2025

Universitas Syiah Kuala

Darussalam – Banda Aceh

REPORT

Tracer Study Survey Results
Master in Mathematics
Study Program

Compiled by :
TPMA Team of Master in Mathematics Study Program

FACULTY OF MATHEMATICS AND NATURAL SCIENCES

APPROVAL PAGE

Tracer Study Survey Report

Study Program: Master in Mathematics

Academic Year: 2024/2025

Darussalam, June 30, 2025

Acknowledged by,
Head of Study Program

Dr. Dra. Intan Syahrini, M.Si.
NIP : 196409081991022001

FOREWORD

Assalamu'alaikum warahmatullahi wabarakaatuh,

Praise be to Allah SWT, the Almighty God, for all blessings and ease granted in carrying out various activities and responsibilities. The implementation of the Teaching and Learning Process (PBM) every semester in the Master of Mathematics Study Program, particularly in the Even Semester of Academic Year 2023/2024, must continue to be improved through various efforts.

The purpose of compiling the Tracer Study Report of the Master of Mathematics Program in the Odd/Even Semester of Academic Year 2024/2025 is to obtain feedback from alumni. This tracer study serves as one of the methods used by the Master of Mathematics Program to gather feedback from graduates. Such feedback is crucial for the program in improving and developing the quality and system of education.

This feedback is also beneficial in mapping the workforce and industry, so that the gap between the competencies gained during graduate study and the demands of the job market can be minimized. The results are expected to be followed up and reported through the Internal Quality Audit XV in 2025. To support this effort, alumni were involved by completing an online questionnaire using a link in accordance with the Internal Quality Assurance System (SPMI) standard document of Universitas Syiah Kuala (USK), provided by the Faculty Quality Assurance Unit (SJMF) of FMIPA.

With the completion of this report, we would like to express our gratitude to all parties who have participated in the survey. We hope this report will be followed up for future improvement of similar activities.

Thank you for your attention.

Darussalam, June 30, 2025
Head of Academic Quality
Control Team (TPMA)
Master of Mathematics Study
Program, FMIPA USK

Dr. Siti Rusdiana, M.Eng
Nip. 196309101990022001

Table of Contents

Page

1. Introduction

A tracer study is a method used to monitor and evaluate the career development and current status of graduates from a higher education institution. In other words, a tracer study functions as a performance evaluation tool for universities based on Key Performance Indicators (IKU).

Additionally, the distributed questionnaire provides an assessment of how many graduates obtain decent and relevant employment aligned with the curriculum taught during their study. In summary, this tracer study enables the university to continuously monitor alumni after graduation.

Through completing the tracer study, graduates of the Master of Mathematics Study Program can share their experience regarding the implementation of learning during their study. The results enable the program to evaluate the relevance between the curriculum and labor market needs. Therefore, the collected data may be used for future strategic planning.

Collaboration between the business world and industry (DUDI) and universities is one of the issues being discussed at present. It is expected that collaboration will become more accessible through alumni networking. This also opens greater opportunities for students to participate in internships or secure employment.

2. Purpose of the Survey

The Tracer Study aims to identify education outcomes in the Master of Mathematics Program at FMIPA USK in terms of the transition from higher education to the workforce and industry, educational output in the form of competency mastery, evaluation of the learning process, and the contribution of higher education towards competency development, as well as further investigation of graduate information. .

The tracer study is conducted to obtain the following benefits:

- As a database of alumni and graduate users classified by Study Program and cohort year;
- As important input/information for higher education development;
- As an evaluation tool to determine the relevance between higher education and

the workforce or industry;

- As a reference for curriculum improvement;
- As a basis for establishing alumni networking.

3. Survey Data Processing Method

3.1. Data Processing Method

The data processing method used in this study is descriptive statistical analysis. In this technique, satisfaction data are measured. The questionnaire used is a closed-format questionnaire, meaning that the list of questions has predetermined answer options, such as yes/no and other structured response formats.

3.2. Survey Implementation

The Tracer Study for Master of Mathematics alumni was conducted in early September 2025. A total of 7 respondents from the 2023/2024 cohort and 14 respondents from the 2024/2025 cohort completed the survey instrument. Submitted questionnaires were verified by the survey team. Incomplete questionnaires were excluded from data analysis. The survey team then analyzed the collected data and presented the results in descriptive statistical form.

3.3. Survey Technique

Survey data were entered into a working sheet and subsequently recapitulated to obtain analytical results in the form of satisfaction and dissatisfaction descriptions. After generating the descriptive results, the final report was prepared and enriched with graphical illustrations of the survey findings.

