

QUALITY IMPROVEMENT REPORT AFTER STAKEHOLDER SATISFACTION SURVEY

FACULTY OF MATHEMATICS AND COMPUTER SCIENCE
SCHOOL YEAR 2023 - 2024

Report date: 20-05-2025

A. Survey results from relevant stakeholders (lecturers, students, alumni, and employers)

I. Assessment of lecturer satisfaction

Table 1: Lecturer satisfaction survey results.

Content	Number of responses	Number of ratings at satisfaction levels					Satisfied		Average score
		1	2	3	4	5	Quantity	%	
Training curriculum	37	0	0	3	19	15	34	91.89	4.32
Program learning outcomes	37	0	0	5	21	11	32	86.49	4.16
Administrative support at faculty level	37	0	2	4	17	14	31	83.78	4.16

The survey results indicate that lecturer satisfaction is consistently high across all evaluated aspects. Satisfaction with the training curriculum reached 91.89% with an average score of 4.32, reflecting strong alignment between the curriculum and lecturers' expectations. Satisfaction with program learning outcomes was slightly lower at 86.49% (average score 4.16), while satisfaction with administrative support at the faculty level reached 83.78% (average score 4.16). Overall, the results demonstrate a positive level of satisfaction among lecturers, with minor areas for improvement in administrative support and clarity of learning outcomes.

II. Assessment of employer satisfactions

Table 2: Employer satisfaction survey results.

Content	Number of responses	Number of ratings at satisfaction levels					Satisfied		Average score
		1	2	3	4	5	Quantity	%	
On professional knowledge	2	0	0	0	0	2	2	100	4.0
On adaptability to work	2	0	0	0	1	1	2	100	4.5
On responsibility and commitment	2	0	0	0	1	1	2	100	4.5

Content	Number of responses	Number of ratings at satisfaction levels					Satisfied		Average score
		1	2	3	4	5	Quantity	%	
On compliance with regulations	2	0	0	0	1	1	2	100	4.5
On foreign language skills	2	0	0	1	1	0	1	50	3.5
On IT skills	2	0	0	0	1	1	2	100	4.5
On teamwork skills	2	0	0	0	2	0	2	100	4.0
On problem-solving skills	2	0	0	1	1	0	1	50	3.5
Overall satisfaction with graduates	2	0	0	0	2	0	2	100	4.0

The employer satisfaction results indicate that overall satisfaction with graduates is high across most evaluated criteria. Employers rated professional knowledge, adaptability to work, responsibility, compliance with regulations, IT skills, and teamwork skills at 100% satisfaction, with average scores ranging from 4.0 to 4.5. However, two areas, foreign language skills and problem-solving skills, received significantly lower satisfaction levels at 50%, with average scores of 3.5. These results suggest that while graduates demonstrate strong professional competencies and positive work attitudes, further improvement is needed in foreign language proficiency and problem-solving capabilities to better meet employer expectations.

III. Assessment of alumni satisfaction

- **Employment status of graduates**

Table 3: Employment status of graduates.

Program	Total	Full-time employments		Self-employed		Part-time employments		Unemployed	
		Quantity	%	Quantity	%	Quantity	%	Quantity	%
Mathematics, AM and MCS*	153	108	70.59	4	2.61	18	11.76	23	15.03

* *Applied Mathematics (AM), Mathematics and Computer Science (MCS).*

- **Further studies after graduation**

Table 4: Further studies after graduation.

Program	Total	Continuing studies		Not continuing studies	
		Quantity	%	Quantity	%
Mathematics, AM and MCS	130	53	40.77	77	59.23

- **Situation of graduates who are unemployed**

Table 5: **Status of graduates without employment.**

Program	Total	Continuing studies		Not continuing studies	
		Quantity	%	Quantity	%
Mathematics, AM and MCS	23	13	56.52	10	43.48

Remark.

