



## Course Specifications

<b>Course Title:</b>	Graduation Project
<b>Course Code:</b>	PHY4802
<b>Program:</b>	Physics
<b>Department:</b>	Physics
<b>College:</b>	Applied Sciences
<b>Institution:</b>	Umm Al-Qura University

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## A. Course Identification

<b>1. Credit hours:</b> 3 hrs
<b>2. Course type</b>
a. University <input checked="" type="checkbox"/> College <input checked="" type="checkbox"/> Department <input checked="" type="checkbox"/> Others <input type="checkbox"/>
b. Required <input checked="" type="checkbox"/> Elective <input type="checkbox"/>
<b>3. Level/year at which this course is offered:</b> 12 Level /4th year
<b>4. Pre-requisites for this course (if any):</b> Agreement of the Department council
<b>5. Co-requisites for this course (if any):</b>

### 6. Mode of Instruction (mark all that apply)

Percentage	Contact Hours	Mode of Instruction	No
-	-	Traditional classroom	1
-	-	Blended	2
-	-	E-learning	3
-	-	Distance learning	4
100%	30	Other	5

### 7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	Lecture	-
2	Laboratory/Studio	30
3	Tutorial	-
4	Others (specify) Exams/ Quizzes	-
	<b>Total</b>	30

## B. Course Objectives and Learning Outcomes

<p><b>1. Course Description</b></p> <p>Preparatory studies of the literature and data collection for the graduation project in a particular area of concentration and under the supervision of one of the faculty members. The course covers directed readings in the literature of physics, introduction to research methods, seminar discussions dealing with special physics topics of current interest. Planning, design, construction and management of physics project. Writing a technical report.</p>
<p><b>2. Course Main Objective</b></p> <p>The main aim of this course is to prepare students for the practical tasks of the work place after graduation. This includes building his/her ability to perform a complete project.</p> <p>Upon completion of this course, the student should be able to:</p> <ul style="list-style-type: none"> <li>- Structure a working schedule for the project.</li> <li>-Present Clear aim and objectives of the graduation project.</li> <li>- Show a deep knowledge within the chosen field of physics.</li> </ul>

- Search and in a critical way interpret and compile relevant scientific literature.
- In a creative way delimit a scientific problem, plan a scientific study, choose appropriate methods, carry out the study, interpret and evaluate the results and, if applicable, generate falsifiable hypotheses to explain the observations all within given time frames.
- Present the literature review with relation to the selected topic.
- Write a technical report.
- Defend the technical report in front of a committee and be able to answer questions asked by the committee members.

### 3. Course Learning Outcomes

CLOs		Aligned PLOs
<b>1</b>	<b>Knowledge and Understanding</b>	
1.1	Description of research process.	K1
1.2	Writing a scientific report	K1
1.3		K1
1.4		
1.5		
<b>2</b>	<b>Skills :</b>	
2.1	Writing a scientific report.	S1
2.2	Collecting and analyzing data	S2
2.3		S2
2.4		S2
2.5		S3
<b>3</b>	<b>Values:</b>	
3.1	Work independently.	V1
3.2	Cooperating effectively with coworkers and colleagues	V2
3.3		V3
3...		

### C. Course Content (Not applicable)

Contact Hours	List of Topics	No
		1
		2
		3
		4
		5
		6
		7
		...
	<b>Total</b>	

## D. Teaching and Assessment

### 1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
<b>1.0</b>	<b>Knowledge and Understanding</b>		
1.1	Description of research process.	<ul style="list-style-type: none"> <li>• Each student will do his project under the supervision of a staff member.</li> <li>• At the end of the project, student should write a scientific report.</li> <li>• The student should give an oral presentation at the end of the semester.</li> </ul>	<ul style="list-style-type: none"> <li>• Writing a report.</li> <li>• Oral presentation</li> </ul>
1.2	Writing a scientific report		
1.3			
<b>2.0</b>	<b>Skills</b>		
2.1	Writing a scientific report.	preparing main outlines for teaching	1- Writing a report 2- Oral presentation
2.2	Collecting and analyzing data		
2.3			
2.4			
2.5			
<b>3.0</b>	<b>Values</b>		
3.1	Work independently.	1- Search through the internet and use the library. 2- Lab work. 3- Case Study. 4- Small group discussion. 5- Enhance educational skills. 6- Develop their interest in Science through : ( lab work, field trips, visits to scientific and research. 7- Encourage the student to attend lectures regularly Give students tasks of duties	<ul style="list-style-type: none"> <li>• Evaluate the efforts of each student in preparing the report.</li> <li>• Evaluate the scientific values of reports.</li> <li>• Evaluate the work in team</li> <li>• Evaluation of the role of each student in lab group assignment</li> <li>• Evaluation of students presentations</li> </ul>
3.2	Cooperating effectively with coworkers and colleagues		
3.3			

### 2. Assessment Tasks for Students

Percentage of Total Assessment Score	Week Due	Assessment task *	#
10%	continuous	Scientific activities	1
10%	continuous	Collection of Data	2

Percentage of Total Assessment Score	Week Due	Assessment task*	#
20%	continuous	Doing a research	3
50%	W 9	Writing report	4
10%	W10	Final oral presentation	5
			6
			7
			8

\*Assessment task (i.e., written test, oral test, oral presentation, group project, essay, etc.)

## E. Student Academic Counseling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice :

Each student will supervise by academic adviser in physics Department and the time table for academic advice were given to the student each semester.

## F. Learning Resources and Facilities

### 1. Learning Resources (Not applicable)

Required Textbooks	
Essential References Materials	
Electronic Materials	
Other Learning Materials	

### 2. Facilities Required

Item	Resources
<b>Accommodation</b> (Classrooms, laboratories, demonstration rooms/labs, etc.)	<ul style="list-style-type: none"> <li>• Classroom</li> <li>• Library</li> <li>• Laboratory</li> </ul>
<b>Technology Resources</b> (AV, data show, Smart Board, software, etc.)	data show, software
<b>Other Resources</b> (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list.)	<ul style="list-style-type: none"> <li>• Computer room</li> <li>• Scientific calculator.</li> </ul>

## G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
1. Questionnaires	another staff member	Revision of student report by another staff member.
2. Open discussion at the end of the lectures	Instructor	Analysis the grades of students.

**Evaluation areas** (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)

**Evaluators** (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify))

**Assessment Methods** (Direct, Indirect)

## H. Specification Approval Data

<b>Council / Committee</b>	Atif Ismail
<b>Reference No.</b>	
<b>Date</b>	