Kingdom of Saudi Arabia Ministry of Education Jazan University
Faculty of Science Department of Mathematics

الملكة العربيـة السووليـة

# The Department of Mathematics 



## 2020-2025

# College of Science, Jazan University 

Kingdom of Saudi Arabia Ministry of Education
 Jazan University Faculty of Science Department of Mathematics


الملكة العريبـة السووليـة وزارةالتقليم

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## Introduction:

The Department of Mathematics, College of Science, Jazan University is eager to build a strategy of sustainable development based on the concerned college's strategic plan (2020-2025) to fulfill the needs of the surrounding society as well as the labor market in the Jazan province. The present strategic plan created in accordance with the College of Science's strategic plan, which is in line with that of the strategic objectives of Jazan University's strategic plan (2020-2025) in the light of the Kingdom of Saudi Arabia's vision (2030) as well as the Ministry of Higher Education's strategic plan and with the requirements of the National Center for Academic Accreditation and Assessment (NCAAA) and the University System in Saudi Arabia.

## About the Department of Mathematics:

The Department of Mathematics Degree at the College of Science, Jazan University was established in 2006 after the approval letter from the Ministry of Higher Education on $08-08-1426 \mathrm{H}$ (12-09-2005AD). A Bachelor of Science (B. Sc.) degree in Mathematics is awarded by the Department of Mathematics. The Department of Mathematics started offering a Master's degree in Mathematics since 2018. The Department seeks continuous development and improvement in teaching, scientific research and community services.

The Department of Mathematics takes the responsibility of Mathematics courses required by other programs of the College of Science such as, Chemistry, Physics, and Biology. The Departments also teach Mathematics, and Statistics courses at the Computer Science, Engineering, Pharmacy, and Management Colleges.

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A glimpse of the Mathematics Department through snapshots:


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Organization Structure of Mathematics Department with Various Committees:
 Jazan University

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## Strategic plan development methodology:

Proceeding from the Kingdom's vision 2030, the plan of the Ministry of Higher Education and the university system and the results achieved from the strategic plan of Jazan University 2015-2020 in anticipation of the reality of university education in the Jazan region, the Department of Mathematics was keen interested to prepare its strategic plan 2020-2025, which keeps pace with the changes in higher education and the labor market's need for manpower in current and future stage and reviewing the Department's vision, mission and values, whereby the Balanced Scorecard methodology was followed as an effective system and a unified framework for strategic planning and performance management in line with the university's strategic plan (2020-2025).

The strategic plan of the Mathematics Department is based on the four strategic directions from four perspectives that include ten strategic objectives that are measured through 43 key performance indicators (KPIs).

## Strategic direction:

The Department's vision and mission have been written in a way that reflects the Department's ambition, as well as the development of strategic goals and initiatives to carry out the vision and mission.

Vision of Mathematics Department:
To achieve Excellences in various fields of Mathematics to meet competitiveness at the regional and the national levels of the Kingdom of Saudi Arabia through teaching, scientific research and community services.

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## Mission of Mathematics Department:

## Produce qualified graduates in mathematics and motivate for

 scientific research to enrich and serve the surrounding society in light of the vision of the Kingdom of Saudi Arabia 2030.
## Values of Mathematics Department:

Commitment to the university and college's recognized organizational values, which stem from the teachings of our religion and our established values and culture, in accordance with the college's strategic plan and striving to consolidate its concepts among the students and employees, as exemplified by the following:

| Citizenship: | Cherishing national identity and realize social <br> responsibility |
| :--- | :--- |
| Affiliation: | A sense of commitment and initiative towards the goals <br> and objectives of the Department. |
| Responsibility: | Adherence to ethical standards and professional values. |
| Excellence: | Application of standard practices and provision of <br> quality services. |
| Building <br> Capacity: | Investing in Human Capital |
| Teamwork: | Devoting the principle of cooperation and work with <br> team-spirit. |

The strategic direction was established in accordance with the college's strategic plan, which is as follows:

1- Quality of teaching and learning.
2- Research efficiency and innovation.
3- The effectiveness of community participation.
4- Entrepreneurship and development

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In order to develop the Department strategic plan, the balanced score card of Mathematics Department (shown on page-9) was used in accordance with the College of Science and Jazan University methodologies, which include the following four perspectives:

First perspective: Institutional Capacity, It contains the following strategic objectives:

1. Providing a comprehensive and perfect education based on the Department's facilities and services.
2. Benefit from the College's information technology infrastructure and enhance it in the Department.
3. Activate and finalize the annual strategy plan for the Department.
4. Improving the competencies of the Department's human resources.

