



ATTACHMENT 5.

T6. COURSE SPECIFICATIONS (CS)

**Course Specifications
(CS)**

**PHYS 692
Radiotherapy**

Course Specifications

Institution: King Saud University	Date: 1/1/2018
College/Department : College of Science/ Physics and Astronomy Dept.	

A. Course Identification and General Information

1. Course title and code: Radiotherapy – Phys. 692	
2. Credit hours: 3 (3+0+0)	
3. Program(s) in which the course is offered. (If general elective available in many programs indicate this rather than list programs) PhD - Physics Program	
4. Name of faculty member responsible for the course Prof. Magdy Ghannam	
5. Level/year at which this course is offered: Elective course - 3rd Semester	
6. Pre-requisites for this course (if any): NONE	
7. Co-requisites for this course (if any): NONE	
8. Location if not on main campus: Main campus for Male and girl campus for Female	
9. Mode of Instruction (mark all that apply):	
a. traditional classroom	<input type="checkbox"/> What percentage? <input type="checkbox"/>
b. blended (traditional and online)	<input checked="" type="checkbox"/> What percentage? <input type="checkbox"/> 100
c. e-learning	<input type="checkbox"/> What percentage? <input type="checkbox"/>
d. correspondence	<input type="checkbox"/> What percentage? <input type="checkbox"/>
f. other	<input type="checkbox"/> What percentage? <input type="checkbox"/>
Comments:	

B Objectives

1. What is the main purpose for this course?

The course enables the students to understand Part of the radiation therapy of most cancer desieses.

2. Briefly describe any plans for developing and improving the course that are being implemented. (e.g. increased use of IT or web based reference material, changes in content as a result of new research in the field)

- The course materials were posted on the department Website that could be accessed by the students enrolled in the course.
- The student must do Homework to continue lecture understanding.

C. Course Description (Note: General description in the form used in Bulletin or handbook)

Course Description:

1. Topics to be Covered

List of Topics	No. of Weeks	Contact hours
Basic review	1	3
Effects of ionizing radiations on living cells and organisms	2	6
Interactions and energy deposition by ionizing radiation in matter	1	3
Charged Particles Interactions	1	3
Quantities and units in radiological physics	2	6
Methods of radiation dosimetry	1	3
Radio-Pharmaceuticals	1	3
Radiation therapy to cause controlled biological effects in cancer patients	1	3
Physical aspects of clinical applications.	1	3

Radiation Equipment	2	6
Radiotherapy Treatment Planning	1	3
Basic review	1	3

2. Course components (total contact hours and credits per semester):

		Lecture	Tutorial	Laboratory/ Studio	Practical	Other:	Total
Contact Hours	Planned	45					45
	Actual	45					
Credit	Planned	3					
	Actual	3					3

3. Additional private study/learning hours expected for students per week.

3

4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy

On the table below are the five NQF Learning Domains, numbered in the left column.

First, insert the suitable and measurable course learning outcomes required in the appropriate learning domains (see suggestions below the table). **Second**, insert supporting teaching strategies that fit and align with the assessment methods and intended learning outcomes. **Third**, insert appropriate assessment methods that accurately measure and evaluate the learning outcome. Each course learning outcomes, assessment method, and teaching strategy ought to reasonably fit and flow together as an integrated learning and teaching process. (Courses are not required to include learning outcomes from each domain.)

