هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission

اعتماد
NCAAA

2024
TPG-152

Annual Program Report

— (Postgraduate Programs)

Program Name: Master of Science in Physics	
Program Code (as per the Saudi Standard Classification of Educational Levels and Specializations): MSc 053301	
Qualification Level: 7	
Department: Physics	
College: Science	
Institution: Jazan University	
Academic Year: 2023-2024	
Main Location: Main Campus	
Branches offering the Program (if any): Non	

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- ……………………………………….
- ……………………………………….

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A. Program Statistics (in reporting year)

Item	Number
Number of students enrolled in the program	9
Number of students who started the program	4
Number of students who completed the program	1
Number of students who completed an intermediate award specified as an early exit point (if any)	Non

*A separate cohort analysis report for male and female sections and for each branch (if any)

B. Program Assessment

1. Program Learning Outcomes Assessment and analysis according to PLOs assessment plan *

#	Program Learning Outcomes		Assessment Results	
K1	**Demonstrate** knowledge on various fundamental concepts and theories of physics and their effect in different fields of science and technology	Direct	1.Score out of 5 Target: > **3.75**	**Achieved** Score:**4.64**
			2.% of students exceeded 75% Target: **80%**	**Achieved** **95%**
		Indirect	1.Score out of 5 Target: > **3.75**	**Achieved** Score:**4.92**
			2.% of students exceeded 75% Target: **80%**	**Achieved** **100%**
K2	**Describe** physics phenomena using physics principles and scientific reasoning	Direct	1.Score out of 5 Target: > **3.75**	**achieved** Score:**4.71**
			2.% of students exceeded 75% Target: **80%**	**Achieved** **93%**
		Indirect	1.Score out of 5 Target: > **3.75**	**Achieved** Score:**4.75**
			2.% of students exceeded 75% Target: **80%**	**achieved** **100%**
S1	**Apply** mathematical concepts, strategies, and procedures to solve problems in various fields of physics.	Direct	1.Score out of 5 Target: > **3.75**	**Achieved** Score:**4.38**
			2.% of students exceeded 75% Target: **80%**	**Achieved** **99%**
		Indirect	1.Score out of 5 Target: > **3.75**	**achieved** Score:**4.88**
			2.% of students exceeded 75% Target: **80%**	**achieved** **100%**

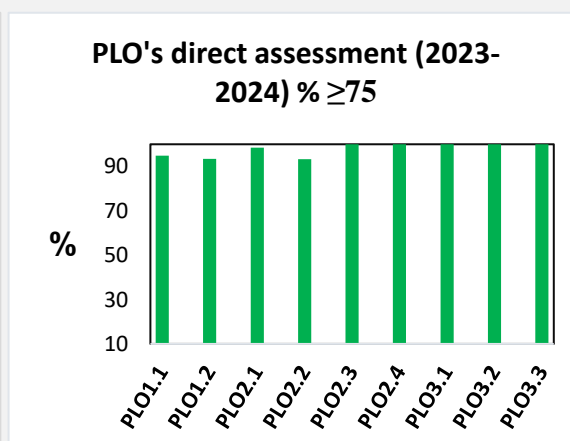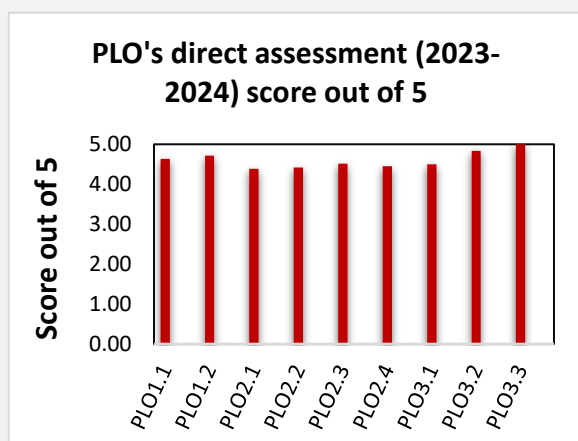|				
S2	Demonstrate analytical skills and competencies to formulate drive and analyze physics concepts.	Direct	1.Score out of 5 Target: > 3.75	Achieved Score:4.42
			2.% of students exceeded 75% Target: 80%	Achieved 93%
		Indirect	1.Score out of 5 Target: > 3.75	Achieved Score:4.90
			2.% of students exceeded 75% Target: 80%	achieved 100%
S3	Perform experiments in various fields of Physics and analyzing to get various Physics parameters and quantities	Direct	1.Score out of 5 Target: > 3.75	achieved Score:4.52
			2.% of students exceeded 75% Target: 80%	Achieved 100%
		Indirect	1.Score out of 5 Target: > 3.75	Achieved Score:4.96
			2.% of students exceeded 75% Target: 80%	Achieved 100%
S4	Develop competencies in critical thinking, delivering scientific information, reporting and data analysis.	Direct	1.Score out of 5 Target: > 3.75	Achieved Score:4.45
			2.% of students exceeded 75% Target: 80%	Achieved 100%
		Indirect	1.Score out of 5 Target: > 3.75	Achieved Score:5
			2.% of students exceeded 75% Target: 80%	Achieved 100%
V1	Develop abilities of teamwork, bear individual responsibilities on assigned tasks	Direct	1.Score out of 5 Target: > 3.75	Achieved Score:4.50
			2.% of students exceeded 75% Target: 80%	Achieved 100%
		Indirect	1.Score out of 5 Target: > 3.75	Achieved Score:5
			2.% of students exceeded 75% Target: 80%	Achieved 100%
V2	Apply practices of lifelong learning in various physics and scientific disciplines with ethical and social responsibilities for their professional career	Direct	1.Score out of 5 Target: > 3.75	Achieved Score:4.83
			2.% of students exceeded 75% Target: 80%	Achieved 100%
		Indirect	1.Score out of 5 Target: > 3.75	Achieved Score:4.89
			2.% of students exceeded 75% Target: 80%	Achieved 100%

