

Course Student Learning Outcomes Assessment

MATH 219H Honors Statistics and Probability

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General Information (Course Student Learning Outcomes Assessment)

Standing Requirements

📖 Course Description

Enhanced format for the beginning course in statistics and probability using a seminar approach computers individual research and presentations. Includes descriptive statistics graphical displays of data probability confidence intervals hypothesis testing regression contingency tables ANOVA and non-parametric statistics with applications designed around the individual interests of students.

📖 Course Student Learning Outcomes

MATH 219H Honors Statistics and Probability Outcome Set

Outcome	
Outcome	Mapping
Outcome 1 To read and critically analyze the validity of a statistical statement by considering how the data was obtained and the appropriateness of the statistical methods used.	Institutional Student Learning Outcomes: Act 2, Learn 1, Think 1
Outcome 2 Know how to collect data from a population and represent it in an organized and visual manner.	Institutional Student Learning Outcomes: Communicate 1, Communicate 2, Communicate 3, Learn 1, Think 1, Think 2
Outcome 3 To read and interpret data represented in a chart or graph.	Institutional Student Learning Outcomes: Act 3, Communicate 1, Communicate 3, Learn 2, Think 1, Think 3

2014-2015 Assessment Cycle

Measurements

Outcomes and Measures

MATH 219H Honors Statistics and Probability Outcome Set

Outcome

Outcome 1

To read and critically analyze the validity of a statistical statement by considering how the data was obtained and the appropriateness of the statistical methods used.

▼ **Measure:** Math 219H - SLO 1: Spring 2015
Course level; Direct - Exam

Description of Measurement Tool: 40 multiple-choice questions were asked on the final exam, where 16 of the questions measure SLO #1. The multiple-choice questions are assessed as correct or incorrect.

Criteria for Success: Individual & Collective Student Criterion: Individually, success is defined as correctly answering 70% (11/16) of the multiple choice questions. Collectively, success is defined as 70% of the students assessed being individually successful.

Cycle of Assessment: The outcome is assessed every 3 years in spring since Math 219H is only offered in spring semester. This data was collected in the spring of 2015. Collated, analyzed, reported, and discussed in fall 2015, with recommendations implemented in the following spring.

Who is Responsible for Assessment Activity?: The Math 219/219H coordinator of record for 2015-2016, Darlene Diaz, is responsible for the assessment.

Findings

Finding per Measure

MATH 219H Honors Statistics and Probability Outcome Set

Outcome

Outcome 1

To read and critically analyze the validity of a statistical statement by considering how the data was obtained and the appropriateness of the statistical methods used.

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Cycle of Assessment: The outcome is assessed every 3 years in spring since Math 219H is only offered in spring semester. This data was collected in the spring of 2015. Collated, analyzed, reported, and discussed in fall 2015, with recommendations implemented in the following spring.

Who is Responsible for Assessment Activity?: The Math 219/219H coordinator of record for 2015-2016, Darlene Diaz, is responsible for the assessment.

Findings for Math 219H - SLO 1: Spring 2015

Summary of Findings: • 21 students from the honors course were evaluated. Only one section was offered.

- SLO #1's overall success rate was 76.8%.
- There were only 3 questions out of 16 that didn't meet expectations. Otherwise, all remaining 13 questions met expectations.

Results: Criteria for Success Achievement Status: Met

Analysis of Findings: Traditionally, Math 219H's success rates are higher than the Math 219 courses. In spring 2014, the success rate for SLO #1 was 74.3%. However, in spring 2015, the success rate increased to 76.8%. A reason for the 2.5% increase in success could be due to an experienced instructor teaching the course and that projects, reading, and concepts are emphasized in the honors course.

- Recommendations:** • These results will be sent to the Math 219H instructor in spring 2015.
- If we communicate to instructors to emphasize projects, reading, and concepts in the Math 219 courses, as we do in the honors, then the success rates may increase for the Math 219.
 - We can review the 3 questions where success was not met and reevaluate the questions or have instructors emphasize the concepts more in lecture.

Overall Recommendations

No text specified

Plans of Action

Status Reports

2013-2014 Assessment Cycle

Measurements

Outcomes and Measures

MATH 219H Honors Statistics and Probability Outcome Set

Outcome

Outcome 1

To read and critically analyze the validity of a statistical statement by considering how the data was obtained and the appropriateness of the statistical methods used.

▼ **Measure:** Math 219H SLO 1
Course level; Direct - Exam

Description of Measurement Tool: Students are given a departmental final with 16 embedded multiple-choice questions pertaining to specific topics for this SLO.

Criteria for Success: Individual & Collective Student Criterion: Individually, success is defined as correctly answering 11 of the 16 multiple choice questions. Collectively, success is defined as 70% of the class being individually successful.

Cycle of Assessment: This SLO is assessed every year, generally, using data from fall and summer courses.

Who is Responsible for Assessment Activity?: The Math 219 coordinator of record for 2013-2014, Craig Nance, is responsible for the assessment.

Outcome 2

Know how to collect data from a population and represent it in an organized and visual manner.

▼ **Measure:** Math 219H SLO 2
Course level; Direct - Exam

Description of Measurement Tool: Students are given a departmental final with 8 embedded multiple-choice questions and one embedded free-response question pertaining to specific topics for this SLO.