Second perspective: Internal operations which includes the following strategic objectives:
5. Providing a high-quality academic curriculum as well as a comprehensive and outstanding education based on modern educational methodologies.
6. Encourage faculty and students to participate in creative and multidisciplinary mathematics research.
Third perspective: Resources that includes the following strategic objectives:
7. Activating and strengthening the Department's educational, research, and training collaborations.
Fourth Perspective: The Beneficiaries which include the following strategic objectives:
8. Improving and developing the learning outcomes of the program, as well as the abilities of faculty and students.
9. Improving the graduates' efficiency in the Department.
10. Developing the Department's role in community service.

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## Balanced Scorecard for Mathematics Department

| Vision | To achieve Excellences in various fields of Mathematics to meet competitiveness at the regional and the national levels of the <br> Kingdom of Saudi Arabia through teaching, scientific research and community services. |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :---: | :---: |
| Mission | Produce qualified graduates in mathematics and motivate for scientific research to enrich and serve the surrounding society <br> in light of the vision of the Kingdom of Saudi Arabia 2030. |  |  |  |  |  |
| Strategic <br> directions | Quality of teaching and learning | Research and innovation <br> efficiency | The effectiveness of <br> community participation | Entrepreneurship <br> development |  |  |
| Strategic results | A competent graduate and a <br> competitor in the labor market | A supportive and stimulating environment <br> that enhances the efficiency of research and <br> scientific publishing | Effective community partnerships | Diversify sources of income to <br> achieve financial sustainability |  |  |


| Strategic Goals |  | Performance indicators | Initiatives |
| :---: | :---: | :---: | :---: |
| Beneficiaries |  | 16 | 20 |
| Resources | Activating and strengthening the department's educational, research, and training | 2 | 3 |
| Internal Operations |  | 17 | 16 |
| Institutional Capacity |  | 11 | 11 |
| Values | Citizenship, belonging, responsibility, excellence, capacity building, | teamwork |  |

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## Strategic goals:

The strategic plan for the department of Mathematics outlines ten strategic goals for achieving the desired vision and mission. Key Performance Indicators are followed to monitor the performance. The department aims to achieve the following goals by 2025 :

| Perspective 1 | Institutional Capacity |  |  |  |  |
| :--- | :--- | :--- | :--- | :---: | :---: |
| Target: 1 | Providing a comprehensive and perfect education based on the Department's facilities and services |  |  |  |  |
| Target Code | SCI 01 01 |  |  |  |  |
| The Description | This goal is to develop the services provided within the educational environment and optimum utilization of the facilities <br> and services in the department. To provide other facilities in order to meet the standard of the quality education. Providing <br> suitable reading rooms for students and offices for faculty members and staff in the department. And, also provide academic <br> facilities such as laboratories, classrooms and other essential resources for student's activities. |  |  |  |  |
| Strategic Alignment |  |  |  |  |  |
| College Goals |  |  |  |  | University Goals |
| Providing a comprehensive and perfect <br> education based on the Department's facilities <br> and services | Provide comprehensive and optimal education based <br> on the Faculty's facilities and services | Infrastructure development |  |  |  |


| KPI's | Key Strategic Initiative |
| :--- | :---: |
| 1- The percentage of occupation of classrooms and laboratories | 1. Classrooms and laboratories management plan |



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| Perspective: 1 | Institutional Capacity |  |  |
| :--- | :--- | :--- | :--- |
| Target: 2 | Benefit from the College's information technology infrastructure and enhance it in the Department. |  |  |
| Target Code | SCI 02/ MATH 02 |  |  |


| KPI's | Key Strategic Initiative |
| :---: | :--- |
| 4. Percentage of curricula and programs for which a digital version of |  |
| their content has been created |  | | 4. Providing courses and curricula on the Blackboard platform and |
| :--- |
| its complete activation. |


