

**Kingdom of Saudi Arabia  
Ministry of Education  
Umm Al-Qura University  
College of Applied Science  
Department of Physics**



# **Graduation Project Guide**

## **For**

# **Pure Physics Program**

**2016 (1437 H)**



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## **INTRODUCTION**

In accordance with the emphasized policy of Excellence, the University is seeking for optimum development in undergraduate course plans that meet the objectives of the College, and to provide grade of education based on scientific principals in all scientific fields that convoy with the rush in all modern fields and fulfill locally and globally, the demands of labor market.

Highly qualified graduates is the goal of the university that achieved by the commitments of high standard in education and researches.

The goal of the Graduation Project is to assure/ascertain that the students have acquired the skills, knowledge and concepts necessary to perform well when they will graduate. Each student will use educational tools to broaden his/her knowledge about a particular, self-selected topic related to a community or global issue. The topic should be complex and comprehensive enough to challenge the student intellectually and creatively.

This guide will take you through the process of working on and submitting your graduation project. We highly encourage you to read this guide carefully before working on your project. Failing to do so might lead to the rejection of your research proposal.

## **BRIEF DESCRIPTION OF THE GRADUATION PROJECT:**

A graduation project provides a demonstration of student's ability to explore, develop, and organize materials relating to a specific problem or an applied orientation within a field of physics. The student must exhibit an ability to pursue research and investigation in a rigorous and perceptive fashion and to present the results in an extended scholarly statement in a clear, direct, and concise manner. Students should present the project in the form of a thesis, or scientific paper, or a poster at the end of the semester, grading will be obtained by the project advisor and oral examination to be held by a committee from faculty members. Students will be allowed to work individually or in groups.



The student is given wide area of freedom so that he/she is greatly contributes in determining the content of the project, the choice of the topic he/she will focus on, and to select and address the content with the aid of the supervising professor. The student gather information from different resources and build his/her own decision. The project is completely different from ordinary courses, the courses project is broadly owned by the student, which aims to develop the intellectual abilities and scientific thinking.

On the other hand, the completion of the project requires a greater degree of autonomy granted to the student upon his/she self-reliance on research, investigation and collection of information from thoroughbred different references, that skill is required to achieve independence in searching and collecting information along with organizational skills required to offer sequencing and casting ideas.

The project also stimulate the student to show his/her self-esteem through the application embodied in scientific research over the acquired theoretical knowledge, conducted result represent how the core disciplines of the college act over the study.

## **OBJECTIVES OF THE PROJECT**

After completing the project, the student is supposed to acquire the necessary skills in the following:-

- Demonstrate the ability to carry out a sustained research.
- Acquire the skills of literature review, data analysis, data interpretation, problem solving and results reporting.
- Acquire soft skills as oral presentation, communication, time management, and leadership skills.
- Ability to collect and analyze data, and draw conclusions through experiments or theoretical while testing a project.



## **PROJECT REGISTRATION REQUIREMENTS**

In order the student to accomplish his project registration he should do the following : -

- Completion of the project by the student himself/herself as each student shall be responsible.
- Rerecording project when completed the pre-requested credit hours.
- Choose of his/her project from the supervisor's adopted projects list.
- Student should register his/her project title at the project committee within the allowed registration period of the first two weeks started by the beginning of the semester.
- Choose a project that can be accomplished within the allowed project execution period, and avoid choosing unspecified titles.
- Taking into consideration that the project is one semester period project.

## **METHOD OF TEACHING**

- Research is accomplished by the student so it should be a major effort with the requirements of the credit hours for the project.
- The professors held a formal seminars for students who have signed up research / project to guide them and provide them with advice and guidance on the scientific origins of scientific research.
- Project is completed by the student under the guidance of a faculty members in the specialty and under his/her supervision through periodic schedule.

Supervisor provides the student with the scientific advice and guidance , as well as some scientific references if necessary to prevent the student from falling into the subject errors or give bad interpretation to the conclusion and thoroughly review the results.



## IMPLEMENTATION PLAN

A list of tasks that will comprise the project and the associated timeline for each should be maintain according to the following table:

Task	Academic Timeline	Marks
<b>Training Workshop [Skills of Scientific Research]</b>	Week [2]	5 Marks
<b>Project Proposal</b>	Week [3]	10 Marks
<b>Introduction &amp; literature review</b>	Weeks [4,5&6]	20 Marks
<b>Methodology, Data Collection &amp; Scientific Design</b>	Weeks [6,7&8]	20 Marks
<b>Training Workshop [Graphic Representation]</b>	Week [10]	Elective attendance
<b>Data Representation, Discussion &amp; Conclusion</b>	Week [10,11&12]	15 Marks
<b>Final Project Form &amp; Presentation</b>	Week [13& 14]	15 Marks
<b>Evaluation of Project</b>	Week [15]	10 Marks
<b>Total</b>		<b>100 Marks</b>

## PROJECT WORK REGULATIONS

- Each student can choose one topic related to his/her specialization and address a theoretical or practical scientific problem. To facilitate this task, the supervisor



addresses a list of proposed research to the students to help them select the subject of interest. The listed projects have to be suitable in subject and research conducted period .