The tracer survey was carried out through the following stages: planning, preparation, implementation, processing, and presentation of survey results, including the following steps:

- Preparing the survey instrument;
- Determining the sampling technique and size;
- Identifying respondents;
- Conducting the survey;

- Processing survey results;
- Presenting and reporting findings.

This survey was conducted using the following questionnaire items:

(Q1)	Are you currently employed?
(Q2)	If not, are you pursuing further studies?
(Q3)	If employed, where do you work?
(Q4)	What is your field of work?
(Q5)	What is your current job position/title?
(Q6)	What is your average monthly income (Take-home pay, including bonuses, incentives, etc.)?
(Q7)	Is your current job relevant to your educational background?
(Q8)	Have you worked previously?
(Q9)	How many times have you changed employment?
(Q10)	What was the reason for changing employment?
(Q11)	Where did you work for the first time?
(Q12)	If self-employed, briefly describe your business.
(Q13)	What was your last position in your first employment?
(Q14)	How long did it take you to get your first job after graduation?
(Q15)	What was your first salary?

4. Tracer Study Survey Results

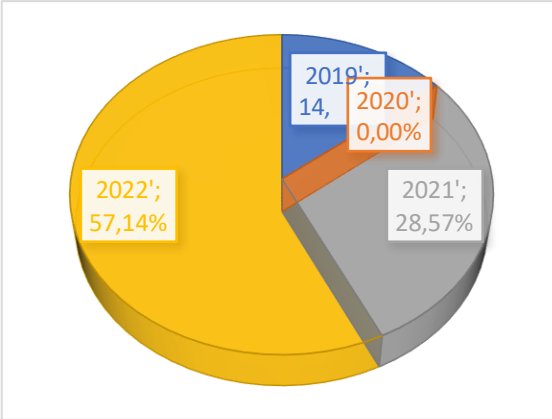
4.1. Respondent Profile

The data used in this report were collected from an online questionnaire distributed to respondents. Respondent classification was based on year of entry into the Master of Mathematics Program FMIPA–USK, year of graduation, type of employment, address, phone number, active email, employment status, workplace, job field, income level, relevance of employment to academic background, and other relevant information.

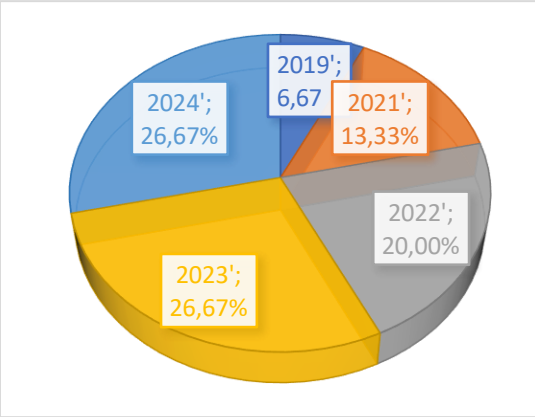
4.2. Data Analysis

The tracer study for the Master of Mathematics Program provides insight into how alumni perceive the learning implementation during their studies. Through this survey, the program can evaluate the relevance of its curriculum to the labor market. The collected data may therefore be utilized for future strategic planning.

