

University of 21 September for Applied & Medical Sciences

Faculty of Clinical Pharmacy

Master Degree in Clinical Pharmacy

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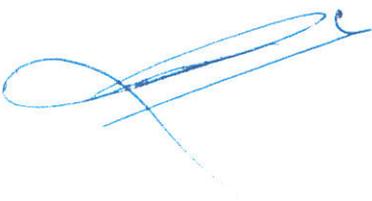
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2021-2022

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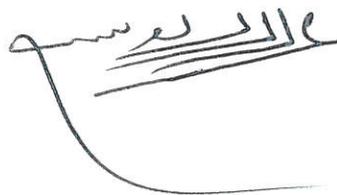
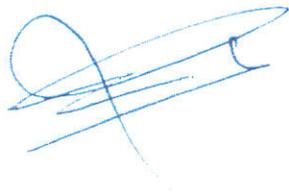
Academic Program Specification

University: 21 September

Faculty: Clinical Pharmacy

1) Basic Information of the program

Program Title	Master of Clinical Pharmacy
Awarding Institution	University of 21 September for Applied & Medical Sciences
Division/institute responsible for the program	Faculty of Clinical Pharmacy
Program type	Single
Language of study	English
Year of study in the program	2022
Mode of delivery	Regular, minimum attendance 75%
Teaching institution	Faculty of Clinical Pharmacy
System of study	Semester system
Duration of study	The program is at least two years full time program that includes advanced theoretical and clinical training courses. The total number of credit hours to obtain a MSc degree is 37 credit hours, including courses and thesis.
Final award/s available	Master Degree in Clinical Pharmacy
Award title	Master of Clinical Pharmacy
Qualification for admission to the program	The Bachelor's degree in: Pharmacy, Clinical Pharmacy, Pharm D
Grade for admission to the program	As per the admission rules made by Ministry of higher education and scientific research-Yemen Republic
Other requirements	Satisfactory outcome of an interview evaluating background and suitability for a community health Specialist.
Coordinator	Ass. professor Ali Alyahawi
Data of program specification (New program)	2022



2) Program Overview.

The Master Degree in Clinical Pharmacy is awarded by the faculty of clinical pharmacy at university of 21 September. It involves theoretical courses, practical training at hospitals, and thesis. The program emphasizes developing students' clinical skills and improves their role in patient care. It is offered for pharmacists who hold the bachelor degree in pharmacy, clinical pharmacy, and Pharm. D. and who wish to improve their experience in clinical pharmacy. The graduate students from this program should be completed 37 credits hours.

تمنح جامعة 21 سبتمبر للعلوم الطبية والتطبيقية درجة الماجستير في الصيدلة السريرية من كلية الصيدلة السريرية. يتضمن البرنامج مقررات نظرية، تدريب عملي في المستشفيات، وأطروحة. يركز البرنامج على تطوير المهارات السريرية للطلاب وتحسين دورهم في رعاية المرضى. يتم التقديم للبرنامج للصيدلة الحاصلين على درجة البكالوريوس في الصيدلة والصيدلة السريرية والدكتور صيدلي الذين يرغبون في تحسين خبراتهم في الصيدلة السريرية. يجب أن يكمل طلاب الدراسات العليا من هذا البرنامج 37 ساعة معتمدة.

3) Vision, Mission & Aims of the University:

▪ University Vision:

جامعة معاصرة بمسئولية وطنية وذات هوية ايمانية.

▪ University Mission:

قيادة التحول في إدارة وتقديم الرعاية الصحية مع كافة الشركاء من خلال وضع معيار التميز في التعليم والبحوث الطبية والتطبيقية وبما يلبي احتياجات المجتمع اليمني وخصوصيته والتأثير الإقليمي.

▪ Aims of the University:

1. ضمان تطبيق معايير الجودة ووضع معايير التميز في العلوم الطبية والتطبيقية والبحث العلمي وخدمة المجتمع.
2. محورية الطالب في العملية التعليمية والشراكة معهم مدى الحياة وترسيخ مبادئ المسؤولية الوطنية والهوية الإيمانية ورعايتهم وتطوير إمكاناتهم بعد التخرج وأثناء العمل.

