



هيئة تقويم التعليم

Education Evaluation Commission

المركز الوطني للتقويم والاعتماد الأكاديمي
National Center for Academic Accreditation and Evaluation

ATTACHMENT 5.

T6. COURSE SPECIFICATIONS (CS)

Course Specifications

Institution: KSU	Date: 01/2018
College/Department : College of Science, Physics and Astronomy Department	

A. Course Identification and General Information

1. Course title and code: Biophysical Techniques, Phys 691	
2. Credit hours: 3	
3. Program(s) in which the course is offered. (If general elective available in many programs indicate this rather than list programs)	
4. Name of faculty member responsible for the course: Prof Dr Mohsen Mady	
5. Level/year at which this course is offered: 2018	
6. Pre-requisites for this course (if any):	
7. Co-requisites for this course (if any):	
8. Location if not on main campus:	
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 type="checkbox"/> What percentage? <input type="checkbox"/>
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?
1) To provide students with an understanding of the fundamental principles of a range of advanced biophysical techniques. 2) to give students an understanding of how to use the techniques to get an information about the structure of macromolecules, electronic structure, size, shape, and modes of interaction of biological molecules along with study the dynamics of cellular processes.

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)

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
X-ray crystallography	2	6
Ultraviolet-Visible Spectroscopy,	2	6
Fluorescence Spectroscopy	1	3
Fluorescence Microscopy	1	3
Infra Red and Fourier Spectroscopy	2	6
Chromatography	2	6
AC & DC Dielectric relaxation	2	6

2. Course components (total contact hours and credits per semester):							
		Lecture	Tutorial	Laboratory/ Studio	Practical	Other:	Total
Contact Hours	Planned	42					42
	Actual	42					42



Credit	Planned						
	Actual						

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

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	<ul style="list-style-type: none"> In-class, the previous knowledge is linked to the current and future topics. 		
1.2	<ul style="list-style-type: none"> In-class, solve some related examples. 		
2.0	Cognitive Skills		
2.1	<ul style="list-style-type: none"> Define the duties for each chapter and homework assignments. 		
2.2	<ul style="list-style-type: none"> Advise students to search on some of the mentioned technologies either on websites or in library and make reports. 		
3.0	Interpersonal Skills & Responsibility		
3.1	<ul style="list-style-type: none"> Learn how to summarize lectures and how to cover missed lectures. 		
3.2	<ul style="list-style-type: none"> Learn how to search the internet and use the library 		
4.0	Communication, Information Technology, Numerical		
4.1	<ul style="list-style-type: none"> Advise the students to: help each other in education - communicate with the lecturer to discuss difficulties. 		
4.2	<ul style="list-style-type: none"> Ask students to use computer and internet in the course requirements and some related interesting topics – writing reports on the computer 		



5.0	Psychomotor		
5.1			
5.2			

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	First Midterm Exam	7 th	15 %
2	Second Midterm Exam	12 th	15 %
3	Oral Presentation		30 %
4	Final Exam	15 th	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)

E Learning Resources

1. List Required Textbooks

1- Biophysical Techniques in Photosynthesis, Jan Amesz & Arnold J. Hoff(Ed), Kluwer Academic Pub. 1996.

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

3. List Electronic Materials, Web Sites, Facebook, Twitter, etc.

Biophysics Textbook Online (BTOL).

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

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.)
Available
2. Technology resources (AV, data show, Smart Board, software, etc.)
Available
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
2. Other Strategies for Evaluation of Teaching by the Instructor or by the Department
3. Processes for Improvement of Teaching
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)
5. Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement.

Name of Course Instructor: **_ Prof Dr Mohsen Mady**

Signature: Mohsen Mady

Date Specification Completed: **10/04/1439**

Program Coordinator: _____

Signature: _____

Date Received: _____