Table 1. Intake Year of Graduates, Master of Mathematics Program FMIPA USK

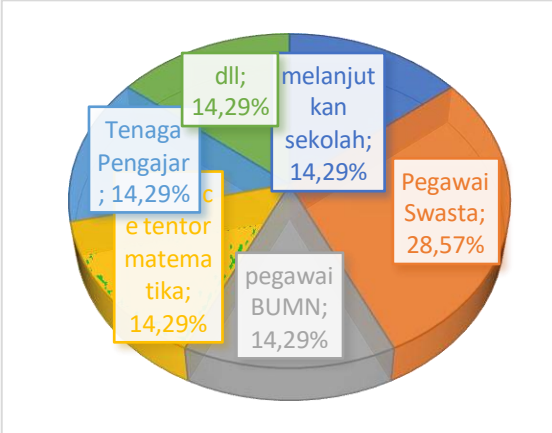


Graduates of Period 2023/2024

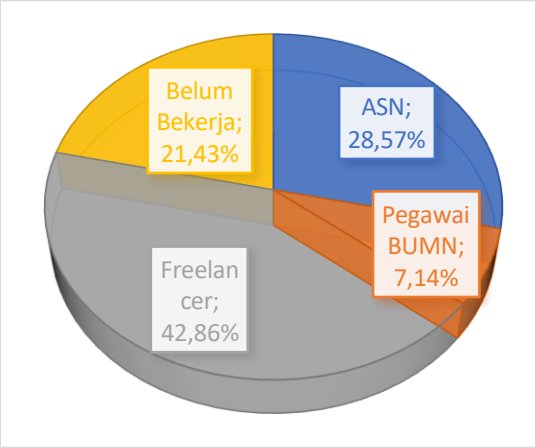


Graduates of Period 2024/2025

Table 2. Employment of Graduates



Graduates of Period 2023/2024

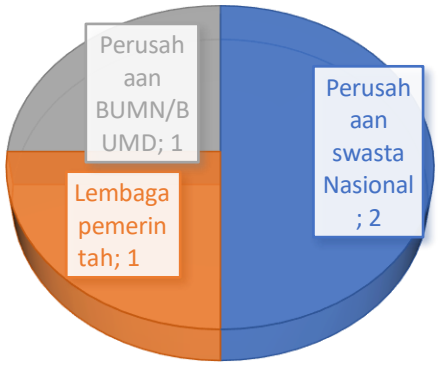


Graduates of Period 2024/2025

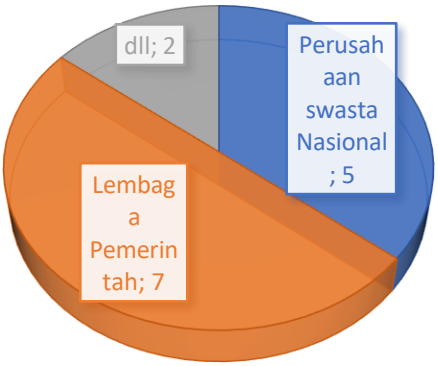
Based on Table 2, it is known that among graduates of 2023/2024, 14.29% of respondents work as employees of state-owned enterprises (BUMN), teaching staff, freelance mathematics tutors, or are pursuing further study. Meanwhile, 28.57% work in private companies. In contrast, among graduates of 2024/2025, 28.57% are civil servants (ASN), 7.14% are BUMN employees, 42% work as freelancers (such as

institutional tutors or UTBK preparation instructors), and the remaining respondents are currently unemployed.

Table 3. Workplace Type of Graduates



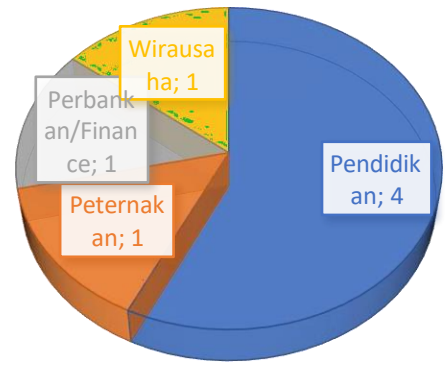
Graduates of Period 2023/2024



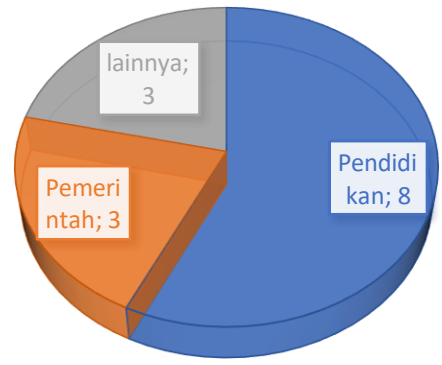
Graduates of Period 2024/2025

Based on Table 3, among the 7 respondents who graduated in 2023/2024, 1 respondent works in a state-owned company, 1 respondent works in a government institution, 2 respondents work in a national private company, and the rest are not yet employed (and plan to continue their studies). Meanwhile, for graduates of 2024/2025, among 14 respondents, 7 work in government institutions, 5 work in private companies, and the remaining respondents are not yet employed (and plan to continue their studies).

Table 4. Job Sectors of Graduates



Graduates of Period 2023/2024

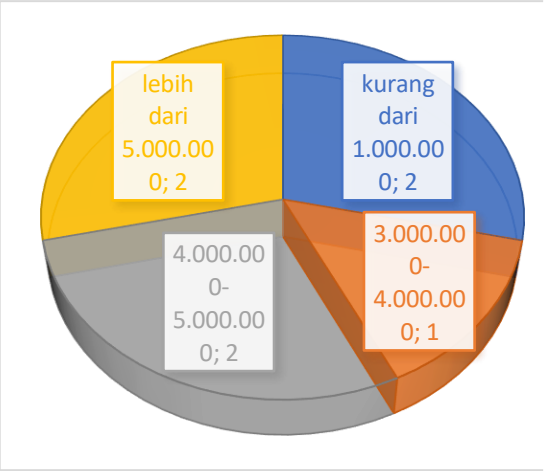


Graduates of Period 2024/2025

Based on Table 4, among the 7 respondents from the 2023/2024 cohort, 1 works in entrepreneurship, 1 in livestock business, 1 in banking, and the remaining respondents work in education. Meanwhile, among the 14 respondents of 2024/2025, 8 work in

education, 3 work in government sectors, and 3 work in other fields.