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3. اجتذاب وتوظيف واستبقاء العلماء والكوادر والمواهب عالية التخصص لكسب العقول وعكس اتجاه "هجرة الأدمغة" بما يعزز ويضمن إيجاد مفكرين ورجال أعمال ومواطنين صالحين.
4. التطوير المستمر للبنية التحتية الأكاديمية المتميزة وإنشاء المراكز البحثية والخدمية الحديثة ذات الكفاءة العالية والقادرة على إحداث تأثير حقيقي محلي وإقليمي.
5. تعزيز مكانة الجامعة كشريك مفضل للشراكة المحلية والإقليمية والدولية من خلال تنفيذ نماذج مبتكرة للتعليم وتبادل البحوث والمعارف وتقديم نواتج حقيقية ومؤثرة لتطوير الممارسات المهنية للاستفادة منها محلياً وإقليمياً.

4) Program Mission:

To take the clinical pharmacy profession to higher levels of patient-oriented care through excellence and innovation in patient care, scientific research, and community service and to improve the health of human patients locally and regionally.

الارتقاء بمهنة الصيدلة السريرية إلى مستويات أعلى من الرعاية الموجهة للمرضى من خلال التميز والابتكار في رعاية المرضى والبحث العلمي وخدمة المجتمع وتحسين صحة المرضى محلياً وإقليمياً.

5) Program Objectives:

1. Demonstrate advanced understanding of the pathophysiology, clinical presentation, drug therapy, and target goals of treatment for specified disease states.
إظهار الفهم المتقدم لعلم وظائف الأعضاء المرضي، العرض السريري للحالات المرضية، العلاج الدوائي، أهداف العلاج لحالات مرضية محددة.
2. Critically evaluate the literature for the drug management of various disease states using high standards of ethics and professional skills in decision-making process.
تقييم المصادر والمراجع العلمية بشكل دقيق الخاصة بإدارة الأدوية لمختلف الحالات المرضية باستخدام مستوى عالي من الأخلاقيات المهنية والمهارات في عملية اتخاذ القرارات.
3. Enable Clinical Pharmacists to become change agents and to meet the challenges in a changing healthcare system in the country and deliver specialized patient-centered clinical pharmacy services.
تمكين الصيادلة السريريين ليصبحوا عوامل التغيير ومواجهة التحديات في نظام الرعاية الصحية المتغير في بلدنا وتقديم خدمات صيدلانية سريرية متخصصة تركز على المريض.
4. Improve the research skills and productivity relevant to clinical pharmacy practice
تحسين مهارات البحث والإنتاجية ذات الصلة بممارسة الصيدلة السريرية
5. Enhance self-development and collaborative practice.
تعزيز التطوير الذاتي والممارسة المهنية التعاونية.

6) Program Standards & Benchmarks:

تم مقارنة مخرجات التعلم في البرنامج بالمعايير والخطط الأكاديمية للبرامج، وهي المعايير التي وضعتها المؤسسات التخصصية أو المهنية، للتأكد من أن مخرجات التعلم المقصودة في البرنامج تحقق معايير ممارسة المهنة. كما يحددها الإطار العام للمهن على المستوى الوطني. تم مقارنة مخرجات تعلم البرامج ببرامج مماثلة إقليمية وعالمية متميزة:

1. دليل معايير الدراسات العليا للمستوى الأول بداية. مجلس الاعتماد الأكاديمي وضمان جودة التعليم العالي. الجمهورية اليمنية-وزارة التعليم العالي والبحث العلمي
2. البرنامج التدريبي: تقويم مخرجات تعلم البرنامج الأكاديمي. الجمهورية اليمنية-وزارة التعليم العالي والبحث العلمي-مجلس الاعتماد الأكاديمي وضمان الجودة
3. درجة الماجستير في الصيدلة السريرية. كلية الدراسات العليا. الجامعة الاردنية-عمان -الاردن.
4. درجة الماجستير في الصيدلة السريرية. كلية الطب والعلوم الصحية. جامعة النجاح الوطنية-فلسطين.
5. درجة الماجستير في الصيدلة السريرية. كلية الصيدلة. جامعة عجمان- الامارات.
6. درجة الماجستير في الصيدلة السريرية. كلية الصيدلة. جامعة الخليج الطبية- الامارات.
7. درجة الماجستير في الصيدلة السريرية- كلية العلوم الصيدلانية- جامعة (UKM)-ماليزيا.

