Course Student Learning Outcomes Assessment

MATH 185 Analytic Geometry and Calculus

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General Information (Course Student Learning Outcomes Assessment)

Standing Requirements

Course Description

Applications of integrals including volumes work arc length and surface area. Integration techniques differential equations conics parametric equations polar coordinates improper integrals sequences and infinite series.

Course Student Learning Outcomes

MATH 185 Analytic Geometry and Calculus Outcome Set

Outcome

Outcome	Mapping
Outcome 1 Evaluate and approximate integrals using a variety of techniques and apply integration to solve problems involving area, volume, work, and differential equations.	**Institutional Student Learning Outcomes:** Act 3, Communicate 1, Communicate 2, Communicate 3, Learn 1, Learn 2, Learn 3, Think 1, Think 2, Think 3
Outcome 2 Represent functions using parametric equations, polar equations, and Taylor series and apply calculus techniques to these representations.	**Institutional Student Learning Outcomes:** Act 3, Communicate 1, Communicate 2, Communicate 3, Learn 1, Learn 2, Learn 3, Think 1, Think 2, Think 3

2014-2015 Assessment Cycle

Measurements

Outcomes and Measures

MATH 185 Analytic Geometry and Calculus Outcome Set

Outcome

Outcome 1

Evaluate and approximate integrals using a variety of techniques and apply integration to solve problems involving area, volume, work, and differential equations.

Measure: Math 185 - SLO1
Course level; Direct - Exam

Description of Measurement Tool: Students are given a departmental final with an embedded question pertaining to u-substitution with limits of integration for this SLO.
The rubric scale is from 0 - 4.

Rubric:
4 pts – clear, complete solution
3 pts – small mistakes not related to the concept, concept is understood
2 pts – mistakes, concept is partially understood
1 pt - some relevant work, concept not understood
0 pt – blank, no relevant work

Criteria for Success: Individual & Collective Student Criterion: Individually, success is earning a 3 or 4 using the 4-point rubric.
Collectively, success is defined as 70% of the class being individually successful.

Cycle of Assessment: The outcome will be assessed every year.

Who is Responsible for Assessment Activity?: The Math 185 coordinator.

Outcome 2

Represent functions using parametric equations, polar equations, and Taylor series and apply calculus techniques to these representations.

Measure: Math 185 - SLO2
Course level; Direct - Exam

Description of Measurement Tool: Students are given a departmental final with an embedded question pertaining to u-substitution with limits of integration for this SLO.
The rubric scale is from 0 - 4.

Rubric:
4 pts – clear, complete solution
3 pts – small mistakes not related to the concept, concept is understood
2 pts – mistakes, concept is partially understood
1 pt - some relevant work, concept not understood
0 pt – blank, no relevant work

Criteria for Success: Individual & Collective Student Criterion: Individually, success is earning a 3 or 4 using the 4-point rubric.
Collectively, success is defined as 70% of the class being individually successful.

Cycle of Assessment: The outcome will be assessed every year.

Who is Responsible for Assessment Activity?: The Math 185 coordinator.

Findings

Finding per Measure

MATH 185 Analytic Geometry and Calculus Outcome Set

Outcome

Outcome 1

Evaluate and approximate integrals using a variety of techniques and apply integration to solve problems involving area, volume, work, and differential equations.

Measure: Math 185 - SLO1
Course level; Direct - Exam

Description of Measurement Tool: Students are given a departmental final with an embedded question pertaining to u-substitution with limits of integration for this SLO.
The rubric scale is from 0 - 4.

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1 pt - some relevant work, concept not understood
0 pt – blank, no relevant work

Criteria for Success: Individual & Collective Student Criterion: Individually, success is earning a 3 or 4 using the 4-point rubric.
Collectively, success is defined as 70% of the class being individually successful.

Cycle of Assessment: The outcome will be assessed every year.

Who is Responsible for Assessment Activity?: The Math 185 coordinator.

Findings for Math 185 - SLO1

Summary of Findings: A question about volumes of revolution was assessed using the rubric. All final exams from the two sections of Math 185 were collected and included in the assessment (N=68)

Results: Criteria for Success Achievement Status: Met

Analysis of Findings: % successful = 75%

Recommendations: Inform department of results.

Inform instructors who are teaching Math 185 next semester to stress topics that students are consistently weak on.

Department needs to discuss and reinforce the expectations of skills that students should obtain before passing Calculus III to all instructors teaching this course.

