

Republic of Yemen

Ministry of Higher Education & Scientific Research

21 September University of Medicals & Applied Sciences



Faculty of Clinical Pharmacy

Bachelor of Pharm. D.

Course Specification of **Hospital Training: Oncology Care**

Course No. (02.05.256)

2021/2022

Prepared by:	Reviewed by:	Head of the Department:	Vice Dean for Quality affairs	Dean of College:
Dr. Ali Alyahawi	Dr. Hassan Al Mahbashi	Dr. -----	Dr. Abdulelah Thabet	Dr. Ali Alyahawi

I. Course Identification and General Information:

1	Course Title:	Hospital Training: Oncology care		
2	Course Code & Number:	02.05.256		
3	Credit Hours:	Credit Hours	Theory Hours	
			Lecture	Exercise
		3	--	--
4	Study Level/ Semester at which this Course is offered:	6 th Level / 1 st Semester		
5	Pre –Requisite (if any):	Students must have successfully completed their basic curriculum of 5 th Years.		
6	Co –Requisite (if any):	None		
7	Program (s) in which the Course is Offered:	Bachelor of Pharm. D.		
8	Language of Teaching the Course:	English		
9	Study System:	Semester based System		
10	Mode of Delivery:	Full Time		
11	Location of Teaching the Course:	Faculty of Clinical Pharmacy		
12	Prepared by:	Dr. Ali Alyahawi		
13	Date of Approval:	2022		

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Dr. Ali Alyahawi	Dr. Hassan Al Mahbashi	Dr. -----	Dr. Abdulelah Thabet	Dr. Ali Alyahawi

II. Course Description:

This training course aims to integrate the students skills of pharmaceutical care practice and the theoretical principles of pharmacology, therapeutic and clinical courses in practicing hospital real cases of oncology conditions to identify and resolve different treatment related problems.

III. Course Intended Learning Outcomes (CILOs) :

Referenced PILOs Learning out of program

A. Knowledge and Understanding: Upon successful completion of the course, students will be able to:

a1	Understand the role and responsibilities of a clinical pharmacist in the supportive care and treatment of patients on chemotherapy (pain management, cancer-related anemia, etc).	A1, A3, A4, A5
a2	Discuss the rational use of common cancer chemotherapy in practice (medications' mechanism of action, clinical uses, dosing and monitoring parameters.).	A1, A5

B. Intellectual Skills: Upon successful completion of the course, students will be able to:

b1	Identify the most significant treatment-related problems and monitor parameters for selected cases discussion of oncology diseases.	B2, B3, B4, B5
b2	Design rational care plan for oncology patients who are receiving chemotherapy.	B4, B5

C. Professional and Practical Skills: Upon successful completion of the course, students will be able to:

c1	Choose the rational pharmacotherapy recommendations regarding the supportive care of patients who are receiving chemotherapy	C4
c2	Provide appropriate patient counseling regarding cancer chemotherapy.	C3, C4, C5

D. Transferable Skills: Upon successful completion of the course, students will be able to:

d1	Search efficiently for appropriate pharmacotherapy recommendations and properly use of Evidence-Based Medicine (EBM) for controversial area.	D3
d2	Share successfully therapeutic recommendations with health care providers and provide a clear information to patients.	D1, D3

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(a) Alignment Course Intended Learning Outcomes of Knowledge and Understanding to Teaching Strategies and Assessment Strategies:		
Course Intended Learning Outcomes	Teaching strategies	Assessment Strategies
a1- Define the role and responsibilities of a clinical pharmacist in the supportive care and treatment of patients on chemotherapy (pain management, cancer-related anemia, etc).	- Clinical cases studies - Small practical session and discussion - Seminars - Manuals - Critical analysis and reading - Use of advanced database search - Individual supervision - Collecting, interpreting, and integrating available information in disease state Self-learning	- Assignments - Oral case discussions during clinical rounds - Pharmacy practice manual - Formal case presentation - Presentation for one of the course content topics. - Exam
a2- Discuss the rational use of common cancer chemotherapy in practice (medications' mechanism of action, clinical uses, dosing and monitoring parameters.).	- Clinical cases studies - Small practical session and discussion - Seminars - Manuals - Critical analysis and reading - Use of advanced database search - Individual supervision - Collecting, interpreting, and integrating available information in disease state - Self-learning	- Assignments - Oral case discussions during clinical rounds - Pharmacy practice manual - Formal case presentation - Presentation for one of the course content topics. - Exam