Code #	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
1.0	Knowledge		
1.1	Effects of ionizing radiations on living cells and organisms	PP representation and discussion	Internet
1.2	Quantities and units in radiological physics		
1.3	Radiation dosimetry		
1.4	Radio-Pharmaceuticals		
1.5	Radiation therapy Equipment		
1.6	Radiation therapy		
1.7	Treatment Planning		

2.0	Cognitive Skills		
2.1	The ability to know the basic radiation units used in our life		
2.2	The ability to know the effects of radiation on biological systems		
2.3	The ability to know how to plan to radiation treatment.		
2.4	The ability to know how radiation dosimeter work		
3.0	Interpersonal Skills & Responsibility		
3.1	Work independently and as part of a team.		
3.2	Manage resources, time and other members of the group		
3.2	Communicate results of work to others		
4.0	Communication, Information Technology, Numerical		
4.1	Use computational tools		
4.2	Report writing		
5.0	Psychomotor		
5.1	Not Applicable		

5. Schedule of Assessment Tasks for Students During the Semester			
	Assessment task (i.e., essay, test, quizzes, group project, examination, speech, oral presentation, etc.)	Week Due	Proportion of Total Assessment
1	Class activates (in class quizzes, attendance and homework)	Each week	20 %
2	Report on any of one of the course item using the net work	6	10 %
3	Mid Term exams	8	30 %
4	Final exam	16	40 %
5			
6			
7			
8			

D. Student Academic Counseling and Support

1. Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice. (include amount of time teaching staff are expected to be available each week)

3h/Week

E Learning Resources

1. List Required Textbooks

Handbook of Radiotherapy Physics: Theory and Practice, [P Mayles](#), [A Nahum](#), [J.C Rosenwald](#) (Taylor& Francis)

2. List Essential References Materials (Journals, Reports, etc.)

1. Practical Radiotherapy Planning. [Jane Dobbs](#), [Ann Barrett](#) , [Dan Ash](#). (Hodder Arnold)
2. NUCLEAR MEDICINE THERAPY, Janet F. Eary , Winfried Brenner, 2007 by Informa Healthcare USA, Inc.

3. List Electronic Materials, Web Sites, Facebook, Twitter, etc.
Web Sites interested with Radiation and Nuclear Medicine.

4. Other learning material such as computer-based programs/CD, professional standards or regulations and software.

Programs explain Nuclear and radiation Physics

F. Facilities Required

Indicate requirements for the course including size of classrooms and laboratories (i.e. number of seats in classrooms and laboratories, extent of computer access, etc.)
1. Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.) <ul style="list-style-type: none"> i- Lecture room with max 20 seats ii- Auditorium of a capacity of not less than 30 seats for large lecture format classes
2. Technology resources (AV, data show, Smart Board, software, etc.)
3. Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list)

G Course Evaluation and Improvement Processes

1. Strategies for Obtaining Student Feedback on Effectiveness of Teaching <ul style="list-style-type: none"> i- Course evaluation by student ii- Students- faculty meetings
2. Other Strategies for Evaluation of Teaching by the Instructor or by the Department <ul style="list-style-type: none"> i- Peer consultation on teaching ii- Departmental council discussions iii- Discussions within the group of faculty teaching the course
3. Processes for Improvement of Teaching <ul style="list-style-type: none"> i- Conducting workshops given by experts on the teaching and learning Methodologies. ii- Periodical departmental revisions of its methods of teaching iii- Monitoring of teaching activates by senior faculty members.
4. Processes for Verifying Standards of Student Achievement (e.g. check marking by an independent member teaching staff of a sample of student work, periodic exchange and remarking of tests or a sample of assignments with staff at another institution) <ul style="list-style-type: none"> i- Providing samples of all kind of assessment in the departmental course portfolio of each course

ii- Assigning group of faculty members teaching the same course to grade same questions for various students. Faculty from other institutions are invited to review the accuracy of the grading policy.

iii- Conducting standard exams.

5. Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement.

- i- The course material and learning outcomes are periodically reviewed and the changes to be taken are approved in the departmental and higher councils.
- ii- The head of department and faculty take the responsibility of implementing the proposed changes.

Name of Course Instructor: Prof. Magdy M. Ghannam

Signature: _____ Date Specification Completed: 1/1/ 2018

Program Coordinator: Prof. Magdy M. Ghannam

Signature: _____ Date Received: 1/1/ 2018