

Academic Program Assessment Report

Assessment is a term commonly used to encompass the process of gathering and using evidence to guide improvements.

SACSCOC requires that an institution "identifies expected outcomes, assesses the extent to which it achieves these outcomes, and provides evidence of seeking improvement based on analysis of the results".

Be sure to SAVE your progress as you work!

Academic Program

Data Science, B.S.

Submission Due Date

Fall 2025: October 1, 2025

Assessment Coordinator Name

Farha Ali

Enter Assessment Coordinator Email

fali@lander.edu

Program Goal

Goal

Goal 1

Program Goals are broad and overarching statements about the skills, knowledge, and dispositions students are expected to gain by the end of their course of study (big picture). They support the Institution's Mission/Goals.

Program Goal

Students graduating with a B.S. in Data Science will demonstrate an ability to apply computing concepts to use, manipulate, and analyze data.

Pillar of Success Supported

High-Demand, Market-Driven Programs

Outcomes

Outcome 1

Outcomes are specific, **measurable** statements that reflect the broader goals.

Academic Programs are required to develop **Student Learning Outcomes**, which describe knowledge, skills, and values that students are expected to gain as a result of their educational experiences.

Academic Programs may also develop **Operational Outcomes**, which describe the level of performance of an operational aspect of a program or office (ex. graduation rates, retention, employment data).

Most goals have at least two outcomes measured.

What type of Outcome would you like to add?

Student Learning Outcome

Enter Outcome

Students will be able to competently perform programming tasks in Data Science programming languages.

Timeframe for this Outcome

2024-2025 and 2025-2026

Performance Target for "Met"

70% or more of students in each of DSCI 330, DSCI 340, DSCI 440, and DSCI 499 will score at least 3.5 out of 5 on programming-related components of the final project assessment rubric.

Performance Target for "Partially Met"

The target will be consider to be partially met, if it is neither met nor not met.

Performance Target for "Not Met"

Less than 60% of students at least one of DSCI 330, DSCI 340, DSCI 440, and DSCI 499 will score at least 3.5 out of 5 on programming-related components of the final project assessment rubric.

Assessment Measure Used

Relevant components of the final project assessment rubric.

Frequency of Assessment

During each offering of DSCI 330, DSCI 340, DSCI 440, and DSCI 499

Data Collected for this Timeframe (Results)

N/A. DSCI 340 was taught in first time in the Spring of 2025 but there were very few students and the instructor left in summer. We were unable to collect data. DSCI 330 and DSCI 440 are being taught this Fall 2025. DSCI 499 is scheduled to be taught in Spring 2026.

Score (Met=3, Partially Met=2, Not Met=1)**Comments/Narrative**

No comment. The data have yet to be collected.

Resources Needed to Meet/Sustain Results

None. A search is currently underway to support the Department of Applied Computing, which will also help address the needs of the Data Science program.

Explanation of How Resources Will Be Used

The new faculty member will support the overall needs of the Department of Applied Computing.

Outcome 2

Outcomes are specific, **measurable** statements that reflect the broader goals.

Academic Programs are required to develop **Student Learning Outcomes**, which describe knowledge, skills, and values that students are expected to gain as a result of their educational experiences.

Academic Programs may also develop **Operational Outcomes**, which describe the level of performance of an operational aspect of a program or office (ex. graduation rates, retention, employment data).

Most goals have at least two outcomes measured.

What type of Outcome would you like to add?

Student Learning Outcome

Enter Outcome

Students will demonstrate an understanding of the issues surrounding the acquisition, storage, and use of large data sets.

Timeframe for this Outcome

2024-2025 and 2025-2026

Performance Target for "Met"

N/A. DSCI 340 was taught in first time in the Spring of 2025 but there were very few students and the instructor left in summer. We were unable to collect data. DSCI 330 and DSCI 440 are being taught this Fall 2025. DSCI 499 is scheduled to be taught in Spring 2026.

Performance Target for "Partially Met"

The target will be consider to be partially met, if it is neither met nor not met.

Performance Target for "Not Met"

Fewer than 60% of students in one or more of DSCI 330, DSCI 340, DSCI 440, and DSCI 499 will score at least 3.5 out of 5 on data acquisition and preprocessing components of the final project assessment rubric

Assessment Measure Used

Data acquisition and preprocessing components of the final project assessment rubric.