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(b) Alignment Course Intended Learning Outcomes of Intellectual Skills to Teaching Strategies and Assessment Strategies:		
Course Intended Learning Outcomes	Teaching strategies	Assessment Strategies
b1- Identify the most significant treatment-related problems and monitor parameters for selected cases discussion of oncology diseases.	- Clinical cases studies - Small practical session and discussion - Seminars - Manuals - Critical analysis and reading - Use of advanced database search - Individual supervision - Collecting, interpreting, and integrating available information in disease state - Self-learning	- Assignments - Oral case discussions during clinical rounds - Pharmacy practice manual - Formal case presentation - Presentation for one of the course content topics. - Exam
b2- Design rational care plan for oncology patients who are receiving chemotherapy.	- Clinical cases studies - Small practical session and discussion - Seminars - Manuals - Critical analysis and reading - Use of advanced database search - Individual supervision - Collecting, interpreting, and integrating available information in disease state - Self-learning	- Assignments - Oral case discussions during clinical rounds - Pharmacy practice manual - Formal case presentation - Presentation for one of the course content topics. - Exam

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(C) Alignment Course Intended Learning Outcomes of Professional and Practical Skills to Teaching Strategies and Assessment Strategies:		
Course Intended Learning Outcomes	Teaching strategies	Assessment Strategies
C1- Choose the rational pharmacotherapy recommendations regarding the supportive care of patients who are receiving chemotherapy	- Clinical cases studies - Small practical session and discussion - Seminars - Manuals - Critical analysis and reading - Use of advanced database search - Individual supervision - Collecting, interpreting, and integrating available information in disease state - Self-learning	- Assignments - Oral case discussions during clinical rounds - Pharmacy practice manual - Formal case presentation - Presentation for one of the course content topics. - Exam
C2- Provide appropriate patient counseling regarding cancer chemotherapy..	- Clinical cases studies - Small practical session and discussion - Seminars - Manuals - Critical analysis and reading - Use of advanced database search - Individual supervision - Collecting, interpreting, and integrating available information in disease state - Self-learning	- Assignments - Oral case discussions during clinical rounds - Pharmacy practice manual - Formal case presentation - Presentation for one of the course content topics. - Exam

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(d) Alignment Course Intended Learning Outcomes of Transferable Skills to Teaching Strategies and Assessment Strategies:		
Course Intended Learning Outcomes	Teaching strategies	Assessment Strategies
d1- Search efficiently for appropriate pharmacotherapy recommendations and properly use of Evidence-Based Medicine (EBM) for controversial area.	- Clinical cases studies - Small practical session and discussion - Seminars - Manuals - Critical analysis and reading - Use of advanced database search - Individual supervision - Collecting, interpreting, and integrating available information in disease state - Self-learning	- Assignments - Oral case discussions during clinical rounds - Pharmacy practice manual - Formal case presentation - Presentation for one of the course content topics. - Exam
d2- Share successfully therapeutic recommendations with health care providers and provide a clear information to patients..	- Clinical cases studies - Small practical session and discussion - Seminars	- Oral case discussions during clinical rounds - Formal case presentation - Presentation for one of the course content topics.

IV. Course Contents:

A. Theoretical Aspect:

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
1	1- NA	—			
Number of Weeks /and Units Per Semester					

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B. Case Studies and Practical Aspect:

Order	Tasks/ Experiments	Number of Weeks	Contact hours	Learning Outcomes
1	Chemotherapy induced nausea and vomiting	Throughout the rotation	Throughout the rotation	a 1, a2, b1, b2, c1, c2, d1, d2
2	Pain management	Throughout the rotation	Throughout the rotation	a 1, a2, b1, b2, c1, c2, d1, d2
3	Anemia related to chemotherapy	Throughout the rotation	Throughout the rotation	a 1, a2, b1, b2, c1, c2, d1, d2
4	Infection related to cancer	Throughout the rotation	Throughout the rotation	a 1, a2, b1, b2, c1, c2, d1, d2
5	Myeloid growth factor	Throughout the rotation	Throughout the rotation	a 1, a2, b1, b2, c1, c2, d1, d2
6	VTE in cancer patient	Throughout the rotation	Throughout the rotation	a 1, a2, b1, b2, c1, c2, d1, d2
7	Neutropenic fever treatment	Throughout the rotation	Throughout the rotation	a 1, a2, b1, b2, c1, c2, d1, d2
8	Hypercalcemia in malignancy	Throughout the rotation	Throughout the rotation	a 1, a2, b1, b2, c1, c2, d1, d2
9	General toxicity of chemotherapy agents -Platinum agents (ex.Cisplatin) -Anthracyclines ex.doxorubicin -Vina alkaloid ex.Vincristine -Methotrexate, Etoposide, Ara-C, Ifosphamide, Docetaxel, Infliximab	Throughout the rotation	Throughout the rotation	a 1, a2, b1, b2, c1, c2, d1, d2
10	Common chemotherapy regimen used for cancer	Throughout the rotation	Throughout the rotation	a 1, a2, b1, b2, c1, c2, d1, d2
Number of Weeks /and Units Per Semester: 2 weeks			72 hours	

