2023
TPG-153

# Course Specification

(Postgraduate)

| | |
|---|---|
| **Course Title:** | Thesis |
| **Course Code:** | 699PHYS |
| **Program:** | Master degree in physics |
| **Department:** | Physical Sciences |
| **College:** | Science |
| **Institution:** | Jazan University |
| **Version:** | |
| **Last Revision Date:** | |

## Table of Contents

## A. General information about the course:

### 1. Course Identification:

| | | | | |
|---|---|---|---|---|
| **1. Credit hours: ( 6 )** | | | | |
| **2. Course type** | | | | |
| **A.** | ☐University | ☐College | ☒ Department | ☐Track |
| **B.** | ☒ Required | | ☐Elective | |
| **3. Level/year at which this course is offered: (level 4/ year 2)** | | | | |
| **4. Course general Description:** | | | | |

**The thesis is a partial fulfillment to M.Sc.(Physics) program.**
**The first step is for the student and research supervisor to agree on the thesis topic. An initial Graduate thesis proposal form must be submitted to the department. The form requires an initial thesis title, approved by the research supervisor , and the name of one reader for the thesis committee agreed upon by the student and supervisor. Upon completion of the thesis, the research supervisor will submit a letter to the chair of the Physics department indicating that the thesis is ready for oral presentation.**
**At the committee meeting the student makes an oral presentation to the thesis committee of a detailed proposal for a research program that would subsequently become the M.Sc. thesis. The student should demonstrate a thorough knowledge of relevant literature; explain the significance of the research to progress in the field, and present a well-thought-out program of research, including contingency plans.**
**After that meeting, and based on the discussion, the student will develop a written proposal consisting of a one-or two-page description of the body of work that is to comprise the thesis. Students have to submit the manuscript of their thesis for reviewing after two semesters from the registration of the research tittle.**

**After passing the thesis defense and in corporating the suggested changes, students must submit to the PG committee:**
**1)Two original copies on thesis and**
**2)The completed form from ''Specifications for Thesis Preparation'', with abstract and title page attached.**

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| **5. Pre-requirements for this course** (if any)**: Non** |
| **6. Co-requirements for this course** (if any)**: Non** |

## 7. Course Main Objective(s):

**For the Thesis Master's in Physics, we aim to train students to:**

**1) Perform a literature review**

**2) Identify important issues in a specific field and understand the scientific approach to research questions**

**3) Carry out a scientific study and appropriately managing its data**

**4) Appreciate the ethics involved in research**

**5) Express oneself clearly in science (when speaking and writing)**

**6) Achieve a balanced and critical interpretation of research results in comparison to existing knowledge**

**7) Express ideas and findings in written English to an advanced level**

## 2. Teaching Mode: (mark all that apply)

| No | Mode of Instruction | Contact Hours | Percentage |
|---|---|---|---|
| 1 | Traditional classroom | 90 | 100 |
| 2 | E-learning | | |
| 3 | Hybrid<br>• Traditional classroom<br>• E-learning | | |
| 4 | Distance learning | | |

## 3. Contact Hours: (based on the academic semester)

| No | Activity | Contact Hours |
|---|---|---|
| 1. | **Lectures** | 30 |
| 2. | **Laboratory/Studio** | 60 |
| 3. | **Field** | |
| 4. | **Tutorial** | |
| 5. | **Others (specify)seminar** | |
| | **Total** | 90 |

## 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 | **Describe** related terminology, numbering, classification systems and relevant theories and their applications | **PLO1.1** | Conversation, discussion, and debate | Presentation, Essay |
| 1.2 | **Discuss** knowledge development related to the program | **PLO1.2** | Conversation, discussion, and debate | Presentation, Essay |
| **2.0** | | | | |
| 2.1 | **Solve** conceptual problems which arise during the investigation. | **PLO2.1** | Conversation, discussion, and debate | Presentation, Essay |
| 2.2 | **Develop** the argument and divorce the appropriate judgments according to scientific theories and concepts | **PLO2.2** | Conversation, discussion, and debate | Presentation, Essay |
| 2.3 | **Use** mathematical operation, quantitative methods, and computer software (digital technology & ICT tools), to analyze, evaluate and interpret relevant qualitative and quantitative scientific data | **PLo2.3** | Conversation, discussion, and debate | Presentation, Essay |
| 2.4 | **Present** their work, with demonstration of working artifacts where appropriate | **PLO2.3** | Conversation, discussion, and debate | Presentation, Essay |