Frequency of Assessment

During each offering of DSCI 330, 340, 440 and 499

Data Collected for this Timeframe (Results)

N/A. Data not yet available. DSCI 340 was taught in Spring 2025 but the instructor left without submitting the assessment data. Other courses are being offered for the first time this semester.

Score (Met=3, Partially Met=2, Not Met=1)**Comments/Narrative**

We first offered DSCI 340 in Spring 2024. In Fall 2025, we will offer both DSCI 340 and DSCI 440 for the first time, followed by DSCI 449 in Spring 2026. By the end of Spring 2026, all Data Science courses in the program will have been taught at least once. Because enrollment in these initial offerings is expected to be small, the data collected may not provide strong statistical insights. However, it will still yield valuable preliminary feedback on the effectiveness and appropriateness of our assessment tools and outcome measurement strategies.

In addition, faculty will evaluate whether collecting data from every course is meaningful or whether it would be more effective to focus data collection on a smaller subset of courses."

Resources Needed to Meet/Sustain Results

None. A search is currently underway to support the Department of Applied Computing, which will also help address the needs of the Data Science program.

Explanation of How Resources Will Be Used

The newly hired faculty member will support the Department of Applied Computing more broadly, which will help alleviate the current faculty workload and allow greater focus on the Data Science program.

Goal Summary

Goal Summary/Comments

We first offered DSCI 340 in Spring 2025. In Fall 2025, we will offer both DSCI 340 and DSCI 440 for the first time, followed by DSCI 449 in Spring 2026. By the end of Spring 2026, all data science courses in the program will have been taught at least once. Because enrollment in these initial offerings is expected to be small, the data we collect may not provide strong statistical insights. However, it will still offer valuable preliminary feedback on the effectiveness and appropriateness of our assessment tools and outcome measurement strategies.

Changes Made/Proposed Related to Goal

None yet.

Upload Rubrics/Other Files

Goal 2

Program Goals are broad and overarching statements about the skills, knowledge, and dispositions students are expected to gain by the end of their course of study (big picture). They support the Institution's Mission/Goals.

Program Goal

Students graduating with a B.S. in Data Science will demonstrate mathematical and statistical understanding of the central algorithms used in the field of data science.

Pillar of Success Supported

High-Demand, Market-Driven Programs

Outcomes

Outcome 1

Outcomes are specific, **measurable** statements that reflect the broader goals.

Academic Programs are required to develop **Student Learning Outcomes**, which describe knowledge, skills, and values that students are expected to gain as a result of their educational experiences.

Academic Programs may also develop **Operational Outcomes**, which describe the level of performance of an operational aspect of a program or office (ex. graduation rates, retention, employment data).

Most goals have at least two outcomes measured.

What type of Outcome would you like to add?

Student Learning Outcome

Enter Outcome

Students will be able to apply linear algebra concepts (transition matrices, state vectors, and steady-state analysis) to model, analyze, and interpret data in a data science context.

Timeframe for this Outcome

2024 - 2025

Performance Target for "Met"

70% of students in MATH 208 will score at least 70% on Data Science-related test/exam items.

Performance Target for "Partially Met"

60% - 69% of students in MATH 208 will score at least 70% on Data Science-related test/exam items.

Performance Target for "Not Met"

Less than 60% of students in MATH 208 will score at least 70% on Data Science-related test/exam items.

Assessment Measure Used

Tests and Exams in MATH 208

Frequency of Assessment

Annually.

Data Collected for this Timeframe (Results)

We collected data for MATH 208 assignment in Spring 2025. The assignment is attached. 77.78% (14/18) students score 70% or above.

Score (Met=3, Partially Met=2, Not Met=1)

3

Comments/Narrative

The course was first offered in Spring 2025 with an emphasis on linear algebra. The results were satisfactory, and the criterion for 'Met Standard' has been achieved

Resources Needed to Meet/Sustain Results

None

Explanation of How Resources Will Be Used

N/A

Outcome 2

Outcomes are specific, **measurable** statements that reflect the broader goals.

Academic Programs are required to develop **Student Learning Outcomes**, which describe knowledge, skills, and values that students are expected to gain as a result of their educational experiences.

Academic Programs may also develop **Operational Outcomes**, which describe the level of performance of an operational aspect of a program or office (ex. graduation rates, retention, employment data).