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| Perspective: 1 | Institutional Capacity |  |  |
| :---: | :---: | :---: | :---: |
| Target: 3 | Activate and finalize the annual strategy plan for the Department |  |  |
| Target Code | SCI 03/ MATH 03 |  |  |
| The Description | This goal seeks to reach the Department achievements in its strategic plan. |  |  |
| Strategic Alignment |  |  |  |
| Department Goals |  | College Goals | University Goals |
| Activate and finalize the annual strategy plan for the Department |  | Verifying the completion of the Faculty's annual plans and its governance. | Developing university governance |

KP|'s
7. Percentage of achieved from the objective indicators in the strategic plan of Mathematics

## Key Strategic Initiative

6. Follow up on the implementation of the strategic plan

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| Perspective: 1 | Institutional Capacity |  |  |
| :---: | :---: | :---: | :---: |
| Target: 4 | Improving the competencies of the Department's human resources |  |  |
| Target Code | SCI 04/ MATH 04 |  |  |
| The Description | This goal is concerned with raising the level of academic competence of faculty members and developing the administrative staff. |  |  |
| Strategic Alignment |  |  |  |
| Department Goals |  | College Goals | University Goals |
| Improving the competencies of the Department's human resources |  | Improving the capabilities of human resources in the college | Improving human capabilities |


| KPI's | Initiatives |
| :--- | :--- |
| 8. Average number of professional development hours <br> completed by faculty members. | 7. Workshop implementation and execution in the Department. |
| 年 Motivating teaching staff to attend training and workshops according to |  |
| the training and development needs. |  |

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| Perspective: 2 | Internal Operations |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Target: 5 | Providing a high-quality academic curriculum as well as a comprehensive and outstanding education based on modern educational methodologies. |  |  |  |
| Target Code | SCI 05/ MATH 05 |  |  |  |
| The Description | This goal concentrates on the development of academic programs by improving teaching and learning methods in accordance with modern methods based on the use of student-centered strategies, developing complex skills such as critical thinking, understanding, discussion, analysis, conclusion and working to develop traditional evaluation methods in accordance with modern skills and acquired competencies |  |  |  |
| Strategic Alignment |  |  |  |  |
| Department Goals |  | College Goals |  | University Goals |
| Providing a high as a comprehen on modern educ | -quality academic curriculum as well ve and outstanding education based ional methodologies | Providing high-quality academic programs and provide a comprehensive and optimal education based on modern educational strategies. |  | Improving academic programs |
| KPI's |  |  | Initiatives |  |
| 12. Percentage of accredited academic programs |  |  | 12. Program development to obtain program accreditation |  |
| 13.Percentage of outstanding students with a GPA of 4.5 in relation to the total number of students |  |  | 13. Development of teaching aids in the program <br> 14. Develop policies for dealing with low-grade students |  |
| 14. The percentage of graduation within the specified period |  |  |  |  |
| 15. The number of students who get $60 \%$ in each learning exit PLO |  |  |  |  |
| 16. The dropout rate of students after the first year |  |  |  |  |
| 17. Student drop-out rate from academic programs |  |  |  |  |
| 18. First-year student retention rate |  |  |  |  |
| 19. Students to faculty ratio |  |  | 15. Adjusting the ratio between students and faculty members to reach the ideal target ratios for the program |  |
| 20.Percentage of graduates with jobs |  |  | 16. Providing courses for graduates and keep a direct contact with them. <br> 17. Develop plans and curricula for the program to raise the level of learning outcomes |  |