C. Tutorial Aspect: (ان وجدت)

No.	Tutorial	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
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No.	Tutorial	Number of Weeks	Contact Hours	Learning Outcomes (CILOs)
1	NA			

V. Teaching Strategies of the Course:

- Clinical cases studies
- Small practical session and discussion
- Seminars
- Manuals
- Critical analysis and reading
- Use of advanced database search
- Individual supervision
- Collecting, interpreting, and integrating available information in disease state
- Self-learning

VI. Assessment Methods of the Course:

Assignments
Oral case discussions during clinical rounds
Pharmacy practice manual
Formal case presentation
Seminar
Exam

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VII. Assignments:

No.	Assignments	Week Due	Mark	Aligned CILOs (symbols)
1	Assignment 1: Develop a pharmaceutical care plan for selected case of oncology supportive care according to appropriate primary literature and updated guidelines.	a 1, a2, b1, b2, c1, c2, d1, d2	Week 1	10
2	Assignment 2: Develop a pharmaceutical care plan for selected case of oncology supportive care according to appropriate primary literature and updated guidelines.	a 1, a2, b1, b2, c1, c2, d1, d2	Week 2	10
Total				20

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

No.	Assessment Method	Week Due	Mark	Proportion of Final Assessment	Aligned Course Learning Outcomes
1	Assignments	Course Training Period	20	20 %	a 1, a2, b1, b2, c1, c2, d1, d2
2	Adherence to Professional Attitudes	Course Training Period	10	10 %	d1, d2
3	Skills Acquired during Training	Course Training Period	20	20 %	b1, b2, c1, c2, d1, d2
4	Formal Case Presentation	Last week of Rotation	10	10 %	a 1, a2, b1, b2, c1, c2, d1, d2
5	General Written Examination	Last week of Rotation	40	40 %	a 1,a2, b1, b2, c1, c2, d1
Total			100	100%	

IX. Learning Resources:

1- Required Textbook(s) (maximum two).

1. Chisholm-Burns et al, 2019 , Pharmacotherapy principles & practice. 5rd edition.
2. Katzung, 2018, Basic & Clinical Pharmacology. 14th edition.

2- Essential References.

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	1. DiPiro et al, 2020, Pharmacotherapy: A Pathophysiological Approach, 11th edition. 2. Caroline S. Zeind and Michael G. Carvalho, 2018, Applied Therapeutics: The Clinical Use of Drugs, 11th edition. 3. Walker & Whittlesea, 2018. Clinical Pharmacy and Therapeutics, 6 edition.
3- Electronic Materials and Web Sites etc.	
	- UpToDate - http://www.globalrph.com/ - Updated Clinical Practice Guidelines for selected course disorders

X. Course Policies: (Based on the Uniform Students' By law (2007))

1	Class Attendance: Class Attendance is mandatory. A student is considered absent and shall be banned from taking the final exam if his/her absence exceeds 25% of total classes.
2	Tardiness: A student will be considered late if he/she is not in class after 10 minutes of the start time of class.
3	Exam Attendance/Punctuality: No student shall be allowed to the exam hall after 30 minutes of the start time, and shall not leave the hall before half of the exam time has passed.
4	Assignments & Projects: Assignments and projects must be submitted on time. Students who delay their assignments or projects shall lose the mark allocated for the same.
5	Cheating: Cheating is an act of fraud that results in the cancelation of the student's exam or assignment. If it takes place in a final exam, the penalties stipulated for in the Uniform Students' Bylaw (2007) shall apply.
6	Forgery and Impersonation: Forgery/Impersonation is an act of fraud that results in the cancelation of the student's exam, assignment or project. If it takes place in a final exam, the penalties stipulated for in the Uniform Students' Bylaw (2007) shall apply.
7	Other policies: The University official regulations in force will be strictly observed and students shall comply with all rules and regulations of the examination set by the Department, Faculty and University Administration.

