T-106
2022

Annual Program Report

## Annual Program Report

| Program Name: Master of Science in Mathematics |
| :--- |
| Program Code (as per Saudi university ranking): 054101 |
| Qualification Level: $\mathbf{7}$ |
| Department: Mathematics and Statistics |
| College: Science |
| Institution: Imam Mohammad Ibn Saud Islamic University |
| Academic Year: 2022/2023 |
| Main Location: Main campus |
| Branches offering the Program (if any): <br> None |

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## A. Program Statistics

| Item | Number |
| :--- | :---: |
| Number of students enrolled in the program | $\mathbf{1 3}$ |
| Number of students who started the program (in reporting year) | $\mathbf{1 0}$ |
| Number of students who completed the program | $\mathbf{2}$ |

## B. Program Assessment

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

| \# | Program Learning Outcomes | Assessment Methods (Direct and Indirect) | Targeted Performance (\%) | Assessment Results |
| :---: | :---: | :---: | :---: | :---: |
| Knowledge and Understanding |  |  |  |  |
| K1 | Demonstrate a solid understanding of advanced topics in Mathematics. | D1 | 20\% | In progress (exam not yet done) |
| K2 | Outline the areas of specialization through studying specific topics relevant to research in Mathematics. | I1 | 68\% | 66\% |
| Skills |  |  |  |  |
| S1 | Apply advanced mathematical knowledge to analyse problems and develop innovative solutions. | D5 | 50\% | 58\% |
| 52 | Develop critical skills with regard to literature searching, appraising and evaluating from a variety of sources and synthesizing the results. | D2 | 100\% | 100\% |
| S3 | Communicate in a clear and concise manner orally, on paper and using IT. | D3 | 60\% | 64\% |
| S4 | Make efficient use of computer for acquiring, analysing, | I3 | 75\% | 75\% |


|  | and presenting information. |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Values, autonomy, and responsibility |  |  |  |  |
| V1 | Demonstrate integrity, professional and academic ethics, participation in finding constructive solutions to some societal issues and a commitment to responsible citizenship. | 12 | 70\% | 75\% |
| V2 | Self-evaluate of the level of learning and performance, insist on achievement and excellence, and make logical decisions supported by evidence and arguments independently. | D2 | 100\% | 100\% |
| V3 | Lead teamwork with functional flexibility and effectiveness, and take responsibility for professional development, participating in developing the group's performance, and enhancing the quality of life. | D4 | 70\% | 70\% |

## Strengths:

- The accurate assessment of the Program Learning Outcomes helps to find and detect the point of weakness in the academic program.
- The Courses Learning Outcomes of the key courses need revising to serve the Program Learning Outcomes.


## Aspects that need improvement with priorities:

More attention MUST be paid to Courses Learning Outcomes, especially those key courses.

Revise Courses Learning Outcomes for key courses with paying more attention while delivering these Courses Learning Outcomes to improve Program Learning Outcomes assessment.
2. Evaluation of Courses

| Course <br> Code | Course Title | Number of <br> Students Who <br> Evaluated the <br> Course | Percentage <br> of <br> Participants | Evaluation <br> Results <br> (out of 10) | Developmental <br> Recommendations |
| :---: | :---: | :---: | :---: | :---: | :---: |
| MAT 611 | Measure and <br> Integration | $\mathbf{3}$ | $\mathbf{2 3 \%}$ | $\mathbf{8 . 7 6}$ | None |
| MAT 621 | Advanced <br> Linear Algebra | $\mathbf{3}$ | $\mathbf{2 3 \%}$ | $\mathbf{8 . 7 6}$ | None |
| MAT 641 | Numerical <br> Analysis | $\mathbf{3}$ | $\mathbf{2 3 \%}$ | $\mathbf{8 . 7 6}$ | None |
| MAT 613 | Functional <br> Analysis | $\mathbf{3}$ | $\mathbf{2 3 \%}$ | 8.76 | None |
| MAT 623 | Algebra (1) | $\mathbf{3}$ | $\mathbf{2 3 \%}$ | 8.76 | None |
| MAT 631 | Partial <br> Differential <br> Equations | $\mathbf{3}$ | $\mathbf{2 3 \%}$ | $\mathbf{8 . 7 6}$ | None |
| MAT 671 | Topology | $\mathbf{3}$ | $\mathbf{2 3 \%}$ | $\mathbf{8 . 7 6}$ | None |
| MAT 624 | Algebra (2) | $\mathbf{3}$ | $\mathbf{2 3 \%}$ | $\mathbf{8 . 7 6}$ | None |

## 3. Students Evaluation of Program Quality

| Evaluation Date: End of 3id Trimester 2022/2023 | Number of Participants: 537 |
| :---: | :---: |
| Students Feedback | Program Response |

Strengths:

- Most of the respondent students are None satisfied with the delivered courses.

| Areas of Improvement: | None |
| :--- | :--- |
| - None |  |
| Suggestions for improvement: | None |

## 4. Scientific research and innovation during the reporting year

| Activities Implemented | Number |
| :--- | :---: |
| Published scientific research | 394 |
| Current research projects | 9 |
| conferences organized by the program | $\mathbf{0}$ |
| Seminars held by the program | $\mathbf{4}$ |

Conferences attendees ..... 8
Seminars attendees ..... 64
Discussion and analysis of scientific research and innovation activities
Weakness of some research metrics due to weakness in the female section. However,an improvement has been done in this issue.

