Course Specification

(Postgraduate Programs)

Course Title:	Thesis
Course Code:	PHYS699
Program:	Master of Science in Physics
Department:	Physical Sciences
College:	Science
Institution:	Jazan University
Version:	
Last Revision Date:	30/5/2024

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A. General information about the course:

1. Course Identificationn:

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:				

Thesis is a compulsory requirement for the master's degree in physics. It is designed to get the students prepared to work in certain important physics fields and practice all the research steps to come up with unique and systematic outcomes of research results and hence write a comprehensive thesis to report all findings in a well-structured arrangement to represent a reference to other researchers in the field. The student will also get practiced the competencies of writing, preparing presentations, defending their own results and finding scientific justification.

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

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

7. Course Main Objective(s):

The main objectives of Thesis are focused to:

- **Analyze previous studies in the literature using justified gap analysis.**
- **Apply methodologies.**
- **Follow the research line from beginning to end (results).**
- **Write the thesis.**
- **Present and defend the results (thesis).**
- **Produce some contributions in the fields of physics and science.**

2. Teaching Mode: (mark all that apply)

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

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

No	Activity	Contact Hours
1.	**Lectures**	30
2.	**Laboratory/Studio**	
3.	**Field**	
4.	**Tutorial**	60
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: Upon completing the course students will be able to**			
1.1	**Identify foundational and advanced works as well as publications in their field of specialization.**	**PLO1.1**	Discovery learning – expository learning- demonstration – case study.	Direct: Seminar, Essay, viva – end of class assessment, rubric Indirect :survey
1.2	**Describe their own work and other** related research and applications	**PLO1.1**	Discovery learning – expository learning- demonstration – case study	Direct: Seminar, Essay, viva – end of class assessment, rubric Indirect :survey

Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
1.3	**Discuss significant advancements related to their field of specialization.**	**PLO1.2**	Discovery learning – expository learning- demonstration – case study	Direct: Seminar, Essay, viva – end of class assessment, rubric Indirect :survey
2.0	**Skills: Upon completing the course students will be able to**			
2.1	**Apply a methodological approach to answer a research question and produce significant contribution.**	**PLO2.1**	Problem-based learning- guided discussion- interactive discussion	Direct: Seminar, Essay, viva – end of class assessment, rubric Indirect :survey
2.2	**Assess strengths and weaknesses of various methodological approaches relevant to a research question**	**PLO2.2**	Problem-based learning- guided discussion- interactive discussion	Direct: Seminar, Essay, viva – end of class assessment, rubric Indirect :survey
2.3	**Develop skills in writing reports and presenting information/data of own work**	**PLO2.3**	Discovery learning – expository learning Problem-based learning- guided discussion- interactive discussion	Direct: Seminar, Essay, viva – end of class assessment, rubric Indirect :survey
2.4	**Develop skills in conducting experimental/theoretical research.**	**PLO2.4**	Demonstration- case study – guided discussion- orientation sessions	Direct: Seminar, class assessment discussion response- viva, rubric Indirect: survey
3.0	**Values: Upon completing the course students will be able to**			
3.1	**Observe ethical principles when using other references and writing and operating the research thesis.**	**PLO3.1**	Interactive discussion- expository learning – interactive orientations	Direct: Seminar, Essay, viva – end of class assessment, rubric Indirect :survey
3.2	**Demonstrate the ability of independent lifelong learning.**	**PLO3.2**	Demonstration- guided discussion- orientation sessions	Direct: Seminar, Essay, viva – end of class assessment, rubric Indirect :survey
3.3	**Show awareness on safety issues related to the use of research tools and/or data.**	**PLO3.3**	Interactive discussion- expository learning – interactive orientations	Direct: Seminar, Essay, viva – end of class assessment, rubric Indirect :survey

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 problem, Academic legal writing and annotated bibliography	6
4	Research Proposal	60
5	Background	3
6	Literature review	3
7	Theoretical framework	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	15
2.	Research and preparation	1-3	15
3.	Data collection and analysis	4-13	15
4. .	Writing and finalizing the thesis	4-13	5
5.	Thesis presentation and defense	14-15	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 (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)	Classroom with data show
Technology equipment (Projector, smart board, software)	Saudi Digital library
Other equipment (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 student's 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:

COUNCIL /COMMITTEE	**Department Council**
REFERENCE NO.	**Psci2415**
DATE	**1/10/2024**