- The department assigns a supervisor to each student to guide him throughout the project period and after the agreement on the subject.
- Students are obligated to abide the originality of research and the scientific authentication of references and bibliographies when writing the project product (thesis, paper or poster).
- The student adopts two copies of the project to the d to set a date of the assessment.
- The supervisor delivers the evaluation report of approval to the department directly after completion of the evaluation.

## **ROLES AND RESPONSIBILITIES**

### **1. ROLE OF THE STUDENT**

Student responsibilities include, but are not limited to, the following:

- Selecting a viable topic
- Successfully completing all components of the Graduation Project: research paper, or poster, or thesis, and oral presentation
- Working on the culminating project independently, unless otherwise approved
- Submitting all paperwork and documentation by designated deadlines
- Seeking advice and assistance when needed
- Maintaining timelines and documentation of completed tasks
- Identifying and maintaining regular contact with the Academic Advisor as the Graduation Project is created and developed
- Using a variety of communication techniques (electronic, written, verbal), such as the letter of intent, interviews, phone calls, and electronic communication, as project work progresses



- Researching and writing a paper on a focused topic that addresses the specified guidelines
- Completing and documenting verifiable work on the product component
- Preparing a documenting work completed and making the portfolio available for the Review committee in advance of the oral presentation.
- Presenting to the Review committee

## **2. ROLE OF THE SUPERVISOR**

The role of the supervisor may include but is not limited to assisting students with the following:.

- Selection and narrowing of a topic for research
- Approval of the research issue
- Research process
- Documentation of research
- Revision and editing of the paper
- Approval of the service learning experience product
- Completion of all applicable progress checks, documentation logs of service hours, notification of
- parents, and selection of mentor
- Completion of the student log of activities

## **Academic Integrity/Plagiarism**

All work completed for the Graduation Project must be a student's own work and must represent his/her best effort. Students who purchased and/or copied any portion of their research paper will receive a zero (0) on the paper and will be required to complete a paper on a new topic in order to be allowed to complete the three Graduation Project components in their senior year.





Research papers, products, and visuals completed for the Graduation Project must be correctly and accurately documented. Any information that is not the student's own knowledge must be correctly cited. Direct quotations must be in quotation marks and their source must be placed in internal citations. Paraphrasing must be completely in the student's own style of writing and must also have its source placed in internal citations.

Any flagrant evidence of plagiarism will result in a grade of zero (0).

## **THE FINAL FORM OF THE PROJECT**

**The final form of the project is supposed to be formed as:-**

- A printed version of the report, (attached within, the project program code on (CD)
- Number of pages neither exceed forty pages nor being less than twenty pages if the final form is a thesis, however the number of pages neither exceed 7 pages nor being less than 4 pages if the final form is a research paper.
- The report should be well organized in simple binding form.
- In case of thesis, the first page should be titled as: university name and logo, college name, project title, student's name and number, supervisor's name, and the academic year in a sequenced order .(see Appendix B)
- In case of poster, use A0 international form (85 cm width x 120 cm length). (see Appendix B)
- Two copies of the project in its final form is admitted to the department in order to set the date of the discussion.
- Arrange project address, the chapters title and sections, in the center of the page in bold.
- Write headlines in bold size 16.
- Coordinate all project pages, with a margin of 2 cm from top, bottom and left of the page and a margin of 3 cm from the right of the page.
- Set the paragraph spacing as Double spaced line.
- Set the footers font size to 12.



**The report summary of the project should not exceed 200 words (summary in Arabic + English summary) includes the following: -**

- Objectives of the project.
- Method adopted by the researcher.
- Results and recommendations attained by the researcher.

### **EVALUATION OF THE PROJECT**

**Project is evaluated according to the following steps: -**

- The project evaluation process is accomplished by a committee includes the project supervisor and established according to the department polices.
- The final version of the project report and project CD should be timely delivered and the evaluation process started from the project receiving date.
- Faculty and students are allowed to attend the project discussion.
- Students use the faculty facilities to present their project.

**Project is evaluated in public discussion to highlight the value of the objective of the project and instill confidence in the student and also train him to speak in public. The important standards are taken into consideration in the process of evaluation as:-**

- Degree of importance of the addressed problem.
- The validation of the proposed solutions.
- The impact of the results .
- The significance of recommendations regarding problem conceptualization.
- Ensuring the use of authentic references and follow scientific methods in the search.
- Granting the integrity of research hypotheses and the reasonable conclusions.
- To verify that the research aspects and objectives are completely covered.
- To ensure the professional context formulation and expression and the integrity of approached results .
- The concern of Scientific integrity and copyrights



- To prove his linguistic capabilities in the formulation of the results and conclusions.