7) Graduate Attributes of the program

Upon successful completion of the program in master of clinical pharmacy, the graduates will be able to:

1. Demonstrate advanced understanding of pathophysiology, sciences knowledge related to the use of medications, and internationally accepted therapeutic management guidelines to develop appropriate therapeutic decisions for disease states
2. Define the basis of health regulations, ethics of the care, research methods, and its impact on relationship with patients and others healthcare professionals.
3. Construct a rational patient care plan, taking into consideration patient's socioeconomic factors to improve patient's health outcomes
4. Critically appraise the literature to optimize medicine use in various disease states
5. Effectively implement an individualized drug therapy and monitoring plan for patient's treatment related problems
6. Apply decision-making and problem-solving approaches in solving treatment related problems and enhancing clinical pharmacy professional practice.
7. Communicate accurate and reliable information to patients, public, and health care professionals.
8. Understand the skills of research process to conduct research studies and utilize the results to achieve optimal drug therapy.

8) Intended Learning Outcomes of the Program:

A. Knowledge and Understanding

By the end of the program, the students will be able to:

- A1. Demonstrate solid knowledge of the pathophysiology, clinical sciences related to medicine use, and rational pharmacotherapy regimens for prevention and treatment of various diseases.
- A2. Define updated therapeutic management guidelines of various diseases
- A3. Understand the pharmacy/health-related regulations, research methods, ethics of care, and communication skills with patients and others healthcare professionals.

B. Intellectual Skills

By the end of the program, the students will be able to:

- B1. Formulate a patient-specific pharmacotherapy regimen based on the patient's specific condition to achieve patient outcomes.
- B2. Critically appraise the literature to optimise medicine use in various disease states

C. Professional skills and practices

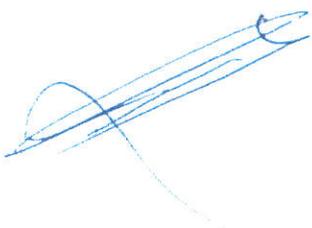
By the end of the program, the students will be able to:

- C1. Practice the daily hospital-based clinical pharmacy services
- C2. Implement a specific therapeutic regimen and monitoring plan for patient's specific condition.
- C3. Apply evidence-based and research-based practice in solving problems related to the profession of clinical pharmacy.

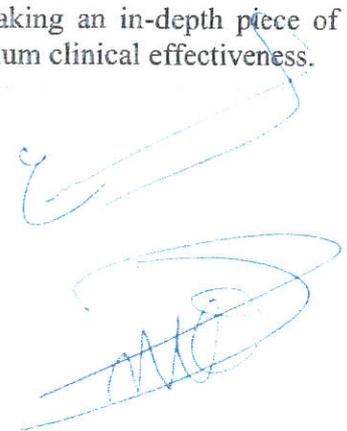
D. General and Transferable outcomes

By the end of the program, the students will be able to:

- D1. Share therapeutics decisions successfully and ethically with patients, public, and health care professionals.
- D2. Develop a critical understanding of the research process by undertaking an in-depth piece of research in an area relevant to clinical pharmacy practice to achieve maximum clinical effectiveness.