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I. Information about Faculty Member Responsible for the Course:

Name of Faculty Member:	Dr. Ali Alyahawi	Office Hours					
Location & Telephone No.:							
E-mail:		SAT	SUN	MON	TUE	WED	THU

II. Course Identification and General Information:

1	Course Title:	Hospital Training: Oncology care			
2	Course Code & Number:	02.05.256			
3	Credit Hours:	Credit Hours	Theory Hours		Training contact Hours
			Lecture	Exercise	
		3	--	--	180
4	Study Level/ Semester at which this Course is offered:	6th Level / 1st Semester			
5	Pre –Requisite (if any):	Students must have successfully completed their basic curriculum of 5th Years.			
6	Co –Requisite (if any):	None			
7	Program (s) in which the Course is Offered:	Bachelor of Pharm. D.			
8	Language of Teaching the Course:	English			
9	Study System:	Semester based System			
10	Mode of Delivery:	Full Time			
11	Location of Teaching the Course:	Faculty of Clinical Pharmacy			
12	Prepared by:	Dr. Ali Alyahawi			
13	Date of Approval:	2022			

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III. Course Description:

This training course aims to integrate the students skills of pharmaceutical care practice and the theoretical principles of pharmacology, therapeutic and clinical courses in practicing hospital real cases of oncology conditions to identify and resolve different treatment related problems.

IV. Course Intended Learning Outcomes (CILOs) :

Upon successful completion of the Course, student will be able to:

A. Knowledge and Understanding: Upon successful completion of the course, students will be able to:

a1	Understand the role and responsibilities of a clinical pharmacist in the supportive care and treatment of patients on chemotherapy (pain management, cancer-related anemia, etc).	A1, A3, A4, A5
a2	Discuss the rational use of common cancer chemotherapy in practice (medications' mechanism of action, clinical uses, dosing and monitoring parameters.).	A1, A5

B. Intellectual Skills: Upon successful completion of the course, students will be able to:

b1	Identify the most significant treatment-related problems and monitor parameters for selected cases discussion of oncology diseases.	B2, B3, B4, B5
b2	Design rational care plan for oncology patients who are receiving chemotherapy.	B4, B5

C. Professional and Practical Skills: Upon successful completion of the course, students will be able to:

c1	Choose the rational pharmacotherapy recommendations regarding the supportive care of patients who are receiving chemotherapy	C4
c2	Provide appropriate patient counseling regarding cancer chemotherapy.	C3, C4, C5

D. Transferable Skills: Upon successful completion of the course, students will be able to:

d1	Search efficiently for appropriate pharmacotherapy recommendations and properly use of Evidence-Based Medicine (EBM) for controversial area.	D3
d2	Share successfully therapeutic recommendations with health care providers and provide a clear information to patients.	D1, D3

A. Knowledge and Understanding: Upon successful completion of the course, students will be able to:

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a1	Understand the role and responsibilities of a clinical pharmacist in the supportive care and treatment of patients on chemotherapy (pain management, cancer-related anemia, etc).	A1, A3, A4, A5
a2	Discuss the rational use of common cancer chemotherapy in practice (medications' mechanism of action, clinical uses, dosing and monitoring parameters.).	A1, A5
B. Intellectual Skills: Upon successful completion of the course, students will be able to:		
b1	Identify the most significant treatment-related problems and monitor parameters for selected cases discussion of oncology diseases.	B2, B3, B4, B5
b2	Design rational care plan for oncology patients who are receiving chemotherapy.	B4, B5
C. Professional and Practical Skills: Upon successful completion of the course, students will be able to:		
c1	Choose the rational pharmacotherapy recommendations regarding the supportive care of patients who are receiving chemotherapy	C4
c2	Provide appropriate patient counseling regarding cancer chemotherapy.	C3, C4, C5
D. Transferable Skills: Upon successful completion of the course, students will be able to:		
d1	Search efficiently for appropriate pharmacotherapy recommendations and properly use of Evidence-Based Medicine (EBM) for controversial area.	D3
d2	Share successfully therapeutic recommendations with health care providers and provide a clear information to patients.	D1, D3

V. Course Contents:

A. Theoretical Aspect:

No.	Units/Topics List	Sub Topics List	Number of Weeks	Contact Hours
1	2- NA	–		
Number of Weeks /and Units Per Semester				