Most goals have at least two outcomes measured.

What type of Outcome would you like to add?

Student Learning Outcome

Enter Outcome

Students will be able to explain the statistical foundations of both supervised and unsupervised machine learning.

Timeframe for this Outcome

2024-2025

Performance Target for "Met"

70% of students in MATH 213 and MATH 214 will score at least 3.5 out of 5 on Data Science-related test/exam items.

Performance Target for "Partially Met"

The target will be considered to be partially met, if it is neither met nor not met.

Performance Target for "Not Met"

Less than 60% of students in MATH 213 and MATH 214 will score at least 3.5 out of 5 on Data Science-related test/exam items.

Assessment Measure Used

Relevant components of the assessment rubric.

Frequency of Assessment

During each offering of MATH 213 and 214

Data Collected for this Timeframe (Results)

N/A. the courses had small enrollment

Score (Met=3, Partially Met=2, Not Met=1)

Comments/Narrative

The courses were first offered in Fall 2024; however, enrollment was limited to only three students, which was insufficient for generating meaningful data for statistical analysis. Faculty also observed that the courses, as taught in Fall 2024, did not align well with the overall Data Science curriculum. In response, Mathematics and Computing faculty collaborated to redesign MATH 213 and MATH 214. These courses are being offered again in Fall 2025. Although enrollment remains small, the revised courses are now more closely aligned with the program's goals. We plan to collect assessment data; while the sample size will be limited, it will nevertheless provide useful insights into the effectiveness and appropriateness of the assessment tools being used

Resources Needed to Meet/Sustain Results

None. A search is currently underway to support the Department of Applied Computing, which will also help address the needs of the Data Science program.

Explanation of How Resources Will Be Used

The newly hired faculty member will support the Applied Computing Department as a whole, helping to alleviate the workload of existing faculty and allowing them to focus on improving and offering Data Science courses.

Outcome 3

Outcomes are specific, **measurable** statements that reflect the broader goals.

Academic Programs are required to develop **Student Learning Outcomes**, which describe knowledge, skills, and values that students are expected to gain as a result of their educational experiences.

Academic Programs may also develop **Operational Outcomes**, which describe the level of performance of an operational aspect of a program or office (ex. graduation rates, retention, employment data).

Most goals have at least two outcomes measured.

What type of Outcome would you like to add?

Student Learning Outcome

Enter Outcome

Students will be able to both select and justify the selection of a model to be used in a variety of data

science tasks.

Timeframe for this Outcome

2024-2025

Performance Target for "Met"

70% of students in MATH 213 and MATH 214 will score at least 3.5 out of 5 on Data Science-related test/exam items.

Performance Target for "Partially Met"

The target will be consider to be partially met, if it is neither met nor not met.

Performance Target for "Not Met"

Less than 60% of students in MATH 213 and MATH 214 will at least 3.5 out of 5 on Data Science-related test/exam items.

Assessment Measure Used

Relevant components of the assessment rubric

Frequency of Assessment

During every offering of MATH 213 and MATH 214

Data Collected for this Timeframe (Results)

N/A. In Fall 2024, the courses had small enrollment.

Score (Met=3, Partially Met=2, Not Met=1)

Comments/Narrative

The courses were first offered in Fall 2024; however, enrollment was limited to only three students, which was insufficient for generating meaningful data for statistical analysis. Faculty also observed that the courses, as taught in Fall 2024, did not align well with the overall Data Science curriculum. In response, Mathematics and Computing faculty collaborated to redesign MATH 213 and MATH 214. These courses are being offered again in Fall 2025. Although enrollment remains small, the revised courses are now more closely aligned with the program's goals. We plan to collect assessment data; while the sample size will be limited, it will nevertheless provide useful insights into the effectiveness and appropriateness of the assessment tools being used.

Resources Needed to Meet/Sustain Results

None. A search is currently underway to support the Department of Applied Computing, which will also help address the needs of the Data Science program.

Explanation of How Resources Will Be Used

The newly hired faculty member will support the Applied Computing Department as a whole, helping to alleviate the workload of existing faculty and allowing them to focus on improving and offering Data Science courses.

Goal Summary

Goal Summary/Comments

None

Changes Made/Proposed Related to Goal

None

Upload Rubrics/Other Files

Goal 3

Program Goals are broad and overarching statements about the skills, knowledge, and dispositions students are expected to gain by the end of their course of study (big picture). They support the Institution's Mission/Goals.