- The employment and further study outcomes of alumni from the Mathematics, Applied Mathematics, and Mathematics and Computer Science (MCS) programs indicate overall positive post-graduation performance. Among 153 surveyed graduates, 70.59% (108 graduates) reported securing full-time employment, demonstrating a strong employability rate for the programs. Additionally, 2.61% (4 graduates) were self-employed, while 11.76% (18 graduates) were working part-time. The proportion of graduates who were unemployed at the time of the survey was 15.03% (23 graduates), which remains within an acceptable range but indicates room for improvement in career support services.
- Regarding further studies, out of 130 graduates, 40.77% (53 graduates) pursued higher education, while 59.23% (77 graduates) did not continue their studies. This suggests that although a considerable number of graduates seek advanced academic pathways, the majority enter the workforce directly, reflecting the programs' alignment with labor market demands.
- For the subgroup of graduates who were unemployed (23 individuals), 56.52% (13 graduates) continued their studies, while 43.48% (10 graduates) did not. This pattern indicates that further education may serve as an alternative pathway for graduates who have not yet secured employment, highlighting the importance of academic advising and career orientation.
- Overall, the data suggest that the Mathematics-related programs maintain a high full-time employment rate, a reasonable proportion of graduates pursuing further studies, and a relatively low unemployment rate. However, the Faculty should continue strengthening career support, industry partnership, and employability training to further reduce the percentage of unemployed graduates and enhance student outcomes after graduation.

IV. Evaluation of Student Satisfaction

Semester II, Academic Year 2023–2024

This section presents the results of student satisfaction surveys regarding lecturers' teaching performance. The data are categorized into two groups: theoretical courses and practical courses. Satisfaction levels were collected using a five-point Likert scale, and summary statistics include the number of satisfied responses and the average satisfaction score for each course group managed by the faculty.

- **Assessment results of instructors teaching the course**

Table 6: Student satisfaction regarding lecturers of theoretical courses.

Program	Total	Number of ratings at satisfaction levels					Satisfied		Average score
		1	2	3	4	5	Quantity	%	
Data Science	1,452	27	33	161	349	882	1,231	84.78	4.40
Maths, AM and MCS	4,366	70	80	413	990	2,813	3,803	87.10	4.46

Table 7: Student satisfaction regarding lecturers of practical courses

Program	Total	Number of ratings at satisfaction levels					Satisfied		Average score
		1	2	3	4	5	Quantity	%	
Data Science	255	23	14	26	41	151	192	75.29	4.11
Maths, AM and MCS	48	1	3	3	13	31	44	91.67	4.52

- **Assessment results of the course**

Table 8: Student satisfaction regarding theoretical courses.

Program	Total	Number of ratings at satisfaction levels					Satisfied		Average score
		1	2	3	4	5	Quantity	%	
Data Science	1,452	21	33	152	354	892	1,246	85.81	4.42
Maths, AM and MCS	4,366	69	63	430	1,012	2,792	3,804	87.13	4.46

Table 9: Student satisfaction regarding practical courses.

Program	Total	Number of ratings at satisfaction levels					Satisfied		Average score
		1	2	3	4	5	Quantity	%	
Data Science	255	19	9	25	39	163	202	79.22	4.25
Maths, AM and MCS	48	0	0	3	13	32	45	93.75	4.60

● **Evaluation of satisfaction with course learning outcomes**

Table 10: Evaluation of satisfaction with course learning outcomes regarding theoretical courses.

Program	Total	Number of ratings at satisfaction levels					Satisfied		Average score
		1	2	3	4	5	Quantity	%	
Data Science	1,452	17	40	154	347	894	1,241	85.47	4.42
Maths, AM and MCS	4,366	72	83	470	1,014	2,727	3,741	85.68	4.43

Table 11: Evaluation of satisfaction with course learning outcomes regarding practical courses.

Program	Total	Number of ratings at satisfaction levels					Satisfied		Average score
		1	2	3	4	5	Quantity	%	
Data Science	255	18	10	30	46	151	197	77.25	4.18
Maths, AM and MCS	48	1	0	3	14	30	44	91.67	4.5

Semester I, Academic Year 2024–2025

- **Assessment results of instructors teaching the course**

Table 12: Student satisfaction regarding lecturers of theoretical courses.

Program	Total	Number of ratings at satisfaction levels					Satisfied		Average score
		1	2	3	4	5	Quantity	%	
Data Science	1,863	20	26	166	378	1,273	1,651	88.62	4.53
Maths, AM and MCS	4,392	83	61	317	945	2,986	3,931	89.50	4.52

Table 13: Student satisfaction regarding lecturers of practical courses.

Program	Total	Number of ratings at satisfaction levels					Satisfied		Average score
		1	2	3	4	5	Quantity	%	
Data Science	176	2	3	14	36	121	157	89.20	4.54
Maths, AM and MCS	569	14	5	28	109	413	522	91.74	4.59

- **Assessment results of the course**

Table 14: Student satisfaction regarding theoretical courses.