V3		Direct	1.Score out of 5 Target: > **3.75**	**Achieved** Score:**5.00**
	Demonstrate awareness of safety and risk assessment when dealing with various materials and equipment		2.% of students exceeded 75% Target: **80%**	**Achieved** **100%**
		Indirect	1.Score out of 5 Target: > **3.75**	**Achieved** Score:**4.96**
			2.% of students exceeded 75% Target: **80%**	**Achieved** **100%**

*All direct and indirect assessments are reported in CLOs excel files. **Direct and indirect** assessments are obtained from all courses and all surveys of all courses, respectively. There are two KPIs: Score out of 5 and % of students exceeded 75%

Direct

PLO's direct assessment (2023-2024) score out of 5

PLO's direct assessment (2023-2024) % ≥75

Indirect

PLO's indirect assessment (2023-2024) score out of 5

PLO's indirect assessment (2023-2023) % ≥75
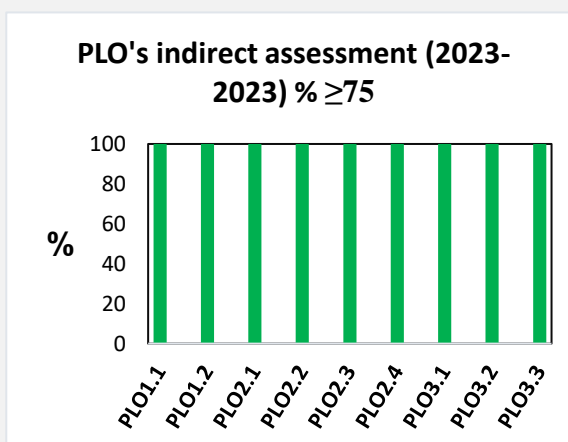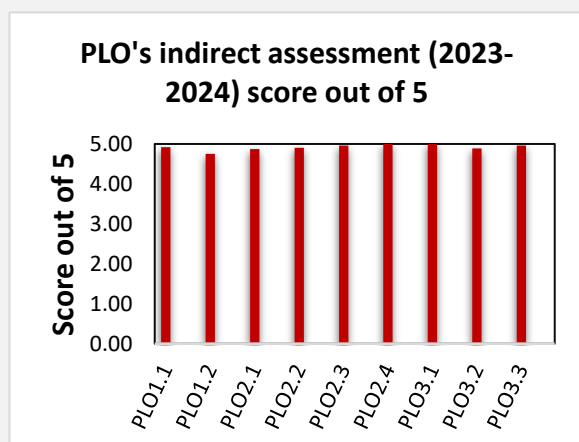
The evaluation of Course Learning Outcomes (CLOs) involved both direct and indirect assessments. For a more comprehensive approach, we implemented indirect evaluations across all courses through targeted surveys that focused primarily on the CLOs. This ensured that the assessment of CLOs was not solely reliant on data obtained from Course Evaluation Surveys (CES), and Program Evaluation Surveys (PES), as these surveys posed challenges in extracting specific Program Learning Outcomes (PLOs).