Program Goal

Students graduating with a B.S. in Data Science will demonstrate the ability to communicate results of data analyses including data visualization.

Pillar of Success Supported

High-Demand, Market-Driven Programs

Outcomes

Outcome 1

Outcomes are specific, **measurable** statements that reflect the broader goals.

Academic Programs are required to develop **Student Learning Outcomes**, which describe knowledge, skills, and values that students are expected to gain as a result of their educational experiences.

Academic Programs may also develop **Operational Outcomes**, which describe the level of performance of an operational aspect of a program or office (ex. graduation rates, retention, employment data).

Most goals have at least two outcomes measured.

What type of Outcome would you like to add?

Student Learning Outcome

Enter Outcome

Students will be able to produce technical reports orally and in writing summarizing the results of data analyses.

Timeframe for this Outcome

2023 - 2024 and 2024 - 2025

Performance Target for "Met"

70% or more of students in each of DSCI 231 and DSCI 499 will score at least 3.5 out of 5 on oral and written technical communication components of the final project assessment rubric.

Performance Target for "Partially Met"

The target will be consider to be partially met, if it is neither met nor not met.

Performance Target for "Not Met"

Less than 60% of students in at least one of DSCI 231 and DSCI 499 will score at least 3.5 out of 5 on oral and written technical communication components of the final project assessment rubric.

Assessment Measure Used

Oral and written technical communication components of the final project rubric

Frequency of Assessment

During each offering of DSCI 231 and DSCI 499

Data Collected for this Timeframe (Results)

Score (Met=3, Partially Met=2, Not Met=1)

N/A. Data not available yet. DSCI 231 was taught in Spring 2024 and Spring 2025 4 students were enrolled. DSCI 499 is not offered yet

Comments/Narrative

The program is growing very slowly, with only a few students currently enrolled. These students are at different stages in their progress toward graduation, resulting in fewer than five students per class. Additionally, many courses are being taught for the first time, and the rubrics and other assessment tools are still under development.

Resources Needed to Meet/Sustain Results

None. A search is currently underway to support the Department of Applied Computing, which will also help address the needs of the Data Science program.

Explanation of How Resources Will Be Used

The newly hired faculty member will support the Applied Computing Department as a whole, helping to alleviate the workload of existing faculty and allowing them to focus on improving and offering Data Science courses.

Outcome 2

Outcomes are specific, **measurable** statements that reflect the broader goals.

Academic Programs are required to develop **Student Learning Outcomes**, which describe knowledge, skills, and values that students are expected to gain as a result of their educational experiences.

Academic Programs may also develop **Operational Outcomes**, which describe the level of performance of an operational aspect of a program or office (ex. graduation rates, retention, employment data).

Most goals have at least two outcomes measured.

What type of Outcome would you like to add?

Student Learning Outcome

Enter Outcome

Students will be able to communicate the results of data analyses to a non-technical audience as a means of informing decision-making.

Timeframe for this Outcome

2023 - 2024 and 2024 - 2025

Performance Target for "Met"

70% or more of students in each of DSCI 231 and DSCI 499 will score at least 3.5 out of 5 on oral and written non-technical communication components of the final project assessment rubric.

Performance Target for "Partially Met"

The target will be consider to be partially met, if it is neither met nor not met.

Performance Target for "Not Met"

Less than 60% of students at least one of DSCI 231 and DSCI 499 will score at least 3.5 out of 5 on oral and written non-technical communication components of the final project assessment rubric.

Assessment Measure Used

Oral and written technical communication components of the final project rubric

Frequency of Assessment

During each offering of DSCI 231 and DSCI 499

Data Collected for this Timeframe (Results)

N/A. DSCI 499 has not been taught yet. DSCI 231 was taught with only two students, hence the data is not collected.

Score (Met=3, Partially Met=2, Not Met=1)**Comments/Narrative**

The program is growing slowly, with only a few students currently enrolled. These students are at different stages in their progress toward graduation, resulting in fewer than five students per class. Additionally, many courses are being taught for the first time, and the rubrics and other assessment tools are still under development.

Resources Needed to Meet/Sustain Results

None. A search is currently underway to support the Department of Applied Computing, which will also help address the needs of the Data Science program.

