



T-104
2022

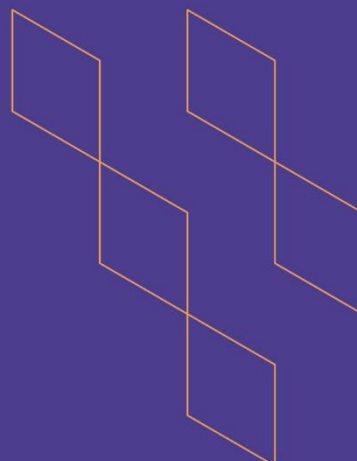
Course Specification





T-104
2022

Course Specification



Course Title: Nuclear Pharmacy
Course Code: 535-PHU-2
Program: Pharmaceutical Sciences
Department: Pharmaceutics
College: Pharmacy
Institution: Najran University
Version: 1
Last Revision Date: 20/12/2023



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A. General information about the course:

Course Identification	
1. Credit hours:	2 (2+0)
2. Course type	
a. University <input type="checkbox"/>	College <input checked="" type="checkbox"/> Department <input type="checkbox"/> Track <input type="checkbox"/> Others <input type="checkbox"/>
b. Required <input type="checkbox"/>	Elective <input checked="" type="checkbox"/>
3. Level/year at which this course is offered:	Level 10/ 5 th year
4. Course general Description	
This course is designed to familiarize the students with fundamentals of nuclear pharmacy. The student will be exposed to important subjects related to radiopharmaceuticals, their clinical uses and handling. It will provide the concepts and understandings related to radiopharmaceuticals overview, characteristic properties, diagnostic and therapeutic use, quality control and safety regulations.	
5. Pre-requirements for this course (if any): NA	
6. Co- requirements for this course (if any): NA	
7. Course Main Objective(s)	
I. To study the fundamental concepts and principles of nuclear pharmacy	
II. To provide understanding related to radiopharmaceuticals and their characteristic properties, clinical use, quality control, and safety regulations.	

1. Teaching mode (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1.	Traditional classroom	30	100
2.	E-learning		
3.	Hybrid <ul style="list-style-type: none"> Traditional classroom E-learning 		
4.	Distance learning		

2. Contact Hours (based on the academic semester)

No	Activity	Contact Hours
1.	Lectures	30
2.	Laboratory/Studio	
3.	Field	
4.	Tutorial	
5.	Others (specify)	
	Total	30

B. Course Learning Outcomes (CLOs), Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
1.0	Knowledge and understanding			
1.1	Demonstrate knowledge and understanding related to nuclear pharmacy	K1	Lectures	Theoretical exams (Essay exam, MCQ, Quizzes); Presentation
1.2	Demonstrate knowledge of physicochemical characteristics of radiopharmaceuticals	K3	Lectures	Theoretical exams; Presentation
...				
2.0	Skills			
2.1	Demonstrate ability to solve/answer problem related to radiopharmaceutical formulation	S3	Lectures, Group discussion	Theoretical exams; Presentation
3.0	Values, autonomy, and responsibility			
3.1	Demonstrate ability to present independently and professionally on related topic.	V1	Problem-based learning	Presentation, Observation card
...				



C. Course Content

No	List of Topics (Theory)	Contact Hours
i.	Concept and fundamental of nuclear pharmacy	3
ii.	Production of radionuclides and radionuclide generators	4
iii.	Radiopharmaceuticals and characteristic properties	6
iv.	Methods of radiolabeling	4
v.	Radiopharmaceutical applications for diagnostics and therapeutics	6
vi.	Quality Control of radiopharmaceuticals	3
vii.	Safety regulations of radiopharmaceuticals	4
Total		30

D. Students Assessment Activities

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	Quiz exam -I	5	05%
2.	Midterm exam	7-9	25%
3.	Quiz exam -II	12	05%
4.	Presentation	15	10%
5.	Observation card	1-15	05%
6.	Final Theory exam	17-19	50%

*Assessment Activities (i.e., Written test, oral test, oral presentation, group project, essay, etc.)

E. Learning Resources and Facilities

1. References and Learning Resources

Essential References	1. Fundamentals of Nuclear Pharmacy, Gopal B. Saha, Springer Cham, 2018.
Supportive References	1. Radiopharmaceuticals in Nuclear Pharmacy and Nuclear Medicine. Richard J. Kowalsky, Steven Falen, Richard Kowalsky, American Pharmacists Association, 2004.
Electronic Materials	https://sdl.edu.sa/SDLPortal/en/Publishers.aspx https://www.nu.edu.sa/en/web/deanship-of-libraries-affairs/85
Other Learning Materials	https://www.elsevier.com/products/journals



2. Required Facilities and equipment

Items	Resources
facilities (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)	1. Suitable lecture room equipped with data show and internet and sufficient number of seats. 2. Suitable computer laboratory with internet and sufficient number of seats.
Technology equipment (projector, smart board, software)	Computers, data show, sound systems and internet
Other equipment (depending on the nature of the specialty)	

F. Assessment of Course Quality

Assessment Areas/Issues	Assessor	Assessment Methods
Effectiveness of teaching	Students and the Head of the department	1. Indirect (survey) 2. Head of the department evaluates the faculty member
Effectiveness of students' assessment	Head of department, faculty, and student	1. Checking marking by the students themselves. 2. Using the help of other members in reviewing the quizzes and exams
Quality of learning resources	Students	Survey: Instructor's assessment by students
The extent to which CLOs have been achieved	Quality and development unit	Course specifications are periodically reviewed at Departmental level.
Other		

Assessor (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify))

Assessment Methods (Direct, Indirect)

G. Specification Approval Data

COUNCIL /COMMITTEE	Pharmaceutics Department Council
REFERENCE NO.	Department meeting No. 13
DATE	25/12/2023