For the Master of Science in Physics program, two mechanisms are used to analyze the assessment of the Program Learning Outcomes (PLOs) directly and indirectly. These mechanisms depend on the assessment of academic courses and are as follows:

1- Method of equal contributions of all courses: This is done in each semester considering the equal contribution of all courses to the Program Learning Outcomes (PLOs). PLO is considered as achieved if the average of the overall achievements score is equal to 3.75 out of 5 or above.

2- Method of factoring the contribution of all courses (percentage weight for the course based on the level of the learning domain and the level of the program). The contribution of each course depends on its level with a certain percentage that develops with progress in the program level. PLO is considered as achieved if students who exceeded 75% is equal/above 80%.

All data from all courses in each semester were collected and classified in tables containing a score out of 5 and a percentage (percentage of students who exceeded 75%). The direct and indirect assessment of the program learning outcomes will be based on the average results of the three semesters (2023-2024).

Strengths:

- All Program Learning Outcomes were measured directly through direct assessment of all courses and indirectly through a student opinion survey, with CLOs aligned to all PLOs.
- All direct and indirect assessment average scores across all courses are above the target score of 3.75 and the 80% percentile, indicating improved learning outcomes compared to the previous academic year 2022-2023.

Areas for improvement prioritized:

Based on the table provided, we can extract the weaknesses of Program Learning Outcomes, and then write recommendations as follows: -

Weaknesses:

- All indirect assessment scores for all courses are above the score of 3.75 and the 80%, except for course PHYS641, indicating a need to improve the learning outcome PLO2.2.

Recommendation:

- To enhance mathematical and analytical skills and competencies, it is recommended to provide additional practice opportunities, problem-solving exercises, and case studies that require critical thinking and analysis. Incorporating practical applications of physics principles and encouraging students to engage in hands-on projects can also contribute to improving their analytical skills.

2. Students' Evaluation of Courses

Course Code	Course Title	Number of Students Who Evaluated the Course	Percentage of Participants	Evaluation Results (out of 5)	Developmental Recommendations
PHYS620	Atomic and Molecular Spectroscopy	5	100	4.8	None
PHYS640	Solid State Physics	2	100	4.9	None
PHYS641	Materials Science	4	100	4.9	None
PHYS665	Special Topics in Physics	4	100	5	None
695PHYS	Research Seminar	2	100	4.5	None
699PHYS	Thesis	1	100	5.0	None

* Courses that receive a score of 4.5 or above are considered good practice. Therefore, only courses that receive a grade of less than 4.5 are considered for developmental recommendations.

3. Students Evaluation of Program Quality (PES)

Evaluation Date: May 16 2024	Number of Participants: 5 out of 5
Students Feedback	**Program Response**
Strengths: • The overall evaluation of the instructors' support is **96% (4.8 out of 5)** • The overall learning evaluation is **94% (4.7 out of 5)** • The overall Evaluation is **96% (4.8 out of 5)**	Discuss the improvement plan and taken action on that
Areas of Improvement: However, the students' responses to the following questions are highly satisfying, but further improvements are recommended. • Library resources were adequate and available when I needed them (4 out of 5) • Adequate facilities were available for extracurricular activities (including sporting and recreational activities). (4.2 out of 5) • Adequate facilities were available for religious observances. (4.0 out of 5) • What I have learned in this program will be valuable for my future. (4.2 out of 5)	Discuss the improvement plan and taken action on that
Suggestions for improvement: • Overall, the learning support rating was satisfactory (score from 4 to 4.8 out of 5) but further improvements are recommended, especially library resources. Therefore, students need more guidance about the Saudi Digital Library and other resources available to students 24 hours a day. • • The local community has many facilities for extracurricular activities and religious celebrations. Therefore, there is a need for more guidance and awareness regarding these services provided to students.	Discuss the improvement plan and taken action on that

4. Academic Research and innovation during the reporting year

A ·Research Achievements (in the year concerned)

Activities Implemented	Number
Published scientific research	85
Research projects	7
Conferences organized by the program	-
Seminars held by the program	8
Conferences attendees	3
Seminars attendees	31

* Attach a research production statement of the faculty and students in the program including basic data such as (researcher's name, research title, publishing entity, publishing date, etc.)