Explanation of How Resources Will Be Used

The newly hired faculty member will support the Department of Applied Computing more broadly, which will help alleviate the current faculty workload and allow greater focus on the Data Science program.

Goal Summary

Goal Summary/Comments

None

Changes Made/Proposed Related to Goal

None

Upload Rubrics/Other Files

Math 208 Assignment for DS Assessment Spring 2025.docx

Goal 4

Program Goals are broad and overarching statements about the skills, knowledge, and dispositions students are expected to gain by the end of their course of study (big picture). They support the Institution's Mission/Goals.

Program Goal

Students graduating with a B.S. in Data Science will be able to apply data analysis to real-world scenarios to support and inform decision-making.

Pillar of Success Supported

High-Demand, Market-Driven Programs

Outcomes

Outcome 1

Outcomes are specific, **measurable** statements that reflect the broader goals.

Academic Programs are required to develop **Student Learning Outcomes**, which describe knowledge, skills, and values that students are expected to gain as a result of their educational experiences.

Academic Programs may also develop **Operational Outcomes**, which describe the level of performance of an operational aspect of a program or office (ex. graduation rates, retention, employment data).

Most goals have at least two outcomes measured.

What type of Outcome would you like to add?

Student Learning Outcome

Enter Outcome

Students will be able to gain insights from data and evaluate results from data analysis in real-world scenarios.

Timeframe for this Outcome

2025-2026

Performance Target for "Met"

70% or more of students in DSCI 499 will score at least 3.5 out of 5 on relevant components of the final project assessment rubric.

Performance Target for "Partially Met"

Between 60% and 69% of students in DSCI 499 will score at least 3.5 out of 5 on relevant components of the final project assessment rubric.

Performance Target for "Not Met"

Less than 60% of students in DSCI 499 will score at least 3.5 out of 5 on relevant components of the final project assessment rubric.

Assessment Measure Used

Relevant components of the final project assessment rubric.

Frequency of Assessment

During each offering of DSCI 499

Data Collected for this Timeframe (Results)

N/A. New outcome. See timeframe above.

Score (Met=3, Partially Met=2, Not Met=1)

Comments/Narrative

No comment. This is the third year of this program and data have yet to be collected.

Resources Needed to Meet/Sustain Results

None

Explanation of How Resources Will Be Used

Outcome 2

Outcomes are specific, **measurable** statements that reflect the broader goals.

Academic Programs are required to develop **Student Learning Outcomes**, which describe knowledge, skills, and values that students are expected to gain as a result of their educational experiences.

Academic Programs may also develop **Operational Outcomes**, which describe the level of performance of an operational aspect of a program or office (ex. graduation rates, retention, employment data).

Most goals have at least two outcomes measured.

What type of Outcome would you like to add?

Student Learning Outcome

Enter Outcome

Students will apply methods and models to answer real-world, data science questions.

Timeframe for this Outcome

2025-2026

Performance Target for "Met"

70% or more of students in DSCI 499 will score at least 3.5 out of 5 on relevant components of the final project assessment rubric.

Performance Target for "Partially Met"

Between 60% and 69% of students in DSCI 499 will score at least 3.5 out of 5 on relevant components of the final project assessment rubric.

Performance Target for "Not Met"

Less than 60% of students in DSCI 499 will score at least 3.5 out of 5 on relevant components of the final project assessment rubric.

Assessment Measure Used

Relevant components of the final project assessment rubric.

Frequency of Assessment

During each offering of DSCI 499

Data Collected for this Timeframe (Results)

N/A. New outcome. See timeframe above.

Score (Met=3, Partially Met=2, Not Met=1)

Comments/Narrative

No comment. This is the third year of this program and data have yet to be collected.

Resources Needed to Meet/Sustain Results

Explanation of How Resources Will Be Used

Goal Summary

Goal Summary/Comments

None

Changes Made/Proposed Related to Goal

None

Upload Rubrics/Other Files

Goal 5

Program Goals are broad and overarching statements about the skills, knowledge, and dispositions students are expected to gain by the end of their course of study (big picture). They support the Institution's Mission/Goals.

Program Goal

Students graduating a B.S. degree in Data Science will demonstrate the ability to develop a high-performance machine learning and deep learning system using a large data set.