B. Case Studies and Practical Aspect:

Order	Tasks/ Experiments	Number of Weeks	Contact hours	Learning Outcomes
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1	Chemotherapy induced nausea and vomiting	Throughout the rotation	Throughout the rotation	a 1, a2, b1, b2, c1, c2, d1, d2
2	Pain management	Throughout the rotation	Throughout the rotation	a 1, a2, b1, b2, c1, c2, d1, d2
3	Anemia related to chemotherapy	Throughout the rotation	Throughout the rotation	a 1, a2, b1, b2, c1, c2, d1, d2
4	Infection related to cancer	Throughout the rotation	Throughout the rotation	a 1, a2, b1, b2, c1, c2, d1, d2
5	Myeloid growth factor	Throughout the rotation	Throughout the rotation	a 1, a2, b1, b2, c1, c2, d1, d2
6	VTE in cancer patient	Throughout the rotation	Throughout the rotation	a 1, a2, b1, b2, c1, c2, d1, d2
7	Neutropenic fever treatment	Throughout the rotation	Throughout the rotation	a 1, a2, b1, b2, c1, c2, d1, d2
8	Hypercalcemia in malignancy	Throughout the rotation	Throughout the rotation	a 1, a2, b1, b2, c1, c2, d1, d2
9	General toxicity of chemotherapy agents -Platinum agents (ex.Cisplatin) -Anthracyclines ex.doxorubicin -Vina alkaloid ex.Vincristine -Methotrexate, Etoposide, Ara-C, Ifosphamide, Docetaxel, Infliximab	Throughout the rotation	Throughout the rotation	a 1, a2, b1, b2, c1, c2, d1, d2
10	Common chemotherapy regimen used for cancer	Throughout the rotation	Throughout the rotation	a 1, a2, b1, b2, c1, c2, d1, d2
Number of Weeks /and Units Per Semester: 2 weeks			72 hours	

VI. Teaching Strategies of the Course:

- Clinical cases studies
- Small practical session and discussion
- Seminars
- Manuals
- Critical analysis and reading
- Use of advanced database search

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- Individual supervision
- Collecting, interpreting, and integrating available information in disease state
- Self-learning

VII. Assessment Methods of the Course:

- Assignments
- Oral case discussions during clinical rounds
- Pharmacy practice manual
- Formal case presentation
- Seminar
- Exam

VIII. Assignments:

No.	Assignments	Week Due	Mark
1	Assignment 1: Develop a pharmaceutical care plan for selected case of oncology supportive care according to appropriate primary literature and updated guidelines.	a 1, a2, b1, b2, c1, c2, d1, d2	Week 1
2	Assignment 2: Develop a pharmaceutical care plan for selected case of oncology supportive care according to appropriate primary literature and updated guidelines.	a 1, a2, b1, b2, c1, c2, d1, d2	Week 2
Total			

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

No.	Assessment Method	Week Due	Mark	Proportion of Final Assessment	Aligned Course Learning Outcomes
1	Assignments	Course Training Period	20	20 %	a 1, a2, b1, b2, c1, c2, d1, d2

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2	Adherence to Professional Attitudes	Course Training Period	10	10 %	d1, d2
3	Skills Acquired during Training	Course Training Period	20	20 %	b1, b2, c1, c2, d1, d2
4	Formal Case Presentation	Last week of Rotation	10	10 %	a 1, a2, b1, b2, c1, c2, d1, d2
5	General Written Examination	Last week of Rotation	40	40 %	a 1,a2, b1, b2, c1, c2, d1
Total			100	100%	

X. Learning Resources:

1- Required Textbook(s) (maximum two).	
	3. Chisholm-Burns et al, 2019 , Pharmacotherapy principles & practice. 5rd edition. 4. Katzung, 2018, Basic & Clinical Pharmacology. 14th edition.
2- Essential References.	
	4. DiPiro et al, 2020, Pharmacotherapy: A Pathophysiological Approach, 11th edition. 5. Caroline S. Zeind and Michael G. Carvalho, 2018, Applied Therapeutics: The Clinical Use of Drugs, 11th edition. 6. Walker & Whittlesea, 2018. Clinical Pharmacy and Therapeutics, 6 edition.
3- Electronic Materials and Web Sites etc.	
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XI. Course Policies: (Based on the Uniform Students' Bylaw (2007))

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2	Tardiness: A student will be considered late if he/she is not in class after 10 minutes of the start time of class.
3	Exam Attendance/Punctuality:

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	No student shall be allowed to the exam hall after 30 minutes of the start time, and shall not leave the hall before half of the exam time has passed.
4	Assignments & Projects: Assignments and projects must be submitted on time. Students who delay their assignments or projects shall lose the mark allocated for the same.
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7	Other policies: The University official regulations in force will be strictly observed and students shall comply with all rules and regulations of the examination set by the Department, Faculty and University Administration.

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