Outcome 2

Represent functions using parametric equations, polar equations, and Taylor series and apply calculus techniques to these representations.

Measure: Math 185 - SLO2
Course level; Direct - Exam

Description of Measurement Tool: Students are given a departmental final with an embedded question pertaining to u-substitution with limits of integration for this SLO.
The rubric scale is from 0 - 4.

Rubric:
4 pts – clear, complete solution
3 pts – small mistakes not related to the concept, concept is understood
2 pts – mistakes, concept is partially understood
1 pt - some relevant work, concept not understood
0 pt – blank, no relevant work

Criteria for Success: Individual & Collective Student Criterion: Individually, success is earning a 3 or 4 using the 4-point rubric.
Collectively, success is defined as 70% of the class being individually successful.

Cycle of Assessment: The outcome will be assessed every year.

Who is Responsible for Assessment Activity?: The Math 185 coordinator.

Findings for Math 185 - SLO2

Summary of Findings: A question about polar coordinates was assessed using the rubric. All final exams from the two sections of Math 185 were collected and included in the assessment (N=68)

Results: Criteria for Success Achievement Status: Not Met

Analysis of Findings: % successful = 60.3%

Recommendations: Inform department of results.

Inform instructors who are teaching Math 185 next semester to stress topics that students are consistently weak on.

Department needs to discuss and reinforce the expectations of skills that students should obtain before passing Calculus III to all instructors teaching this course.

This Findings is associated with the following Actions:

Math 185 - SLO2 POA
(Plans of Action; 2014-2015 Assessment Cycle)

Overall Recommendations

No text specified

Plans of Action

Actions

MATH 185 Analytic Geometry and Calculus Outcome Set

Outcome

Outcome 2
Represent functions using parametric equations, polar equations, and Taylor series and apply calculus techniques to these representations.

Action: Math 185 - SLO2 POA

This Action is associated with the following Findings

Findings for Math 185 - SLO2
(Measurements and Findings; 2014-2015 Assessment Cycle)

Summary of Findings: A question about polar coordinates was assessed using the rubric. All final exams from the two sections of Math 185 were collected and included in the assessment (N=68)

Details of Plan of Action: Inform department of results at a department meeting following assessment in Spring 2015.

Inform instructors who are teaching Math 185 next semester to stress topics that students are consistently weak on based on assessment (polar coordinates and finding area inside curves).

Department needs to discuss and reinforce the expectations of skills that students should obtain before passing Calculus III to all instructors teaching this course.

Plan of Action Timeline: Spring 2015: The Plan of Action will begin during the next scheduled department meeting.

Fall 2016: All faculty teaching Math 185 will be given reminders of the SLO results and suggestions detailed in our Plan of Action in their welcome packet.

Fall 2016: New data will be collected to reassess this SLO.

Who is responsible for carrying out the Plan of Action?: The Math 185 coordinator.

How will you determine if the Plan of Action has been effective?: We will asses this SLO every year and compare results to see if our changes have been effective.

Additional Resources Required (if any):

Budget request amount: $0.00

Priority: Low

Status Reports

Action Statuses

MATH 185 Analytic Geometry and Calculus Outcome Set

Outcome

Outcome 2
Represent functions using parametric equations, polar equations, and Taylor series and apply calculus techniques to these representations.

Action: Math 185 - SLO2 POA

Details of Plan of Action: Inform department of results at a department meeting following assessment in Spring 2015.

Inform instructors who are teaching Math 185 next semester to stress topics that students are consistently weak on based on assessment (polar coordinates and finding area inside curves).

Department needs to discuss and reinforce the expectations of skills that students should obtain before passing Calculus III to all instructors teaching this course.

Plan of Action Timeline: Spring 2015: The Plan of Action will begin during the next scheduled department meeting.

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Who is responsible for carrying out the Plan of Action?: The Math 185 coordinator.

How will you determine if the Plan of Action has been effective?: We will asses this SLO every year and compare results to see if our changes have been effective.

Additional Resources Required (if any):

Budget request amount: $0.00

Priority: Low

Status for Math 185 - SLO2 POA

No Status Added

Status Summary

No text specified

Summary of Next Steps

No text specified

2013-2014 Assessment Cycle

- **Measurements**
- **Findings**
- **Plans of Action**
- **Status Reports**

2012-2013 Assessment Cycle

- **Measurements**
- **Findings**
- **Plans of Action**
- **Status Reports**