Table 5. Income of Graduates

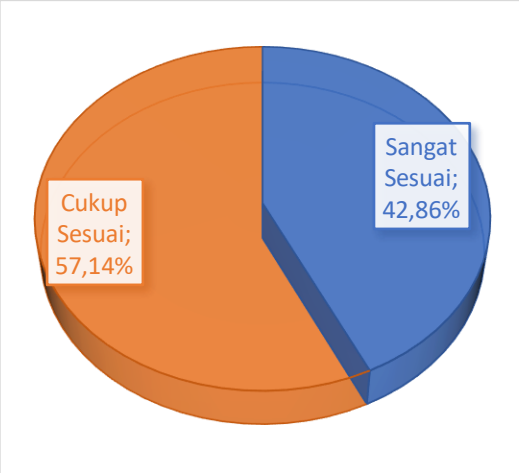


Graduates of Period 2023/2024

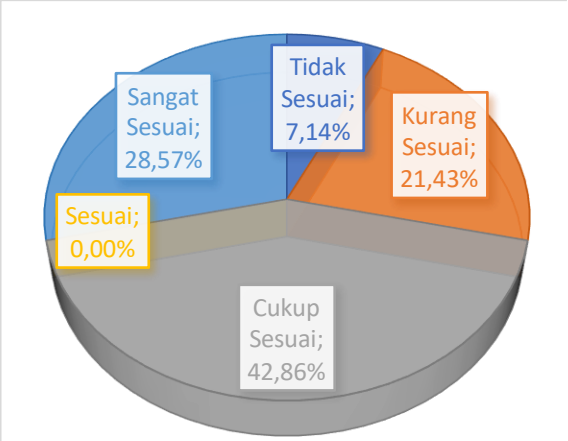
Graduates of Period 2024/2025

Based on Table 5, among the 7 respondents who graduated in 2023/2024, 2 earn less than Rp1,000,000 per month, 1 earns Rp3,000,000–Rp4,000,000, 2 earn Rp4,000,000–Rp5,000,000, and 2 respondents earn more than Rp5,000,000. Meanwhile, among the 14 respondents of 2024/2025, 3 earn less than Rp1,000,000, 3 earn Rp1,000,000–Rp2,000,000, 3 earn Rp2,000,000–Rp3,000,000, 2 earn Rp3,000,000–Rp4,000,000, 2 earn Rp4,000,000–Rp5,000,000, and 1 respondent earns more than Rp5,000,000.

Table 6. Job Relevance to Educational Background



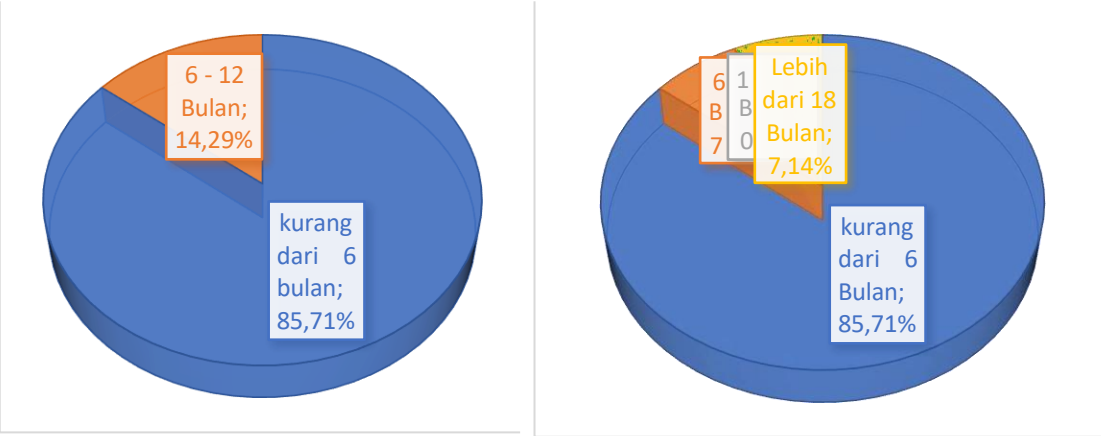
Graduates of Period 2023/2024



Graduates of Period 2024/2025

Based on Table 6, among the 7 respondents from 2023/2024, 57.14% reported that their job was fairly relevant to their academic background, while the remaining respondents stated it was very relevant. Meanwhile, among the 14 respondents from 2024/2025, 7.14% reported no relevance between their current job and educational background, 21.43% reported low relevance, 42.86% reported moderate relevance, and 28.57% stated very high relevance.