The multiple choice questions are assessed as either correct or incorrect.

The free-response question is assessed on a 4-point rubric:

- 4 - Exemplary, complete understanding
- 3 - Thoughtful, clear understanding
- 2 - Developing, literal
- 1 - Limited, barely acceptable
- 0 - Minimal, unacceptable

Criteria for Success: Individual & Collective Student Criterion: Individually, success is defined as correctly answering 6 of the 8 multiple-choice questions and earning a 3 or 4 on the free-response rubric scale. Collectively, success is defined as 70% of the class being individually successful.

Cycle of Assessment: This SLO is assessed every year, generally, using data from fall and summer courses.

Who is Responsible for Assessment Activity?: The Math 219 coordinator of record for 2013-2014, Craig Nance, is responsible for the assessment.

Outcome 3

To read and interpret data represented in a chart or graph.

▼ **Measure:** Math 219H SLO 3
Course level; Direct - Exam

Description of Measurement Tool: Students are given a departmental final with 16 embedded

multiple-choice questions pertaining to specific topics for this SLO.

These questions will be assessed as correct or incorrect.

Criteria for Success: Individual & Collective Student Criterion: Individually, success is defined as correctly answering 11 out of the 16 questions. Collectively, success is defined as 70% of the class being individually successful.

Cycle of Assessment: This SLO is assessed every year, generally, using data from fall and summer courses.

Who is Responsible for Assessment Activity?: The Math 219 coordinator of record for 2013-2014, Craig Nance, is responsible for the assessment.

Findings

Finding per Measure

MATH 219H Honors Statistics and Probability Outcome Set

Outcome

Outcome 1

To read and critically analyze the validity of a statistical statement by considering how the data was obtained and the appropriateness of the statistical methods used.

▼ **Measure:** Math 219H SLO 1
Course level; Direct - Exam

Description of Measurement Tool: Students are given a departmental final with 16 embedded multiple-choice questions pertaining to specific topics for this SLO.

Criteria for Success: Individual & Collective Student Criterion: Individually, success is defined as correctly answering 11 of the 16 multiple choice questions. Collectively, success is defined as 70% of the class being individually successful.

Cycle of Assessment: This SLO is assessed every year, generally, using data from fall and summer courses.

Who is Responsible for Assessment Activity?: The Math 219 coordinator of record for 2013-2014, Craig Nance, is responsible for the assessment.

Findings for Math 219H SLO 1

Summary of Findings: Overall success rate: 74.3%

Results: Criteria for Success Achievement Status: Met

Analysis of Findings: There were two questions that 74% of the students missed.

Recommendations: Instructors should stress Methods of Testing as this concept is the most often missed.

Outcome 2

Know how to collect data from a population and represent it in an organized and visual manner.

▼ **Measure:** Math 219H SLO 2
Course level; Direct - Exam

Description of Measurement Tool: Students are given a departmental final with 8 embedded multiple-choice questions and one embedded free-response question pertaining to specific topics for this SLO.

The multiple choice questions are assessed as either correct or incorrect.

The free-response question is assessed on a 4-point rubric:

4 - Exemplary, complete understanding

3 - Thoughtful, clear understanding

- 2 - Developing, literal
- 1 - Limited, barely acceptable
- 0 - Minimal, unacceptable

Criteria for Success: Individual & Collective Student Criterion: Individually, success is defined as correctly answering 6 of the 8 multiple-choice questions and earning a 3 or 4 on the free-response rubric scale. Collectively, success is defined as 70% of the class being individually successful.

Cycle of Assessment: This SLO is assessed every year, generally, using data from fall and summer courses.

Who is Responsible for Assessment Activity?: The Math 219 coordinator of record for 2013-2014, Craig Nance, is responsible for the assessment.

Findings for Math 219H SLO 2

Summary of Findings: Overall success rate: 77.8%

Results: Criteria for Success Achievement Status: Met

Analysis of Findings: 77.2 % of the students drew a comparison graph correctly. However, 82% scored a 3 or higher on a four-point rubric.

Recommendations: Instructors need to encourage students to read the questions more carefully.

Outcome 3

To read and interpret data represented in a chart or graph.

▼ **Measure:** Math 219H SLO 3
Course level; Direct - Exam

Description of Measurement Tool: Students are given a departmental final with 16 embedded multiple-choice questions pertaining to specific topics for this SLO.

These questions will be assessed as correct or incorrect.

Criteria for Success: Individual & Collective Student Criterion: Individually, success is defined as correctly answering 11 out of the 16 questions. Collectively, success is defined as 70% of the class being individually successful.

Cycle of Assessment: This SLO is assessed every year, generally, using data from fall and summer courses.

Who is Responsible for Assessment Activity?: The Math 219 coordinator of record for 2013-2014, Craig Nance, is responsible for the assessment.

Findings for Math 219H SLO 3

Summary of Findings: Overall success rate: 84.6%

Results: Criteria for Success Achievement Status: Met

Analysis of Findings: The department is very pleased with these results.

Recommendations: No changes recommended.

Overall Recommendations

No text specified

Status Reports

2012-2013 Assessment Cycle

 **Measurements**

 **Findings**

 **Plans of Action**

 **Status Reports**