Program	Total	Number of ratings at satisfaction levels					Satisfied		Average score
		1	2	3	4	5	Quantity	%	
Data Science	1,863	19	27	176	411	1,230	1,641	88.08	4.51
Maths, AM and MCS	4,392	86	62	336	1,016	2,892	3,908	88.98	4.49

Table 15: Student satisfaction regarding practical courses.

Program	Total	Number of ratings at satisfaction levels					Satisfied		Average score
		1	2	3	4	5	Quantity	%	
Data Science	176	0	2	17	31	126	157	89.20	4.60
Maths, AM and MCS	569	9	6	24	124	406	530	93.15	4.60

● **Evaluation of satisfaction with course learning outcomes**

Table 16: Evaluation of satisfaction with course learning outcomes regarding theoretical courses.

Program	Total	Number of ratings at satisfaction levels					Satisfied		Average score
		1	2	3	4	5	Quantity	%	
Data Science	1,863	24	30	182	426	1,201	1,627	87.33	4.48
Maths, AM and MCS	4,392	81	83	411	1,015	2,802	3,817	86.91	4.45

Table 17: Evaluation of satisfaction with course learning outcomes regarding practical courses.

Program	Total	Number of ratings at satisfaction levels					Satisfied		Average score
		1	2	3	4	5	Quantity	%	
Data Science	176	0	1	14	38	123	161	91.48	4.61
Maths, AM and MCS	569	11	5	35	118	400	518	91.04	4.57

Remark.

Strengths

- The quality of the training program is good, as reflected by the lecturer satisfaction rate of 91.89% with an average score of 4.32. The satisfaction rate from employers in recruitment reached 100% for all evaluation criteria except for two indicators: foreign language proficiency and problem-solving skills, both of which reached only 50%. However, it should be noted that the number of employers responding to the survey was only two, so further surveys may be needed to ensure the reliability of the evaluation results. In addition, the employment rate of alumni is relatively high, accounting for 82.35% (126 out of 153 surveyed alumni).
- The teaching quality of the faculty is good, and the lecturers demonstrate a high level of professional expertise.

Areas for Improvement

- Most of the students' negative comments relate to inadequate facilities (wifi, equipment, seating, fans, parking, green spaces, drinking water, restrooms, etc.). These issues fall under the responsibility of the University and the Facilities Management Office.
- Based on employer feedback, it is necessary to enhance the training of soft skills and foreign language proficiency for students.

- The satisfaction rate for practical courses in the Data Science program remains below 80%. This is an area the Faculty needs to pay attention to in order to improve the quality of practical teaching.

B. Quality Improvement Plan

B.1. Implemented Actions

- The Faculty is conducting accreditation following the ASIIN standards for the Applied Mathematics, Mathematics and Computer Science, and Data Science programs.
- The Faculty proactively opens training classes for the second TOEIC skill set (speaking and writing) to support and strengthen students' foreign language abilities, ensuring that students meet the required English output standards upon graduation.
- The Faculty has added new courses such as Entrepreneurship (taught by lecturers from the Interdisciplinary Faculty) to help equip students with soft skills.
- The Faculty actively collaborates with businesses to create internship and job opportunities for students.
- Gradually standardizing and developing a quality assurance system at the Faculty (procedures for working, data storage, information management, etc.).
- Developing a long-term plan to restructure elective courses from the academic year 2024–2025 onward, aiming to optimize teaching assignments and ensure that lecturers have sufficient time and conditions to deliver preferred courses effectively.
- Creating specialization maps and designing summarized course handbooks so that students have more complete information about the curriculum and major orientation.

B.2. Planned Actions

- Review and update the curriculum of the Data Science program for the academic years 2024–2025.
- Review and update all course syllabi of every program under the Faculty's management.
- Improve procedures and tasks related to quality assurance within the Faculty.
- Finalize the process for conducting specialized seminars, senior projects, and graduation theses.
- Implement policies to regulate student enrollment quotas for each major under the Mathematics cluster (Mathematics, Applied Mathematics, Mathematics and Computer Science) to rebalance training capacity, ensure teaching quality, and guide students toward senior projects, graduation theses, specialized seminars, and career pathways that suit their academic strengths and interests.

C. Recommendations and Proposals

- Improve facilities (classrooms, equipment, etc.) to support lecturers and students in teaching and learning activities.
- The University should develop an information management system that allows the Faculty Board, Academic Affairs Office, and Student Advisors to access information on student learning progress by individual student, class, and cohort; thereby enabling the Faculty Board to proactively evaluate training and teaching quality.
- Provide financial support for the process of updating course syllabi.
- Propose that the University allow the recruitment of teaching assistants to support tutorial and practical teaching activities.