** In the case of multiple scientific production, the program lists the numbers for each classification individually (Example in individual research: if the total number is (10) in the case of production (6) published, and (4) acceptable for publication, etc.)

- Discussion and analysis of scientific research and innovation activities

The number of published scientific papers, seminars, research projects and conferences are greater than last year academic year(2022-2023), so the conferences organized by the program must be activated.

B ·Theses (approved during the year concerned)

Thesis Title	Researcher's Name	Supervisor's Name	Grade
1. Study of Structures and Properties of Pure and Functionalized Nanosheets and Nanocones for Environmental Applications.	Samia Khurmy	Prof Ahlam EL-Barbary	ND

- Comment on Theses

There are 5 theses during academic year 2023-2024:
- One thesis has been completed and the remaining four are still under supervision.
- One paper was presented orally at an international conference
- Two papers were published in the ISI journals
- One paper was accepted for publication in the Macromolecular Symposia journal - INCEEM 2023.
- Some publications are under writing and editing.

5. Students Evaluation of Academic Supervision

Evaluation method: Google form	Date: May 2024	Number of Participants: 5 out of 5
Students Feedback		**Program Response**
Strengths: • Sufficient opportunity at this institution during research to obtain good guidance in topic selection, literature search, in experimental and theoretical methodology as well as in obtaining the result of thesis, degree of satisfaction 4.96 out of 5 or 99 % • Students respond that their theses examination process was fair and completed in a reasonable time, degree of satisfaction 5 out of 5 or 100 %.		Discuss the improvement plan and act on that
Areas of Improvement: • Nil.		
Suggestions for improvement: • Nil.		

6. Other Evaluation (if any)

(e.g., independent reviewer, program advisory committee, and stakeholders (e.g., faculty members, alumni, and employers)

Alumni Survey

Evaluation method: Google form	Date: Sep 2024	Number of Participants: 5 out of 5
Summary of Evaluator Review		**Program Response**
Strengths: • The overall satisfaction turns out to be extremely satisfied, that is, about 4.8 out of 5 or 96 %. **At the start of the program** • Respondents indicated that they are aware of mission, policies, and the degree of high satisfaction is 4.5 out of 5 or 90 %. **During the program** • Respondents indicated that they are satisfied with the guidance provided to them during the course degree of high satisfaction is 4.4 out of 5 or 88 %. **Students Facilities**		Discuss the improvement plan and act on that

• Respondents indicated that they are satisfied with the facilities available during the program degree of high satisfaction is 4 out of 5 or 80 %.	
Points for Improvements: The students' responses for the following questions are 3.8 out of 5, indicate minimally satisfying and need improvement. • Appropriate facilities were available for extra-curricular activities religious (cultural, social and sporting). • Computer labs are up to date and appropriate for students • Appropriate restaurants were available • Facilities for special needs students were available	Discuss the improvement plan and act on that
Suggestions for development: • Appropriate facilities should be available for extracurricular activities (religious, cultural, social and sporting). • Computer labs should be up to date and appropriate for students. • Appropriate restaurants should be available. • Facilities for special needs students should be available.	Discuss the improvement plan and act on that

Employer Perception Survey

Evaluation method: Google form	Date: Aug 2024	Number of Participants: 2 out of 2
Summary of Evaluator Review		**Program Response**
Strengths: Respondents indicate that • Overall satisfaction of employers turns out to be highly satisfied, that is, about **4.50 out of 5 or 90 %.** • Employees are aware of ethical, and professional liabilities level that is about **5 out of 5 or 92 %.** • Employees has the skill of understanding and grasping 4.5 out of 5 or 90 % • Employees has the capacity of independent thinking 4.5 out of 5 or 90 %		Discuss the improvement plan and taken action on that
Points for Improvements: • Nil		Discuss the improvement plan and taken action on that
Suggestions for development: • Nil		Discuss the improvement plan and taken action on that