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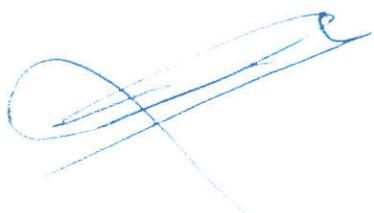
9) Curriculum Map:												
No.	Course	Code/ No.	Program ILOs									
			Knowledge & understanding skills			Intellectual skills		Practical & professional skills			General & Transferable skills	
			A1	A2	A3	B1	B2	C1	C2	C3	D1	D2
1	Biostatistics and Research Methodology	CPh101	X		X	X	X	X		X	X	X
2	Therapeutics-I	CPh102	X	X		X	X	X	X	X	X	X
3	Pharmaceutical Care	CPh103	X	X		X	X	X	X	X	X	X
4	Therapeutic Drug Monitoring (TDM)	CPh104	X	X		X	X	X	X	X	X	X
5	Therapeutics-II	CPh105	X	X		X	X	X	X	X	X	X
6	Clinical Toxicology	CPh106	X				X			X		X
7	Pharmacogenomics and Personalized Medicine	CPh107	X	X		X	X		X	X	X	X
8	Evidence-Based Medicine	CPh108			X	X	X	X	X	X	X	X
9	Therapeutics-III	CPh201	X	X		X	X	X	X	X	X	X
10	Thesis	CPh202			X	X	X			X	X	X
11	Hospital Training-I	CPh203	X	X	X	X	X	X	X	X	X	X
12	Hospital Training -II	CPh204	X	X	X	X	X	X	X	X	X	X

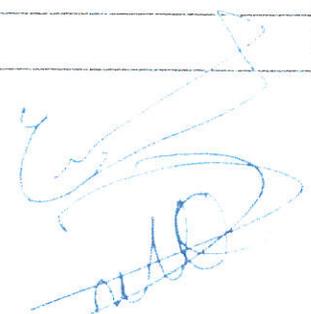
10) Teaching strategy:	
Teaching Strategy	Description of how it will be used
Lectures	It is the most frequently employed teaching method to convey knowledge and explain theories to students in large groups or in sessions, which consist of more than one group gathered in one classroom.
Seminars	These are mainly used with small groups of students in which they find better chances for discussing and negotiating the different concerns of their studies.
Lab experiments	Students doing practices in medical labs individually or in small groups.
Training	This is a practical kind of course where the students are required to plan and execute some field visits to hospitals, corporations or institutions where the process of clinical pharmacy is essential.

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Discussion	This is done by allowing the students to ask questions during the lecture and respond to them by the lecturer or other students for the purpose of establishing and clarify the subject of the lecture strongly and increase the concentration and absorption of the student and the attention and not to enter the boredom.
Presentations	Helps the students to be more confident with themselves and make them to show the others what knowledge they have acquired. It can be followed in many types of courses and tasks.
Self-learning	Self-learning is the process by which learners teach themselves using any materials or resources to achieve clear goals without the direct help of the teacher
Case study	Case studies are defined as the scientific documentation of a single clinical observation which is so important study design in advancing medical scientific knowledge especially of rare disease.
Office Hours	Office hours are hours determined by the faculty member (professor of the course) to which the student studies. The hours allocated by the professor to meet with his students to help them and answer their queries in the event of any questions they may not be enough time for the lecture to answer it.
Case Studies	The case study is defined as an in-depth descriptive presentation of a particular position or model for the purposes of educational research or for training and education purposes.

11) Assessment Strategies:	
Assessment Strategy	Its description (in which course it will be used and in which rate)
Written examinations	Mid-term test is conducted between 6 th to 8 th Class and final exam is conducted at the end of each course.
Oral exams	For selected courses
Technical or practical reports /Presentations	As indicated in the course specification
Assignments including problem-solving exercises	The entire assignments including problem-solving exercises of coursework activities during the teaching period of each course. (which includes group and individual work, tests and presentations, etc.)
Individual and group project work	As indicated in the course specification
Quizzes	For all courses except for project
Home work	For all courses except for project





12) Study Plan

A. College Requirements:

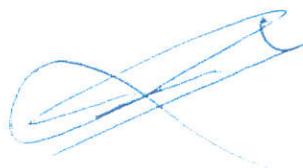
SN	Code	Subjects	Credits hours
1.	NA		
2.			
3.			
4.			
Total			

B. Specialty Requirements:

SN	Code	Subjects	Credits hours
1.	CPh101	Biostatistics and Research Methodology	2
2.	CPh102	Therapeutics-I	3
3.	CPh103	Pharmaceutical Care	2
4.	CPh104	Therapeutic Drug Monitoring (TDM)	3
5.	CPh105	Therapeutics-II	3
6.	CPh106	Clinical Toxicology	3
7.	CPh107	Pharmacogenomics and Personalized Medicine	2
8.	CPh108	Evidence-Based Medicine (EBM)	2
9.	CPh201	Therapeutics-III	3
10.	CPh202	Thesis	6
11.	CPh203	Hospital Training-I	4
12.	CPh204	Hospital Training -II	4
Total			37

