



OFFICE OF ACADEMIC ASSESSMENT
The UNIVERSITY of OKLAHOMA

Program Assessment Report

2024 - 2025

CAS - Data Analysis for Information Professionals
(Graduate Certificate)

General Information

Program Mission/Description

The graduate certificate in Data Analytics for Information Professionals will provide a formal indication of training which is imperative for securing an data analyst position. It will endorse the abilities and knowledge of the certificate holders, thereby increasing their marketability.

College

Arts & Sciences

Department/School/Division

School of Library and Information Studies

Assessment Liaison

June Abbas

CAS - Data Analysis for Information Professionals (Graduate Certificate)

Data processing skills

Student Learning Outcome (SLO)

Demonstrate skills to collect and process unstructured data to be usable for analysis.

Outcome Status

Active

Direct - Course Embedded Assessment

Assessment Method Description

Direct 1 – In LIS-5643 Introduction to Data Analytics, students receive weekly projects that involve data retrieval, processing, and analyzing various real-world data. The class exercises and assignments contain textual, missing, numeric data, categorical, and symbols. Students must process unstructured data in various formats using a data analytics computer programming language, which is R, to be usable for analysis.

Direct 2 – At the end of the semester, students get a project that applies their ability to process various formats to be usable for a specific analysis.

>=90% Excellent; >=80% Very good; >=70% Adequate; >= 60% Weak; Below 60% insufficient

Performance Target

Faculty expect over 90% of the students to achieve better than 80% (B level).

2024 - 2025

Assessment Results Entry Date

09/24/2025

Assessment Results

Two graduate certificate students were enrolled in the course in fall 2024. Both students exceeded expectations in all course assignments and demonstrated in depth understanding and skills related to this SLO (ability to collect and process unstructured data so it is useful for analysis purposes).

Results Status

Target Met

Number of Students Assessed

2

USE OF ASSESSMENT RESULTS

Curriculum

Aspects Students Are Doing Well With: Describing characteristics of data: Most students demonstrated a strong understanding of variable types, distributions, and data exploration using visual tools (histograms, scatter plots). Applying analytic methods: Students effectively applied a wide range of techniques, including linear regression, clustering (K-means), and classification (decision trees), showing competence in using R for programmatic analysis. Interpretation of results: A large majority were able to explain model outputs, evaluate performance metrics (like RMSE, accuracy, lift), and connect insights to real-world implication.

Faculty Development

Expert faculty teach this course and continue to make updates to the course to improve student outcomes. They also discuss the course with industry professionals and incorporate employment skills expectations into the course.

Learning Outcomes

CAS - Data Analysis for Information Professionals (Graduate Certificate)

This SLO is still very relevant to assessing the skills and knowledge students gain in the course and program. No change expected at this time.

Methods of Assessment

No changes to the method of assessment at this time. As noted, the course is aligned with industry standards and skill expectations of our graduates.

Assessment Process/Procedures

SLIS is hiring two new faculty for fall 2026. They will be involved in future course development and assessment.

Overall Program Effectiveness

This graduate certificate remains a popular certificate for our graduate students who want to gain useful skills in data analytics.

No Changes Needed

No changes to this SLO or method of assessment at this time. However, once new faculty are hired, the courses may be updated and SLOs reviewed to align with industry standards and expectations.

Problem solving with data analytics

Student Learning Outcome (SLO)

Demonstrate skills to identify correct analytical tools for a given dataset and analyze the data using those tools, as well as identify models to solve given problems.

Outcome Status

Active

Direct - Course Embedded Assessment

Assessment Method Description

Direct 1 – Weeks 9 and 15 in LIS-5623, Advanced Data Analytics, students must apply data types and structures and run multiple models to compare findings. Based on their findings from the models, students must identify the best model for the dataset and explain the logic used to select a specific model to solve the problem most efficiently.

Direct 2 - The final project in LIS-5673 Introduction to Information Visualization assesses this learning outcome. In this project, students are asked to identify correct visualization tools and platforms. Then, the student must use these tools to visualize data and solve their proposed data science problems. Students must demonstrate their skills of extracting useful variables from their data sources and identify appropriate features and factors to represent variables of different types. They must also justify their method in narrative and explain the extent to which their information visualizations can help the target audience solve the given problems.

>=90% Excellent; >=80% Very good; >=70% Adequate; >= 60% Weak
Below 60% insufficient

Performance Target

Faculty expect over 90% of the students to achieve better than 80%.

2024 - 2025

Assessment Results Entry Date

09/24/2025

Assessment Results

CAS - Data Analysis for Information Professionals (Graduate Certificate)

Two courses were used to gather data for this assessment, LIS 5673 Info Visualization and LIS 5623 Advanced Data Analytics. For LIS 5673, 4 students were assessed from the fall 2024 section. All students exceeded expectations as measured through the final project. Students successfully identified appropriate visualization tools and demonstrated the skills they learned by creating effective visualizations. For LIS 5623, 4 students were assessed. All students exceeded expectations as measured through assignments in weeks 9 and 15 where they applied appropriate data types and structures to the data sets and ran multiple models successfully. Students then compared models, determined the one that worked best, and justified their decisions by explaining their logic for the model they chose.

