



T-106  
2022

# Annual Program Report





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## Annual Program Report

**Program Name:** Master of Data Science

**Program Code (as per Saudi university ranking):** *Enter Program Code.*

**Qualification Level:** Master Program

**Department:** Information Systems

**College:** Computer Engineering and Sciences

**Institution:** Prince Sattam Bin Abdulaziz University

**Academic Year:** 2020-2021

**Main Location:** Alkharj

**Branches offering the Program (if any):**

- None



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## A. Program Statistics

Item	Number
Number of students enrolled in the program	13
Number of students who started the program (in reporting year)	11
Number of students who completed the program	11

## 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
<b>Knowledge and understanding</b>				
K1	Recognize theories of statistics, data visualization, computing, and mathematics appropriate to the data science discipline.	Direct and indirect assessment	70% of students achieve 70% of marks	98.62 %
K2	Explain how the exceptionally enormous amounts of data collected by modern organizations can be used to review, redesign, and improve processes.	Direct and indirect assessment	70% of students achieve 70% of marks	100.00 %
<b>Skills</b>				
S1	Analyze existing processes based on interviewing, observation, documentation analysis, and other similar methods.	Direct and indirect assessment	70% of students achieve 70% of marks	98.86 %
S2	Implement knowledge of computing, statistics, and mathematics appropriate to the discipline.	Direct and indirect assessment	70% of students achieve 70% of marks	98.86 %
<b>Values, autonomy, and responsibility</b>				





V1	Examine the ethical, professional, and social aspects of Data science and its application.	Direct and indirect assessment	70% of students achieve 70% of marks	99.58 %
V2				

\*Attach a separate report on the program learning outcomes assessment results for male and female sections and for each branch (if any).

#### Program learning outcomes assessment report results

##### Strengths:

- The results of the program learning outcomes assessment were outstanding ().
- The achievement of all Program Learning Outcomes exceeds expectation.

##### Aspects that need improvement with priorities:

- All the PLOs results have exceeded the target.

## 2. Evaluation of Courses

Course Code	Course Title	Number of Students Who Evaluated the Course	Percentage of Participants	Evaluation Results (out of 10)	Developmental Recommendations
CS652	Artificial Intelligence and Deep Learning	4	80%	9.9	This course was GREAT there is no need to improve it, it was comprehensive, consistent and easy to read
IS631	Data Visualization	8	73%	9.22	new concept, it would be better to focus on another c
IS655	Web and Cloud Computing	4	36.4%	7.8	It better to use popular cloud websites.
IS661	Text Mining	8	73%	9.92	Great course
IS641	Capstone Project	11	100%	9.56	Proud of this project it couldn't be better alhamdulillah, I learn a lot during this course my supervisor was helpful.





Course Code	Course Title	Number of Students Who Evaluated the Course	Percentage of Participants	Evaluation Results (out of 10)	Developmental Recommendations
IS659	Time Series Analysis and Forecasting	2	18.2%	1.5	--This course needs ALOT of improvement, needs recourses, explaining, training, linking to the real worlds. --There was no material so it better to select book explain Time series and use tools like python will be good.

### 3. Students Evaluation of Program Quality

Evaluation Date: 2020-2021	Number of Participants: 11
Students Feedback	Program Response
<p><b>Strengths:</b></p> <ul style="list-style-type: none"> <li>• The course surveys result in the indirect assessment was outstanding. Therefore, students were satisfied with almost all the courses.</li> <li>--90% of the students are satisfied with the research supervision in the program.</li> </ul> <p>--Students are satisfied with some courses: it was <b>GREAT, it is clear, it was comprehensive, consistent, and easy to read.</b></p> <ul style="list-style-type: none"> <li>• Effective communication between students and faculty</li> </ul>	NA
<p><b>Areas of Improvement:</b></p> <ul style="list-style-type: none"> <li>• Lab and tools</li> </ul>	The program will provide full lab equipment and software to the students. Add some practical activities in some courses.
<p><b>Suggestions for improvement:</b></p> <ul style="list-style-type: none"> <li>• In some courses, it must be integrating the practical activities.</li> <li>• Add and use tools like python will be good in IS659</li> <li>• Add Tableau Tool in IS631 course</li> </ul>	Python Language lab will be used

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

Activities Implemented	Number
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Published scientific research	4
Current research projects	
conferences organized by the program	
Seminars held by the program	
Conferences attendees	1
Seminars attendees	1

#### Discussion and analysis of scientific research and innovation activities

Students have started their capstone projects in the second semester 2020-2021, starts written, and published their results in the indexed conferences and journals. The students with their faculty's members in the master program of data science have published many papers in ISI indexed journals and conferences.