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21. Percentage of faculty members holding a doctorate degree
22. Percentage of passing standard and professional exams
18. Attracting distinguished members to join the program
19. Increasing the scholarship
20. Preparing courses and workshops to prepare students for standardized tests

| Perspective: 2 | Internal Operations |  |  |
| :---: | :---: | :---: | :---: |
| Target: 6 | Encourage faculty and students to participate in creative and multidisciplinary mathematics research |  |  |
| Target Code | SCI 06/ MATH 06 |  |  |
| The Description | This goal seeks to encourage faculty and students to participate in creative and multidisciplinary mathematics research. |  |  |
| Strategic Alignment |  |  |  |
| Department Goals |  | College Goals | University Goals |
| $\begin{array}{r} \text { Encourage } \\ \text { partici } \\ \text { multidiscipli } \end{array}$ | aculty and students to te in creative and <br> y mathematics research | Encouraging faculty members and students and engaging them in innovative and interdisciplinary research. | Increase support for scientific research and innovation |


| KPl's | Initiatives |
| :--- | :--- |
| 23.Percentage of scientific publication | $\begin{array}{c}\text { 21. Determining the needs of faculty members and conducting workshops and seminars in } \\ \text { order to improve scientific publishing }\end{array}$ |
| 24.Average citations in refereed journals per faculty member | $\begin{array}{l}\text { 22. Encouraging research partnerships with competing programs in other universities } \\ \text { 23. Encouraging research cooperation between program members in various headquarters } \\ \text { (headquarters and branches) }\end{array}$ |
| 25.The number of research published in ISI | 24. Inviting distinguished faculty members in the field of scientific research to give lectures |$\}$

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| Perspective: $\mathbf{3}$ | Resources |  |  |
| :--- | :--- | :--- | :--- |
| Target: $\mathbf{7}$ | Sctivating and strengthening the Department's educational, research, and training collaborations |  |  |
| Target Code | Strategic Alignment |  |  |


| KPI's |  |
| :---: | :--- |
| 29. Number of conventions and research partnerships obtained <br> in the Mathematic Department | 27. Increase the Educational and training partnership agreements in the Department <br> 28. Establishing partnerships with corresponding programs and distinguished research centers <br> 29. Activating partnerships in scientific research and providing scientific advice to the public and <br> private sectors |
| 30. Number faculty and Students who are sponsored by the <br> relevant authorities | ( |

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## Beneficiaries

Improving and developing the learning outcomes of the program, as well as the abilities of faculty and students SCI 08/ MATH 08
This goal seeks to improve educational processes and develop students' professional and technical skills to suit the requirements of the labor market.

## Strategic Alignment

## Department Goals

Improving and developing the learning outcomes of the program, as well as the abilities of faculty and students

College Goals
Improving and developing program learning outcomes and developing student skills to suit labor market requirements

## University Goals

Improving the student experience

| KPl's | Initiatives |
| :--- | :--- |
| 31. The student's assessment of the quality of learning in the <br> courses | 31. Optimizing the modern teaching aids in the program and making them available to the students |
| 32. Student assessment of the quality of education in the <br> programs | 32. Increasing student representation in the various Department committees. <br> 33. Activating the student's participation in the periodic councils of the program management |
| 33. Student satisfaction with learning resources | 34. Providing specialized and modern libraries in all areas of the program. <br> 35. Optimizing the activation of the electronic learning aids in the program and making them <br> available to the students |
| 34. Student satisfaction with the services provided | 36. Improving the quality of self-service provided to students |
| 35. Number of courses and workshops offered to the student | 37. Improving and implementing the plan of the courses offered to the student |
| 36. Percentage of faculty satisfaction with professional <br> development | 38. The opinion of the teaching staff about their satisfaction with the training programs provided |
| 37. Employers' evaluation of the Department's graduates' <br> competency | 39. Employers survey |



| KPI's |  |
| :--- | :--- |
| 37. Employers' evaluation of the efficiency of the Department's <br> graduates | 40. Employers survey |
| 12. Number of accredited academic programs | 41. Seeking academic accreditation for the program <br> 22. Standardized and professional test results42. Providing courses to develop the skills of graduates or those who are about to <br> graduate. <br> 4. Providing career guidance, technical support and expertise to graduates before they <br> join the labor market. <br> 44. Seeking to provide professional courses and practical training for students of the <br> Department |
| 38.Percentage of graduates who are employed | 1. Providing courses to develop the skills of graduates or those who are about to <br> graduate |
| 39. Graduate enrollment rate in postgraduate programs | 46. Develop the student's skills in the use of computer softwares. <br> 47. Developing the educational and research infrastructure. <br> 48. Develop student research skills |