Results Status

Target Met

Number of Students Assessed

8

USE OF ASSESSMENT RESULTS

Curriculum

The courses used in this assessment are very appropriate for measuring student learning and skills development. Both courses are advanced level electives and contain challenging assignments where students can demonstrate their knowledge and skill acquisition. Each student in the certificate exceeded expectations.

Faculty Development

SLIS is hiring two new faculty for fall 2026. They will be involved in future course development and assessment. Expert faculty teach this course and continue to make updates to the course to improve student outcomes. They also discuss the course with industry professionals and incorporate employment skills expectations into the course.

Learning Outcomes

This SLO is still very relevant to assessing the skills and knowledge students gain in the course and program. No change expected at this time.

Methods of Assessment

The courses used in the direct assessment remain relevant ways to measure the skill acquisition of our students.

Assessment Process/Procedures

No changes to this SLO or method of assessment at this time. However, once new faculty are hired, the courses may be updated and SLOs reviewed to align with industry standards and expectations.

Overall Program Effectiveness

The grad certificate in data analytics remains a popular option for students who want to develop or increase their skills in data analytics. The new faculty we hire in fall 2026 will play an important role in strengthening the core and elective courses in the certificate program.

No Changes Needed

No changes to this SLO or method of assessment at this time. However, once new faculty are hired, the courses may be updated and SLOs reviewed to align with industry standards and expectations.

Direct - Course Embedded Assessment

Assessment Method Description

Direct 2 - The final project in LIS-5673 Introduction to Information Visualization assesses this learning outcome. In this project, students are asked to identify correct visualization tools and platforms. Then, the student must use these tools to visualize data and solve their proposed data science problems. Students must demonstrate their skills of extracting useful variables from their data sources and identify appropriate features and factors to represent variables of different types. They must also justify their method in narrative and explain the extent to which their information visualizations can help the target audience solve the given problems.

>=90% Excellent; >=80% Very good; >=70% Adequate; >= 60% Weak
Below 60% insufficient

Performance Target

Faculty expect over 90% of the students to achieve better than 80%.

CAS - Data Analysis for Information Professionals (Graduate Certificate)

2024 - 2025

Assessment Results Entry Date

09/25/2025

Assessment Results

For LIS 5673, 4 students were assessed from the fall 2024 section. All students exceeded expectations as measured through the final project. Students successfully identified appropriate visualization tools and demonstrated the skills they learned by creating effective visualizations.

Results Status

Target Met

Number of Students Assessed

4

USE OF ASSESSMENT RESULTS

Curriculum

The course used in this assessment are very appropriate for measuring student learning and skills development. Both courses are advanced level electives and contain challenging assignments where students can demonstrate their knowledge and skill acquisition. Each student in the certificate exceeded expectations.

Faculty Development

SLIS is hiring two new faculty for fall 2026. They will be involved in future course development and assessment. Expert faculty teach this course and continue to make updates to the course to improve student outcomes. They also discuss the course with industry professionals and incorporate employment skills expectations into the course.

Learning Outcomes

This SLO is still very relevant to assessing the skills and knowledge students gain in the course and program. No change expected at this time.

Methods of Assessment

The course used in the direct assessment remains relevant ways to measure the skill acquisition of our students.

Assessment Process/Procedures

No changes to this SLO or method of assessment at this time. However, once new faculty are hired, the courses may be updated and SLOs reviewed to align with industry standards and expectations.

Overall Program Effectiveness

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No Changes Needed

No changes to this SLO or method of assessment at this time. However, once new faculty are hired, the courses may be updated and SLOs reviewed to align with industry standards and expectations.

Demonstrate technology and data management skills

Student Learning Outcome (SLO)

Be able to store, retrieve, and manipulate data, and solve information problem

Outcome Status

Active

Direct - Course Embedded Assessment

Assessment Method Description

CAS - Data Analysis for Information Professionals (Graduate Certificate)

Direct 1 - Individual assignments in LIS-5063: Each student enrolled in LIS-5063 will be required to complete five individual assignments showing different aspects of technology skills, including spreadsheets, data modeling, database design, web design, and implementation. These five individual assignments reflect different aspects of basic technology skills. Upon the completion of Database Design, students should be able to store, retrieve, organize, and manipulate data using a visual interface (Airtable) to accomplish SQL tasks

Direct 2 – Students enrolled in this class must successfully complete theoretical portions of an entity relationship diagram (ERD), data normalization, database design, and data retrieval and manipulation using SQL. These concepts are reflected in their assignments.

>=90% Excellent; >=80% Very good; >=70% Adequate; >= 60% Weak
Below 60% insufficient

Performance Target

Faculty expect over 90% of the students to achieve better than 80%.

2024 - 2025

Assessment Results Entry Date

09/24/2025

Assessment Results

No certificate students were enrolled in LIS 5063 in this cycle. This is a required course in the MLIS program but students may take it at any point in their program.

Results Status

No Results

Number of Students Assessed

0

USE OF ASSESSMENT RESULTS

Curriculum

No certificate students were enrolled in LIS 5063 in this cycle so this SLO could not be assessed in this cycle.

No Changes Needed

No certificate students were enrolled in LIS 5063 in this cycle so this SLO could not be assessed in this cycle.