## 5. Community Partnership

Activities Implemented	Brief Description*
None	None
None	None
Comment on community partnership activities**	
NA	

\* 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)

(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: <ul style="list-style-type: none"> <li>Majority of Students are satisfied with the content and quality of the courses.</li> </ul>		NA
Points for Improvements: <ul style="list-style-type: none"> <li>Offer labs and practical projects in some courses.</li> </ul>		The program will provide full lab equipment and software to the students. Add some practical activities in some courses.



Suggestions for development:

- Intensify the practical and empirical part.

\* 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	Actual Value	Internal Benchmark	Analysis	New Target
KPI -PG-1	Percentage of achieved indicators of the program operational plan objectives	75%	95%	70%	NA	95%
KPI -PG-2	Students' Evaluation of quality of learning experience in the program	4	3.75	4	NA	4
KPI -PG-3	Students' evaluation of the quality of the courses	4.45	3.75	4.5	NA	3.75
KPI -PG-4	Students' evaluation of the quality of scientific supervision	4.1	4.5	4.1	NA	4.5
KPI -PG-5	Average time for students' graduation	4	4	4	NA	4
KPI -PG-6	Rate of students dropping out of the program	0%	0%	15.3%	NA	0%
KPI -PG-7	Graduates' employability	73%	90%	73%	NA	90%





KPI - PG-8	Employers' evaluation of the program graduates' competency	4.9	3.75	4.9	NA	4.5
KPI -PG-9	Students' satisfaction with the provided services	4	4	4	NA	4
KPI -PG-10	Ratio of students to faculty members	1.3:1	1:1	1.5:1	NA	1:1
KPI -PG-11	Percentage of faculty members' distribution based on academic ranking	Prof: 0% Assoc.: 20% Assist: 80%  Male: 60% Female: 40%	Prof: 22.9% Assoc.: 43.8% Assist: 33.3%  Male: 66.7% Female: 33.3%	Prof: 0% Assoc.: 28.5% Assist: 71%  Male: 71.4% Female: 28.5%	NA	Prof: 22.9% Assoc.: 43.8% Assist: 33.3%  Male: 50% Female: 50%
KPI -PG-12	Proportion of faculty members leaving the program	28.6%	0%	28.6%	NA	0%
KPI -PG-13	Satisfaction of beneficiaries with learning resources	2.3	3.75	2.3	NA	3.75
KPI -PG-14	Satisfaction of beneficiaries with research facilities and equipment	3	3.75	3	NA	4
KPI -PG-15	Percentage of publications of faculty members	100%	75%	100%	NA	95%





KPI -PG -16	Rate of published research per faculty member	5:1	2:1	1.4:1	NA	3:1
KPI -PG -17	Citations rate in refereed journals per faculty member	20:1	25:1	19.5:1	NA	25:1
KPI -PG -18	Percentage of students' publication	45.4%	10%	45%	NA	50%
KPI -PG -19	Number of patents, innovative products, and awards of excellence	1	1	0	NA	1

Comments on the Program KPIs and Benchmarks results:

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

<b>Teaching</b>	<b>Offer labs and practical projects. Provide labs with good equipment. Offer labs and students with course materials (Slides)</b>
<b>Assessment</b>	<b>No difficulties.</b>
<b>Guidance and counseling</b>	<b>No difficulties.</b>
<b>Learning Resources</b>	<b>Intensify the empirical and practical part. Students suggested learning the lab session and have the practical projects. Students propose to add and integrate different learning tools and techniques related to Data Science like: R language, tableau, MongoDB</b>
<b>faculty</b>	<b>None.</b>





<b>Research Activities</b>	<b>No difficulties.</b>
<b>Others</b>	

### E. Program development Plan

No.	Priorities for Improvement	Actions	Action Responsibility
1	Lab	Research lab	Program and chairman
2	Tools	Python, R	Program and chairman
3	Staffing	Prof and associate professors	Faculties Polarization committee.
4			

Attach any unachieved improvement plans from previous report.

The annual program report needs to be discussed in department council

### F. Approval of Annual Program Report

<b>COUNCIL / COMMITTEE</b>	<b>16</b>
<b>REFERENCE NO.</b>	<b>NUMBER 16 DATED 15/06/2021</b>
<b>DATE:</b>	<b>15/06/2021</b>