Pillar of Success Supported

High-Demand, Market-Driven Programs

Outcomes

Outcome 1

Outcomes are specific, **measurable** statements that reflect the broader goals.

Academic Programs are required to develop **Student Learning Outcomes**, which describe knowledge, skills, and values that students are expected to gain as a result of their educational experiences.

Academic Programs may also develop **Operational Outcomes**, which describe the level of performance of an operational aspect of a program or office (ex. graduation rates, retention, employment data).

Most goals have at least two outcomes measured.

What type of Outcome would you like to add?

Student Learning Outcome

Enter Outcome

Students will be able to develop machine learning and deep learning models and systems by using an appropriate programming language and large data sets.

Timeframe for this Outcome

2025 - 2026

Performance Target for "Met"

70% or more of students in each of DSCI 340, DSCI 440, and DSCI 499 will score at least 3.5 out of 5 on relevant components of the final project assessment rubric.

Performance Target for "Partially Met"

The target will be consider to be partially met, if it is neither met nor not met.

Performance Target for "Not Met"

Less than 60% of students in one of DSCI 340, DSCI 440, and DSCI 499 will score at least 3.5 out of 5 on relevant components of the final project assessment rubric.

Assessment Measure Used

Relevant components of the final project assessment rubric.

Frequency of Assessment

During each offering of DSCI 340, 440, and 449

Data Collected for this Timeframe (Results)

N/A. Not collected

Score (Met=3, Partially Met=2, Not Met=1)**Comments/Narrative**

Although DSCI 340 was taught for the first time in Spring 2025, enrollment was too small to collect meaningful data. We are offering DSCI 440 in Fall 2025 and will offer DSCI 499 in Spring 2026. While enrollment in these courses is still expected to be small, we will begin the assessment process and refine it based on the insights gained

Resources Needed to Meet/Sustain Results

None. A search is currently underway to support the Department of Applied Computing, which will also help address the needs of the Data Science program.

Explanation of How Resources Will Be Used

The newly hired faculty member will support the Department of Applied Computing more broadly, which will help alleviate the current faculty workload and allow greater focus on the Data Science program.

Outcome 2

Outcomes are specific, **measurable** statements that reflect the broader goals.

Academic Programs are required to develop **Student Learning Outcomes**, which describe knowledge, skills, and values that students are expected to gain as a result of their educational experiences.

Academic Programs may also develop **Operational Outcomes**, which describe the level of performance of an operational aspect of a program or office (ex. graduation rates, retention, employment data).

Most goals have at least two outcomes measured.

What type of Outcome would you like to add?

Student Learning Outcome

Enter Outcome

Students will be able to assess and fine-tune the performance of machine learning and deep learning models and systems.

Timeframe for this Outcome

2025-2026

Performance Target for "Met"

70% or more of students in each of DSCI 340, DSCI 440, and DSCI 499 will score at least 3.5 out of 5 on relevant components of the final project assessment rubric.

Performance Target for "Partially Met"

The target will be consider to be partially met, if it is neither met nor not met.

Performance Target for "Not Met"

Less than 60% of students in one of DSCI 340, DSCI 440, and DSCI 499 will score at least 3.5 out of 5 on relevant components of the final project assessment rubric.

Assessment Measure Used

Relevant components of the final project assessment rubric.

Frequency of Assessment

During each offering of DSCI 340, 440, and 449

Data Collected for this Timeframe (Results)

N/A. See timeframe above.

Score (Met=3, Partially Met=2, Not Met=1)

Comments/Narrative

Although DSCI 340 was taught for the first time in Spring 2025, enrollment was too small to collect meaningful data. We are offering DSCI 440 in Fall 2025 and will offer DSCI 499 in Spring 2026. While enrollment in these courses is still expected to be small, we will begin the assessment process and refine it based on the insights gained.

Resources Needed to Meet/Sustain Results

Explanation of How Resources Will Be Used

Goal Summary

Goal Summary/Comments

None

Changes Made/Proposed Related to Goal

None

Upload Rubrics/Other Files

Goal 6

Program Goals are broad and overarching statements about the skills, knowledge, and dispositions students are expected to gain by the end of their course of study (big picture). They support the Institution's Mission/Goals.

Program Goal

Students graduating a B.S. degree in Data Science will demonstrate ethical principles of data science in building data sets and using them in data science applications including machine learning systems

Pillar of Success Supported

High-Demand, Market-Driven Programs

Outcomes

Outcome 1

Outcomes are specific, **measurable** statements that reflect the broader goals.