Faculty Satisfaction Survey

Evaluation method: **Google form**	Date: May 2024	Number of Participants: 11
Summary of Evaluator Review		**Program Response**
Strengths: • Overall satisfaction turns out to be satisfied, that is, about **4.1 out of 5 or 82 %.** • A clear understanding of the outcomes and achievements expected in job got highly satisfaction **4.5 out of 5 or 90%** • involving in the processes of course / program development got highly satisfaction 4.3 out of 5 or 85% • Awareness of mission and objectives of the college is about **4.4 out of 5 or 87 %** • Awareness of mission and objectives of the program is about **4.3 out of 5 or 85 %** • Respondents indicate strong agreement that the appeals process is adequate that is about **4.1 out of 5 or 82 %.** • Respondents indicate strong agreement that the development of teaching and learning practices is supported that is about **4.2 out of 5 or 84 %.**		Discuss the improvement plan and taken action on that
Points for Improvements: • Faculty members consider the scale of the process and the method of securing research funding, especially the physical resources allocated to research, to be unsatisfactory (satisfaction score is **3.3 out of 5 or 65%,** which is unsatisfactory). • Students understand English well enough to follow my lectures and to write papers satisfaction score is **3.5 out of 5 or 69%,** which is unsatisfactory). • Research facility score is **2.7 out of 5 or 55 %** • PCs are available for my use at my college is **2.9 out of 5 or 58%**		Discuss the improvement plan and taken action on that
Suggestions for development: • Research Funding support should be sufficient. • Time available to conduct research should be sufficient. • Physical resources for research should be sufficient. • Digital libraries should be available and useful for research and teaching purposes. • PCs should be available for faculty members` use at the college. • Technical support should be available for information technology and communication systems		Discuss the improvement plan and taken action on that

Students Experience Survey

Evaluation method: **Google form**	Date: May 2024	Number of Participants: 5 out of 5
Summary of Evaluator Review		**Program Response**
Strengths: • Overall students' life at Jazan institution is satisfied, about **4.2 out of 5 or 84 %.** • As per respondents most of the faculty with whom they work at this institution are genuinely interested in their progress, **5 out of 5 or 100 %** • Students found information about the institution and its programs before they first joined. They received adequate support from instructors, and their satisfaction score was **4.8 out of 5 or 89%.** • Classrooms (including lecture rooms, laboratories etc.) are attractive and comfortable, **4.6 out of 5 or 92 %.** • Program of studies is stimulating students' interest for further learning, **4.4 out of 5 or 88 %.** • Effective group activities score is **4.4 out of 5 or 88 %** • Application base teaching score is **4.4 out of 5 or 88 %**		Discuss the improvement plan and taken action on that
Points for Improvements: The students' responses for the following questions are less than 4 out of 5:- • The library staff are helpful to me when I need assistance **(3.6 out of 5).** • The orientation program for new students should be more helpful for students **(3.8 out of 5).**		Discuss the improvement plan and taken action on that
Suggestions for development: • The orientation program for new students should be more helpful for students. • Encourage the library staff to be more helpful for students when they need assistance.		Discuss the improvement plan and taken action on that

*Attach independent reviewer's report and stakeholders' survey reports (if any).

C. Program Key Performance Indicators (KPIs)

Including the key performance indicators required by the NCAAA.

No	KPI	Targeted Value	Internal Benchmark	Actual Value	Analysis	New Target
1	Students' Evaluation of Quality of Learning Experience in the Program	4.2	4.2	4.8	achieved	4.5
2	Students' evaluation of the quality of the courses	4.5	4.8	4.6	achieved	4.5
3	Students' evaluation of the quality of academic supervision	4.5	4.77	4.9	achieved	4.6
4	Average time for students' graduation	5 semesters	5 semesters	4 semesters	achieved	5 semesters
5	Rate of students dropping out of the program	0%	17%	0%	achieved	0%
6	Employers' evaluation of the program graduates' competency	4.2	4.2	4.5	achieved	4.3
7	Students' satisfaction with services provided	4.2	4.2	4.4	achieved	4.3
8	Ratio of students to faculty members	5:1	4:1	2:1	achieved	5:1
9	Percentage of publications of faculty members	100%	100%	77%	unachieved	100%
10	Rate of published research per faculty member	7:1	8:1	8:1	achieved	8:1
11	Citations rate in refereed journals per faculty members	13:1	15:1	13:1	achieved	14:1
12	Percentage of students' publication	20% journal	12.5%	33%	achieved	25%
		20% conference	12.5%	11%	unachieved	20%
13	Number of patents, innovative products, and awards of excellence	1 (Patents &innovative products)	0	0	unachieved	1

No	KPI	Targeted Value	Internal Benchmark	Actual Value	Analysis	New Target
		2(National & international excellence awards)	2	2	achieved	3

- Comments on the Program KPIs and Benchmarks results:

In conclusion, the postgraduate program has excelled in various aspects, including faculty research productivity, citations, student contributions, and recognition through awards. This data-driven assessment underscores the program's dedication to academic excellence, research, and the overall advancement of knowledge.