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| Perspective: $\mathbf{4}$ | Beneficiaries |  |  |
| :--- | :---: | :---: | :---: |
| Target: 10 | Developing the Department's role in community service |  |  |
| Target Code | SCI 10/MATH 10 |  |  |
| the description | This goal seeks to provide community services to all segments of society in the fields of mathematics. |  |  |
| Strategic Alignment |  |  |  |
| Department Goals |  |  | College Goals |
| $\begin{array}{c}\text { Developing the } \\ \text { community service }\end{array}$ | $\begin{array}{c}\text { University Goals } \\ \hline\end{array}$ | $\begin{array}{c}\text { Providing services that meet the needs of society } \\ \text { and improve the quality of life }\end{array}$ | Improving community service |
| and quality of life |  |  |  |$]$


| KPl's | Initiatives |
| :---: | :---: |
| 40. The total number of volunteer hours done by the students in the Department | 49. Encouraging and motivating students and teaching staff to serve the community. |
| 41. Beneficiaries' satisfaction with community services |  |
| 42. The total number of volunteer hours done by the teaching staff in the Department |  |
| 43. Number of community programs and initiatives | 50. Introducing the program through social media and the Department's website <br> 51. Introduce the mathematics program for high school middle and elementary students. |

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## Performance indicators:

| Perspective | Target | KPI's |
| :---: | :---: | :---: |
|  | Providing a comprehensive and perfect education based on the Department's facilities and services. | 1. The percentage of occupation of classrooms and laboratories |
|  |  | 2. The ratio of students to the number of classrooms |
|  |  | 3. Satisfaction of faculty and administrative staff about support services |
|  | Benefit from the College's information technology infrastructure and enhance it in the Department. | 4. Percentage of curricula and programs for which a digital version of their content has been created |
|  |  | 5. The conversion rate for digital transactions |
|  |  | 6. Percentage User satisfaction with information technology |
|  | Activate and finalize the annual strategy plan for the Department. | 7. Percentage of achieved from the objective indicators in the strategic plan of Mathematics |
|  | Improving the competencies of the Department's human resources. | Average number of professional development hours completed by faculty members. |
|  |  | 9. Percentage of faculty satisfaction with professional development |
|  |  | 10. Percentage of faculty satisfaction with professional development |
|  |  | 11. Average number of training hours for administrative staff |
|  | Providing a high-quality academic curriculum as well as a comprehensive and outstanding education based on modern educational methodologies. | 12. Percentage of accredited academic programs |
|  |  | 13. Percentage of outstanding students with a GPA of 4.5 in relation to the total number of students |
|  |  | 14. The percentage of graduation within the specified period |
|  |  | 15. The number of students who get $60 \%$ in each learning exit PLO |
|  |  | 16. The dropout rate of students after the first year |
|  |  | 17. Student drop-out rate from academic programs |

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18. First-year student retention rate
19. Students to faculty ratio
20. Percentage of graduates who are employed
21. Percentage of faculty members holding a doctorate degree
22. Percentage of passing standard and professional exams
23. Percentage of scientific publication for faculty members
24. Average citations in refereed journals per faculty member
25. The number of research published in ISI
26. Number of research papers classified in Scopus
27. Number of research partnerships
28. Number of innovations and entrepreneurship
29. Number of conventions and research partnerships obtained in the Mathematic Department
30. Number faculty and Students who are sponsored by the relevant authorities
31. Students' evaluation of the quality of learning in courses
32. Students' evaluation of the quality of education in the programs
33. Student satisfaction with learning resources
34. Student satisfaction with the services provided
35. Number of courses and workshops offered to students
36. Evaluation of employers for graduates of the Department
37. Employers' evaluation of the Department's graduates' competency 12. Number of accredited academic programs
22.Standardized and professional test results
38. Percentage of graduates who are employed
39. Enrolment of graduates in postgraduate programs
40. The total number of volunteer hours done by the students in the Department
41. Beneficiaries' satisfaction with community services

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Developing the Department's role in community service.
42. The total number of volunteer hours done by the teaching staff in the Department
43. Number of community programs and initiatives