Academic Programs are required to develop **Student Learning Outcomes**, which describe knowledge,

skills, and values that students are expected to gain as a result of their educational experiences.

Academic Programs may also develop **Operational Outcomes**, which describe the level of performance of an operational aspect of a program or office (ex. graduation rates, retention, employment data).

Most goals have at least two outcomes measured.

What type of Outcome would you like to add?

Student Learning Outcome

Enter Outcome

Students will be able to collect and/or build a data set that provides equity and fairness, or acknowledge the shortcoming of the data set.

Timeframe for this Outcome

2023 - 2024 and 2024 - 2025

Performance Target for "Met"

70% or more of students in each of DSCI 340, DSCI 440, and DSCI 499 will score at least 3.5 out of 5 on relevant components of the final project assessment rubric.

Performance Target for "Partially Met"

The target will be consider to be partially met, if it is neither met nor not met.

Performance Target for "Not Met"

Less than 60% of students in one of DSCI 340, DSCI 440, and DSCI 499 will score at least 3.5 out of 5 on relevant components of the final project assessment rubric.

Assessment Measure Used

Relevant components of the final project assessment rubric.

Frequency of Assessment

During each offering of DSCI 340, 440, and 499

Data Collected for this Timeframe (Results)

N/A. New outcome. See timeframe above.

Score (Met=3, Partially Met=2, Not Met=1)

Comments/Narrative

No comment. This is second year of this program and data have yet to be collected.

Resources Needed to Meet/Sustain Results

None. A search is currently underway to support the Department of Applied Computing, which will also help address the needs of the Data Science program..

Explanation of How Resources Will Be Used

The newly hired faculty member will support the Department of Applied Computing more broadly, which will help alleviate the current faculty workload and allow greater focus on the Data Science program.

Outcome 2

Outcomes are specific, **measurable** statements that reflect the broader goals.

Academic Programs are required to develop **Student Learning Outcomes**, which describe knowledge,

skills, and values that students are expected to gain as a result of their educational experiences.

Academic Programs may also develop **Operational Outcomes**, which describe the level of performance of an operational aspect of a program or office (ex. graduation rates, retention, employment data).

Most goals have at least two outcomes measured.

What type of Outcome would you like to add?

Student Learning Outcome

Enter Outcome

Students will be able to develop a non-discriminatory system that provides equability and fairness, or acknowledge the shortcoming of the system.

Timeframe for this Outcome

2025-2026

Performance Target for "Met"

70% or more of students in one of DSCI 340, DSCI 440, and DSCI 499 will score at least 3.5 out of 5 on relevant components of the final project assessment rubric.

Performance Target for "Partially Met"

The target will be consider to be partially met, if it is neither met nor not met.

Performance Target for "Not Met"

Less than 60% of students in one of DSCI 340, DSCI 440, and DSCI 499 will score at least 3.5 out of 5 on relevant components of the final project assessment rubric.

Assessment Measure Used

Relevant components of the final project assessment rubric of the classes offered

Frequency of Assessment

During each offering of DSCI 340, 440, and 499

Data Collected for this Timeframe (Results)

N/A. DSCI 340 was offered for the first time in Spring 2025 but the enrollment was too small to collect meaningful insights.

Score (Met=3, Partially Met=2, Not Met=1)

Comments/Narrative

Although DSCI 340 was taught for the first time in Spring 2025, enrollment was too small to collect meaningful data. We are offering DSCI 440 in Fall 2025 and will offer DSCI 499 in Spring 2026. While enrollment in these courses is still expected to be small, we will begin the assessment process and refine it based on the insights gained.

Resources Needed to Meet/Sustain Results

None. A search is currently underway to support the Department of Applied Computing, which will also help address the needs of the Data Science program.

Explanation of How Resources Will Be Used

The newly hired faculty member will support the Department of Applied Computing more broadly, which will help alleviate the current faculty workload and allow greater focus on the Data Science program.

Goal Summary

Goal Summary/Comments

none

Changes Made/Proposed Related to Goal

N/A

Upload Rubrics/Other Files

Dean's Email Address

jyates1@lander.edu

Approved by Dean?

Signature of Dean

Comments from Dean's Review