Table 7. Waiting Time to Obtain First Job After Graduation



Graduates of Period 2023/2024 Graduates of Period 2024/2025

Based on Table 7, among the 7 respondents from the 2023/2024 cohort, 85.71% obtained their first job within less than six months after graduation, while 14.29% found employment within 6–12 months. Meanwhile, among the 14 respondents from 2024/2025, 85.71% obtained their first job within less than six months, 7.14% within 6–12 months, and 7.14% after more than 18 months.

5. Follow-Up Plan

Based on the tracer study results of alumni of the Master of Mathematics Study Program FMIPA Universitas Syiah Kuala academic years 2023/2024 and 2024/2025, several important findings were identified regarding job relevance, waiting time for employment, and the alignment of curriculum with labor market needs. To address these findings, the following strategic actions are proposed:

a. Curriculum Strengthening and Evaluation

The study program will evaluate and improve its curriculum to ensure alignment

with market demands and scientific development. This process will involve faculty members, alumni, and employers to ensure that learning outcomes match workplace competency needs. Planned actions include:

- Organizing periodic curriculum evaluation workshops;
- Adding applied subject content such as data analysis, programming, and risk modeling;
- Integrating soft skills and entrepreneurial mindset into teaching activities.

b. Alumni Network Development and Integrated Database

The tracer study indicates the importance of strong alumni engagement for feedback and employment access for new graduates. Therefore, the program will establish a structured alumni networking system through actions such as:

- Developing and regularly updating a digital alumni database;
- Establishing a Master of Mathematics Alumni Forum for communication, collaboration, and mentoring;
- Conducting periodic alumni gatherings to strengthen relationships and build partnerships.

c. Enhancing Cooperation with the Business and Industrial Sectors

The results show most graduates are employed in education and government sectors, while opportunities in industry and private sectors remain underdeveloped. Planned actions include:

- Establishing MoUs with government agencies, private industries, and state-owned enterprises to support internships, research, and recruitment;
- Inviting industry practitioners as guest lecturers or seminar speakers;
- Developing joint applied research and project collaborations.

d. Improving Student Competency and Career Preparedness

To enhance graduate competitiveness, the program will provide additional professional and technical training aligned with labor market demands, including:

- Workshops on data analysis using R, Python, MATLAB, and SPSS;
- Training in proposal writing, professional communication, and interview

preparation;

- Career talk sessions involving alumni and employer partners.

e. Regular and Systematic Implementation of Tracer Study

To ensure sustainable improvement, tracer studies will be institutionalized as part of the internal quality assurance cycle. Planned steps include:

- Conducting tracer studies annually with an integrated online survey system;
- Using results to inform curriculum review and Internal Quality Audit (AMI) reporting;
- Documenting tracer study reports for accreditation and institutional development purposes.

6. Conclusion and Recommendations

6.1. Conclusion

Based on the tracer study results for graduates of academic years 2023/2024 and 2024/2025, it can be concluded that most alumni are currently employed and obtained their first job within less than six months after graduation. Most graduates work in education, government, and private sectors, with income levels ranging from below Rp1,000,000 to above Rp5,000,000 per month.

Most respondents stated that their current job is moderately aligned with the academic background obtained during their studies, indicating that program competencies are relevant to labor market expectations, although a small proportion reported limited relevance.

These findings demonstrate that the Master of Mathematics Program has produced graduates with competitive skills and strong adaptability. However, further strengthening of partnerships with industry and employer institutions is still needed to enhance curriculum relevance.

6.2. Recommendations

Based on the survey results, several recommendations are proposed:

1. Curriculum evaluation should be conducted regularly to increase alignment with workplace competencies.
2. The study program is encouraged to strengthen collaboration with government institutions, industries, and private organizations.
3. A comprehensive alumni database should be developed to facilitate career tracking and networking.
4. Additional competency development programs should be provided to improve student readiness for employment.
5. Tracer studies should be conducted annually as part of ongoing evaluation and quality improvement of the study program.