To sustain and enhance this level of performance, it is recommended to continue nurturing a research-oriented culture and fostering an environment that encourages both faculty and students to excel in their academic pursuits.

Compared with the internal benchmark, almost of KPIs are improved. More details are reported in KPIs report 2023-2024.

D. Challenges and difficulties encountered by the program (if any)

Teaching	1- Instructors suggested that the department should offer extra lectures for the compulsory courses. 2- Avoid delaying student registration and/or teacher assignment until the end of the first week.
Assessment	1- The direct assessment of analytical skills and competencies to formulate and analyze physics concepts needs to be improved (PLO2.1, and PLO2.2). 2- The things to do to succeed in the course, including assessment tasks and criteria for assessment, should be clear to students and encourage them to ask questions and develop their own ideas. 3- Low Students' satisfaction with some compulsory courses.
Guidance and counseling	1- The orientation program for new students should be more helpful for students. 2- Introduce a structured tutoring program to support students in grasping challenging concepts, providing a platform for individualized guidance, and reinforcing theoretical knowledge. 3- Establish a mentorship program where experienced faculty members or senior students can mentor beginners, offering insights, sharing experiences, and providing guidance on academic and professional development. 4- Develop and integrate comprehensive tutorial sessions into the curriculum, supplementing coursework for better student comprehension.
Learning Resources	1- Effective use of technology to support students' learning should be available 2- Digital libraries should be available and useful for research and teaching purposes. 3- Computer labs should be up to date and appropriate for students. 4- Technical support should be provided for information technology and communication systems. 5- Encourage the library staff to be more helpful for students when they need assistance.
faculty	1- A suitable classroom must be provided with a blackboard. 2- PCs should be available for faculty members` use at the college.

	3- Appropriate facilities should be available for extracurricular activities (religious, cultural, social, and sporting).
	4- Facilities for special needs students should be available.
Research Activities/thesis supervision	1- Research Funding support should be sufficient.
	2- Time available to conduct research should be sufficient.
	3- Increasing the number of seminars held in the program and activating the conferences organized by the program.
	4- Time available to conduct research should be sufficient.
	5- Physical resources for research should be sufficient.
	6- The percentage of students' publications and awards of excellence should be increased
	7- Patents and innovative products should be activated.
Others	• There is no extremal Benchmark.

E. Program development Plan

No.	Priorities for Improvement	Actions	Action Responsibility
1	1- The low students` satisfaction of some compulsory courses should be discussed. 2- The direct assessment of analytical skills and competencies to formulate and analyze physics concepts needs to be improved (PLO2.1, PLO2.2). 3- The things to do to succeed in the course, including assessment tasks and criteria for assessment, should be clear to students and encourage them to ask questions and develop their own ideas.	Workshops **for faculty members in the master's program provide them with the needs and opinions of students about their courses.**	**Program Coordinator and** Curriculum committee

2	1- Both whiteboard and smart board should be available. 2- Physical resources for research should be sufficient. 3- Facilities for special needs students should be available. 4- Appropriate facilities should be available for extracurricular activities (religious, cultural, social, and sporting).	**Addressing the** Dean of the College **with the requests and needs of faculty members and students.**	coordinator of Master program
3	1- The conferences organized by the program should be activated. 2- The orientation program for new students should be available and helpful for them. 3- Avoid delaying student registration and/or teacher assignment until the end of the first week.	**Addressing** master's committees **to activate their committees to overcome the weaknesses in the program**	coordinator of Master program

*Attach any unachieved improvement plans from previous report.

** The annual program report should be discussed and approved by department council

F. Approval of Annual Program Report

COUNCIL / COMMITTEE	
REFERENCE NO.	PSCI2501
DATE:	Mon 1/20/2025

Head of the department

Dr. Hussain Alathlawi