**The Oral Presentation will be Judged on The Basis of The Following Categories:**

**A) Content, which includes**

- 10 minute minimum presentation
- Supporting information
- Conclusions
- Importance, value, or impact of the project
- Sources of information
- Vocabulary relevant to the topic

**B) Effective speaking, which includes**

- Presenting one's self with poise
- Maintains consistent eye contact with the review panel
- Enunciates clearly
- Varies tone, volume, and speed to enhance presentation
- Speaks alone, without the aid of an interpreter

**C) Visual Media**

- Effective use of graphic design
- Communicates significant information
- Clearly, accurately, and precisely communicates information
- Photos should be mounted on poster board,
- Organized in an album, or placed in a computer/slide presentation

**D) Response to questions**

- Effectively responds to all questions from the review committee
- Uses questions from the review committee to illustrate the idea.

**We hope that you found this guide helpful and wish you all the best of luck in this course and your future endeavors.**

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# Appendix A



## GRADUATION PROJECT PROPOSAL

<b>Student Name:</b>		
<b>Student ID:</b>	<b>GPA:</b>	<b>Email:</b>
<b>Project Title:</b>		
<b>Brief Description:</b>		
<b>Project Goal: (why did you choose this particular project? What do you learn from this experience?)</b>		
<b>Plans to achieve this goal – Timeline:</b>		
<b>Student Signature:</b>		
<b>Project Supervisor Signature:</b>		
<b>For Project Committee</b>		
<input type="checkbox"/> Approved with conditions	<input type="checkbox"/> Rejected	<input type="checkbox"/> Approved
<b>Comments:</b>		
<b>Committee Chair Signature:</b>		
<b>Date</b>		



### Supervisor Marks of the Project

<b>First Student Name</b>		
<b>Second Student Name</b>		
<b>Third Student Name</b>		
<b>Fourth Student Name</b>		
<b>Project Title:</b>		

#### Standards of Evaluation

Standard	Final Marks	Student Marks
Execution of project schedule in time – performance of reports	<b>20</b>	
Results, discussion and representation of data	<b>20</b>	
Project documentation, abstract and plagrasim	<b>20</b>	
Final form of project and seminars	<b>15</b>	
Preparation of presentation	<b>10</b>	
Total Mark of Supervisor's evaluation	<b>85</b>	

<b>Supervisor Name:</b>	<b>Signature</b>
-------------------------	------------------



**Project Committee Evaluation Form**

Project Title:.....

Supervisor: ..... Semester & Year: .....

Date of Examination: ..... Examiner: .....

ITEM EVALUATED	Weight	Marks
<b>1. Abstract</b>		
a) Written abstract is a good summary that includes outcome/summary of the work	1	
<b>2. Introduction</b>		
a) Provides a clear statement of the Graduation Project	1	
b) Provides a relevant and good background to the Project	1	
<b>3. Method</b>		
a) Measurements, procedures and methods applied are appropriate to the nature of the Project	1	
b) Describes and signifies the importance of how data were analyzed	1	
<b>3. Results</b>		
a) Appropriate representation of data using and displaying appropriate quotes, tables, graphs and figures	1	
<b>4. Overall Visual Assessment of the project</b>		
a) Well-organized, sequential and logical progression	1	
b) Appropriate design, layout, and grammatical usage	1	
<b>5. Presentation &amp; Communication</b>		
a) Professional appearance and dress	1	
b) Speaks confidently and clearly, and uses appropriate technical	1	
c) Ability to answer questions precisely and accurately	1	
d) Presenter evidenced a clear knowledge of the material	1	
<b>Total</b>	<b>10</b>	

Committee member signature	Supervisor signature

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# Appendix B





## Poster Format

<b>Your Poster Title Here</b> <i>Your name here, and names of others</i> <i>Place the name of your institution here</i>		
<b>Abstract</b>	<b>Methods</b>	<b>Conclusion</b>
Insert your text here. Remember, you can change your font size to fit your data. In general, the larger your font, the easier it is for others to read.	Insert your text here.	Insert your text here. Remember, the template is only to get you started, and can be changed to suit your unique needs
	<b>Results</b>	
	Insert your text here. Remember, the template is only to get you started, and can be changed to suit your unique needs	
<b>Objectives</b>		
Insert your own information here. Remember, you can change the template colors to suit your own taste.	<b>Graph/image title</b>	
	Insert your items here	<b>References</b>
		Insert your references here



## Design of research paper

Title title title title title

Colin B. Purrington

Department of Biology  
Hudson University  
New York, NY 10021

cbp@fake-email.edu  
800-123-4567

### Abstract

Blah, blah, blah, blah,  
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### Introduction

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### Materials and methods

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### Results

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### Discussion

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### Acknowledgements

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4

### Literature cited

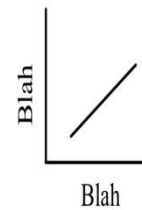
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**Table 1.** Blah, blah,  
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Blah	Blah	Blah

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**Figure 1.** Blah, blah,  
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blah.

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College of Applied Science  
Department of Physics



# Title of the Gradation Research Project

BY

**Student full name**

Graduation project

Submitted in partial fulfilment of the requirements  
for the award of Bachelor degree of the Majmaah University

Supervisor: .....

College of Applied science in Makkah

Department of **Physics**

1437H