and out-patients. It includes drug distribution, I.V. admixtures, total parenteral nutrition, and dosage calculations. Emphasis is also given to design and manufacture of formulations for hospital use including their quality assurance and packaging. **Overall Aims of Course:**

The student shall develop an understanding of the complete process of the drug distribution system, from the purchasing and receipt of drugs by the hospital including their administration to the patient. The resident shall also develop an understanding of an intravenous admixture service, including total parenteral nutrition and chemotherapy.

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V. Intended Learning outcomes (ILOs) of the course:

At the end of this course, the students will be able to:

1. Explain hospital organization/ PTC committee functions and the professional practice management skills
2. Demonstrate proper aspect technique and calculations in IV admixture compounding and prepare intravenous admixtures, total parenteral nutrition, and chemotherapy.
3. Recognize steps involved in drug therapy monitoring and requirements for stores management and inventory control.
4. Describe all legal requirements and professional standards that pertain to the drug distribution in hospitals and their contribution to patient- focused pharmacy practice
5. Recognize the polices of MMU (Medication Management and Use) Committee
6. Calculate the medicine doses and dosage regimen.
7. Interpret patient and clinical data, including patients records held within practice settings.
8. Interpret of prescription and other orders of medicines.
9. Identify potential drug- related problems that could occur as result of the hospital's distribution system and identify ways to prevent their occurrence.
10. Apply in practice setting the knowledge and understanding required to meet the needs of patient and other health professionals.
11. Interpret the appropriateness of medication order before preparing or permitting dispensing the patient dose.
12. Adust unit dose and Interpret/ check medication orders for completeness, appropriateness, and accuracy
13. Follow departmental procedures and pharmacy standards of practice to insure the integrity of drugs dispensed within the hospital.
14. Identify, document, evaluate and follow-up on medication errors, in accordance with hospital policy.
15. Effectively review, process and dispenses medication orders, according to hospital policies and procedures, including formulary drugs, non-formulary drugs, restricted drugs, drugs within therapeutic interchange policy, investigational and special access drugs, narcotic and controlled drugs. Accurately assess admixture solutions for appropriate concentrations, rate, compatibilities, stability, and storage
16. Communicate efficiently and effectively with patients and other healthcare professionals.
17. Reflect on the use of communication skills in counter prescribing.
18. Critically analyze published literature.

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V-Course Content:

1 – Course Topics/Items:

Order	Topic List / Units	CILOs (symbols)	Week Due	Contact Hours
1	Introduction : Organization and Structure Organization of a hospital and hospital pharmacy - Responsibilities of a hospital pharmacist	a1, d1-3	1	2
2	Pharmacy and therapeutic committee- Hospital formulary Contents, preparation and revision of hospital formulary	a1, d1-3	2	2
3	Drug Store Management and Inventory Control: • Organization of a drug store • Storage conditions.	a1, a2, a3, a4	3	2
4	Purchase and Inventory Control - Principles - purchase procedures - Purchase order - Procurement and stocking	a3, a4, d1-3	4	2
5	Inpatient pharmacy services: Dose adjustment.	a2, b1,c1,d1-3	5	2
6	Inpatient pharmacy services: Dose adjustment. - Intravenous admixture (TPN) - Therapy drug monitoring (TDM)	a2, a3,b1-3,c1, c5,d1-3	6	2
7	Outpatient dispensing - methods adopted.	a4, b2,b3, b6, c2,c4, d1-3	7	2
8	Med Term Exam	a1-4, b1-3, b6, c1,c2,c4, c5	8	2
9	Drug Distribution Systems in Hospitals:	a4, b3, b4, d1-3	9	2
10	Types of drug distribution systems. - Charging policy – labeling - Dispensing of drugs to ambulatory patients. Dispensing of controlled drugs.	a4, b3, b4, b6, c2,c4, d13	10	2

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11	Polices of MMU (Medication Management And Used) Committee	a5, d1-3	11	2
11	Reporting system Medication Errors and Near Miss Events	c3, d1-3	12	2
13	Dispensing - High Alert Medications- Medication	b6, c2,c4, d13	13	2
14	CPR Crush Cart - PARENTERAL THERAPY	a2, a3,b1-3,c1, c5,d1-3	14	2
15	Overseeing Medication Use - Distribution and Control of Narcotics	a4, b3, b4, d1-3	15	2
16	Final Term Exam	a1-5, b1-6, c1-5	16	2
Number of Weeks /and Units Per Semester			16	32

II. a-Teaching strategies of the course:

Lecture method, Group Discussion, Problem solving sessions, case study, Computer based teaching and learning, tutorials, brainstorming and Practical sessions.

b- Assessment Methods:

Quizzes, Attendance, Participation, Short answers, reports, homework, and Written exam and reports.