## 5. Community Partnership



Imam Mohammad Ibn Saud Islamic University organized a

Imam University blood donation campaign in cooperation with King Fahd Medical City
blood donation initiative, and it was launched on Sunday, $4 / 12 / 202$, for two weeks. Its employees, as well as its students, took the initiative to donate blood, which is a noble humanitarian act, as it contributes to saving the lives of thousands of patients who are in dire need of blood transfusions.

Extracurricular activities (Graduation Day)

Participation in National Day celebrations

Celebrating Foundation Day

The department participates in the graduation day organized by the university.

The department participated in National Day celebrations at the university and College of Science levels.

The department participated in the Foundation Day, which celebrates the foundation of the kingdom of Saudi Arabia, at the university and College of Science levels.

## Comment on community partnership activities**

Male Faculty, students, and administrative staff were more involved in these activities.
*including timing of implementation, number of participants, and outcomes.
**including overall evaluation of the program's performance in these activities (if any).

## 6. Other Evaluation (if any) None

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

| Evaluation method: | Date: | Number of Participants: |
| :--- | :--- | :--- |
| Summary of Evaluator Review |  | Program Response |
| Strengths: |  |  |
| Points for Improvements: |  |  |

Suggestions for development:
-
*Attach independent reviewer's report and stakeholders' survey reports (if any).

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## C. Program Key Performance Indicators (KPIs)

Including the key performance indicators required by the NCAAA.

| No | KPI | Targeted <br> Value | Actual <br> Value | Internal <br> Benchmark | Analysis |
| :---: | :---: | :---: | :---: | :---: | :---: | New Target

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| 10 | Ratio of students to faculty members | 2:1 | 2:1 | 2:1 | Good <br> Achievement | 2:1 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 11 | Percentage of faculty members' distribution based on academic ranking | 70\% Prof. <br> 30\% <br> Assoc. <br> Prof. | 75\% <br> Prof. <br> 25\% <br> Assoc. <br> Prof.. | 70\% Prof. <br> 30\% Assoc. <br> Prof. | Excellent Achievement | 70\% Prof. 30\% Assoc. Prof. |
| 12 | Proportion of faculty members leaving the program | 0.1 | 0.00 | 0.08 | Excellent Achievement | 0.1 |
| 13 | Satisfaction of beneficiaries with learning resources | 4.30 | 4.18/5 | 3.95/5 | Good <br> Achievement | 4.30 |
| 14 | Satisfaction of beneficiaries with research facilities and equipment | 4.20 | 4.10/5 | 2.50/5 | Needs improvement | 4.20 |
| 15 | Percentage of publications of faculty members | 70\% | 63\% | 61\% | Weakness in the female section | 50\% |
| 16 | Rate of published research per faculty member | 2.50 | 6.35 | 1.74 | Weakness in the female section | 2.5 |
| 17 | Citations rate in refereed journals per faculty member | 60 | 83 | 50 | Weakness in the female section | 60 |
| 18 | Percentage of students' publication | 5\% | 0\% | 9\% | Good Achievement (Usually, MSc students do not publish papers) | 5\% |
| 19 | Number of patents, innovative products, and | 0 | 0 | 1.00 | Patents in Mathematics are rare | 1.00 |



Weakness of some research metrics due to weakness in the female section
D. Challenges and difficulties encountered by the program (if any)

| Teaching | There is a need for more specialized faculty. |
| :--- | :--- |
| Assessment | None |
| Guidance and <br> counseling | None |
| Learning Resources | None |
| Faculty | Since many new programs (BSc Applied Statistics, PhD <br> Mathematics, BSc Actuarial Sciences and Financial <br> Mathematics) has been or will be implemented, the <br> teaching load per faculty has increased, and there is a <br> need to recruit more faculties. <br> There is a gap between male and female sections in the <br> research activities but we can see a great improvement <br> now through publications and promotions within female <br> faculties. |
| Research Activities | None |
| Others |  |

## E. Program development Plan

| No. | Priorities for Improvement | Actions | Action |
| :---: | :--- | :--- | :--- |
| 1 | Having more opportunities for <br> our students to continue their <br> studies | Implementing the PhD <br> in Mathematics <br> program | Head of Dept. |
| 2 | Attracting distinguished staff <br> for MSc program | Recruiting <br> distinguished teaching <br> staff to contribute to the <br> implementation of <br> graduate programs. | Head of Dept. |

Attach any unachieved improvement plans from previous report.

The annual program report needs to be discussed in department council

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| F. Approval of Annual Program Report |
| :--- |
| COUNCIL / <br> COMMITTEE DEPARTMENT COUNCIL |
| REFERENCE NO. |