C. Distribution of Courses according to Semesters (37 credit hours)

Distribution of Courses according to Semesters							
#	Course Code	Level 1 / Semester 1	Credit hours				Total Credit Hours
		Course Name	Theoretical	Seminar	Lab.	Training	
1	CPh103	Biostatistics and Research Methodology	2				2
2	CPh102	Therapeutics-I	2	1			3
3	CPh104	Pharmaceutical Care	2				2
4	CPh104	Therapeutic Drug Monitoring (TDM)	2		2		3
Total			10				10
Total of Credit Hours			10				



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Level 1 / Semester 2							
#	Course Code	Course Name	Credit Hours				Total
			Theoretical	Seminar	Lab.	Training	
2	CPh105	Therapeutics-II	2	1			3
3	CPh106	Clinical Toxicology	2		2		3
4	CPh107	Pharmacogenomics and Personalized Medicine	2				2
	CPh108	Evidence-Based Medicine (EBM)	2				2
Total			8	1	2		10
Total of Credit Hours							10

Level 2 / Semester 1							
#	Course Code	Course Name	Credit Hours				Total
			Theoretical	Seminar	Lab.	Training	
1	CPh201	Therapeutics-III	2	1			3
3	CPh202	Thesis			6		
4	CPh203	Hospital Training-I				16	4
Total			2	1		8	13
Total of Credit Hours							13

Level 2 / Semester 2							
#	Course Code	Course Name	Credit Hours				Total
			Theoretical	Seminar	Lab.	Training	
1	CPh204	Hospital Training-II				16	4
Total						16	4
Total of Credit Hours							4

13) Eligibility for Admission:

Admissions to the program shall be made as per the admission rules made by Ministry of higher education and scientific research-Yemen Republic and 21 September University.

Specialties allowed to enroll in this plan are holders of the Bachelor's Degree in the following fields:

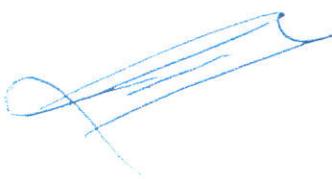
- 1) Pharmacy
- 2) Clinical Pharmacy
- 3) Pharm. D.

14) Regulations for Progression and Program Completion:

- Attendance required for admission to examination
- No candidate shall be permitted to appear in any one of the parts of M.Sc. in clinical pharmacy Degree course Examinations unless he/she has attended the course in the subject for the prescribed period in an affiliated institution recognized by this University.
- A candidate is required to put in a minimum of 75% of attendance in both theory and practical separately in each subject before admission to the examinations.
- If the candidate is lacking attendance in any one of the subject(s), he/she will be detained for the subject(s) in whom the candidate lacks attendance but will be permitted to appear for the rest of the subjects in which the candidate is having minimum required percentage of attendance.

Progression and Program Completion:

- Master in Clinical Pharmacy is offered as at least two years full time course. Students need to complete 37 credits hours in order to obtain the Master degree.
- For the students to be transferred from one academic year to the next, he is required to have successfully passed in all subjects in the final or in the complementary exams in October of the same year. However, the student may still be transferred if he/she has failed in not more than three subjects one of them elective. In such cases, students "carrying" subjects from one year to the next should re-sit for their "failed" subjects in their proper respective semesters.



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Appendix :

Annex (1):

Alignment of Program Mission and Objectives with Vision, Mission and Objectives of Faculty and University.

Annex (2):

Alignment of Program Mission and Objectives with International Universities (Benchmarks) Programs for Master of Clinical Pharmacy Program

Annex (3):

Survey of names Similar Accredited Programs at International Universities (Benchmarks) for Master of Clinical Pharmacy Program.

Annex (4):

Survey of Course Names of Similar Program

Annex (5):

Survey of Credits Hours and their Weightage with Similar Programs