| Code | Course Learning Outcomes | Code of CLOs aligned with program | Teaching Strategies | Assessment Methods |
|---|---|---|---|---|
| 2.5 | **Operate** various practical/computational tasks, techniques, tools, instruments, and/or materials that are advanced to deal with various complex practical activities in field of physics research. | **PLO2.4** | Conversation, discussion, and debate | Presentation, Essay |
| **3.0** | **Values, autonomy, and responsibility** | | | |
| 3.1 | **Apply** ethical principles and commit to professional ethics, responsibilities, and norms of Physics practice | **PLO3.1** | Conversation, discussion, and debate | Presentation, Essay |
| 3.2 | **Function** effectively as an individual and independent life-long learning | **PLO3.2** | Conversation, discussion, and debate | Presentation, Essay |
| 3.3 | **Manage** physics research with high responsibility and autonomy as a member or leader in diverse teams and in multi-disciplinary settings | **PLO3.3** | Conversation, discussion, and debate | Presentation, Essay |
| ... | | | | |

## C. Course Content:

| No | List of Topics | Contact Hours |
|---|---|---|
| **1.** | Introduction and orientation to the course and course outline | 6 |
| **2.** | Research ethics | 6 |
| **3.** | How to define your research proble, Academic legal writing and annotated bibliography | 6 |
| 4 | Research Proposal | 54 |

| | | |
|---|---|---|
| | Background<br>Literature review<br>Theoretical frame work<br>Methodology<br>Methodology and Analysis Conclusions | |
| 5 | Presentation of research proposals | 6 |
| 6 | The research process | 6 |
| 7 | Thesis presentation | 6 |
| **Total** | | **90** |

## D. Students Assessment Activities:

| No | Assessment Activities * | Assessment timing (in week no) | Percentage of Total Assessment Score |
|---|---|---|---|
| 1. | Class participation | All weeks | 20 |
| 2. | Research proposal | 2 | 10 |
| 3. | Presentation of research proposal | 2-9 | 10 |
| 4. . | Thesis presentation | 12 | 10 |
| 5. | Thesis defence | 15 | 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** | Turabian K.L, W.C. Booth, G.G. Colomb, and J.M. Williams 2013. A manual for writers of research papers, theses, and dissertations. 8th ed. Chicago, IL: University of Chicago Press |
| **Supportive References** | |
| **Electronic Materials** | Web of Science |
| **Other Learning Materials** | Research articles from web of science regarding student's work. |

### 2. Educational and Research Facilities and Equipment Required:

| Items | Resources |
|---|---|
| **facilities**<br>(Classrooms, laboratories, exhibition rooms, simulation rooms, etc.) | Class room is already provided with data show |
| **Technology equipment**<br>(Projector, smart board, software) | Saudi Digital library |

| Items | Resources |
|---|---|
| **Other equipment**<br>(Depending on the nature of the specialty) | |

## F. Assessment of Course Quality:

| Assessment Areas/Issues | Assessor | Assessment Methods |
|---|---|---|
| **Effectiveness of teaching** | Students, Peers, and program leader | Direct assessment of CLOs, Indirect surveys. |
| **Effectiveness of students assessment** | Students, Faculty. | Direct / Indirect. |
| **Quality of learning resources** | Students, Faculty members | Indirect |
| **The extent to which CLOs have been achieved** | Instructor | Direct / Indirect. |
| **Other** | | |

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

Assessment Methods (Direct, Indirect)

## G. Specification Approval Data:

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|---|---|
| **COUNCIL /COMMITTEE** | |
| **REFERENCE NO.** | **MEETING NO. 15** |
| **DATE** | **5/10/2023** |

**Head of the department**

**Dr. Hussain Alathlawi**