II. Schedule of Assessment Tasks for Students During the Semester:

No.	Assessment Method	Week Due	Mark	Proportion of Final Assessment	Aligned Course Learning Outcomes (CILOs symbols)
1	Participation, Assignments and quizzes	All weeks	10	10%	a1-5, b1-6, c1-6, d1-3
2	Mid-semester exam	8	20	20%	a1-4, b1-3, b6, c1,c2,c4, c5

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3	Final Exam	16	70	70%	a1-5, b1-6, c1-6
Total			50	100%	

III. Students' Support:

Office Hours/week	Other Procedures (if any)
2hrs	

IV. Learning Resource (MLA style or APA style)S:

6- Required Textbook(s) (maximum two)

M. C. Allwood and J. T. Fell. 1980."Textbook of Hospital Pharmacy" Blackwell Scientific Publications, Oxford.

7- Recommended Readings and Reference Materials

□ W.E. Hassan "Hospital Pharmacy" 3rd ed. Lea and Febiger, Philadelphia,1974. \ □
Clinical Pharmacy - Jankins, Superandio and Laticlasis.

8- Essential References

Course notes (lecture notes and practical notes) prepared by teacher of the subject.

9- Electronic Materials and Web Sites etc.

Websites in international network (internet

10- Other Learning Material:

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III. Facilities Required:	
1 - Accommodation:	<ul style="list-style-type: none"> - Well-equipped lecture halls with data show facilities, whiteboards, net connection, etc. - Well-equipped laboratories with all required equipment and reagents.
3 - Computing resources:	<ul style="list-style-type: none"> - Computer laboratory with internet facilities.
IV. Course Improvement Processes:	
6- Strategies for obtaining student feedback on effectiveness of teaching	
	<ul style="list-style-type: none"> ▪ Student-based assessment of the effectiveness of teaching using a questionnaire designed by the Quality Assurance Unit at the end of the semester. ▪ Meeting with students and faculty (once per semester).
7 Other strategies for evaluation of teaching by the instructor or by the department.	
	<ul style="list-style-type: none"> ▪ Assessment of the course syllabus and contents by the teachers using a questionnaire designed by the Quality Assurance Unit of the university at the end of the semester. ▪ Regular meeting and discussion of the course content between the Head of Department and the teaching staff of the course (for theory and practice).
8- Processes for improvement of teaching.	
	<ul style="list-style-type: none"> ▪ Revision of the course specification and its teaching strategies every three academic years after consideration of all issues raised by the teachers and/or students during regular meetings and discussions. ▪ Exploring any possible defects in the course that might be encountered by the teaching staff and their mitigation in subsequent improved versions of course specification.
9- Processes for verifying standards of students' achievement	

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	<ul style="list-style-type: none"> Checking of a sample of students' work by an independent faculty member. Periodic exchange and check marking of a sample of students' assignments with a faculty member from another institution. Adoption of scoring rubrics to assess the students' achievement (both for ongoing or summative assessments).
	<ul style="list-style-type: none"> Regular follow-up of laboratory logbooks to assess the practical achievement of students.
<p>1⁰- Procedures for periodically reviewing of course effectiveness and planning for improvement</p>	
	<ul style="list-style-type: none"> Student rating and feedback Peer rating and feedback Regular meeting of the Curriculum Committee of the faculty.
<p>6- Course development plans</p>	
	<ul style="list-style-type: none"> Conducting regular workshops for the staff for improving their course specification skills. Regular revision of course specification and syllabus items.

<p>IX. Course Policies: (including plagiarism, academic honesty, attendance etc)</p>	
<p>The University Regulations on academic misconduct will be strictly enforced. Please refer to -----</p>	
1	<p>Class Attendance:</p> <ul style="list-style-type: none"> Attendance of all lectures and practical sessions is required. Unexcused absence exceeding 25% of the lectures or practical sessions will disqualify the student from entering the final exam.
2	<p>Tardy:</p> <p>- Roll will be called in the very beginning of each lecture and practical class. Retardation for more than three weeks without a reasonable excursion, the student involved shall not be allowed to attend the class any longer and consequently shall be considered to be absent.</p>



3	Exam Attendance/Punctuality: <ul style="list-style-type: none">▪ Exam attendance is obligatory unless being excused by the department and faculty.▪ Absence from assignments or exams will be dealt with according to the general policy of the university.
4	Assignments & Projects: <ul style="list-style-type: none">▪ Assignments: Written and oral; Laboratory logbook signed by the responsible demonstrator. ▪Projects: Not applicable.
5	Cheating: <ul style="list-style-type: none">▪ Punishment of cheating will be according to the general policy of the university in this respect.
6	Plagiarism: <ul style="list-style-type: none">▪ Plagiarism in written essays, reports, etc. is not accepted, and students who plagiarize the works of others will be punished according to the general policy of the university.
7	Other policies: <ul style="list-style-type: none">▪ General policies of the Students' Affairs of the University and the Quality Assurance Unit.

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