

**( MATH-C004) Course Level SLO & Qualitative Notes**

**Demonstrate basic arithmetic skills needed for everyday life.**

83545-(MATH-C004-L03)-Math Skills 1  
by Thomas Cao

Continue to have on-going conversation with other faculties to discuss the SSC courses

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83544-(MATH-C004-L02)-Math Skills 1  
by Thomas Cao

Continue to have on-going conversation with other faculties to discuss the SSC courses

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**Perform basic operations of addition, subtraction, multiplication, and division of whole numbers, fractions, decimals, and percentages.**

83544-(MATH-C004-L02)-Math Skills 1  
by Thomas Cao

Continue to have on-going conversation with other faculties to discuss the SSC courses

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83545-(MATH-C004-L03)-Math Skills 1  
by Thomas Cao

Continue to have on-going conversation with other faculties to discuss the SSC courses

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**( MATH-C008) Course Level SLO & Qualitative Notes**

**Convert rational numbers into decimals, fractions, and percentages.**

81157-(MATH-C008-002)-Pre-Algebra  
by Jihad Jaber

This outcome was achieved from most of the students. Students did well on these problems “8 questions on the Final Exam out of a total of 40” Students did well on those problems

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**Demonstrate quantitative reasoning skills by developing convincing arguments and by communicating mathematically both verbally and in writing.**

## Student Outcomes Qualitative Notes during CCC Fall 2012 for Mathematics

81157-(MATH-C008-002)-Pre-Algebra  
by Jihad Jaber

Most students did achieve this outcome. These questions were the last 10 questions on the Final Exam and were designed for calculator use and quantitative reasoning.

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**Solve various application problems requiring the use of ratios, proportions, and percentages.**

81157-(MATH-C008-002)-Pre-Algebra  
by Jihad Jaber

This outcome was greatly achieved by most of the students in the Final Exam part II which has problems about scaling a map, average speed, and percent of increase, sale price after deducting a percent of discount, investments, and mutual fund. Most students that took the Final Exam did well on this part of the Exam.

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**To use appropriate technology such as calculators or computer software to enhance mathematical thinking, visualization, and understanding; to solve mathematical problems; and to judge the reasonableness of the results.**

81157-(MATH-C008-002)-Pre-Algebra  
by Jihad Jaber

This outcome was achieved in the Final Exam part II when they had to use the calculator to do the percent problems and apply mathematical thinking. The Percentage is low because: - Students that did not finish the course or did not pass did not meet this outcome. I have nine students that did not pass; three of them should have dropped but never did and stopped working early in the semester. I will have to make sure that students that stop working should be emailed to take an action or drop before the due date. thinking.

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**Use rounding techniques to estimate results of operations on whole numbers, fractions, and decimals.**

81157-(MATH-C008-002)-Pre-Algebra  
by Jihad Jaber

Most students who passed the semester met this outcome mainly in rounding their answers to desired number of digits, especially in the problems that were dealing with money. There were no problems on the test that ask to estimate however; will include that in the future semesters.

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**Use the order of operations to add; subtract; multiply; and exponentiate whole numbers, fractions, and decimals.**

81157-(MATH-C008-002)-Pre-Algebra  
by Jihad Jaber

Students did not achieve this outcome; they made mistakes in the following during their operations: • Subtracting a negative number. • Raising a number to a zero exponent. • Raising a number to a negative exponent. • Raising a fraction to a negative exponent. • Raising a product to a negative exponent. This will have to be encouraged to be in the discussion board in the coming semesters.

**( MATH-C008) Institutional SLO & Qualitative Notes**

**Demonstrate ability to apply critical thinking and analysis.**

81157-(MATH-C008-002)-Pre-Algebra  
by Jihad Jaber

Many of the students “who” completed the course and did all the assignments and took both the Midterm Exam and the Final Exam met this outcome. Students that did not finish the course or did not pass did not meet this outcome. I have nine students that did not pass; three of them should have dropped but never did and stopped working early in the semester. I will have to make sure that students that stop working should be emailed to take an action or drop before the due date.

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**Demonstrate innovative thinking, and adaptive, creative problem solving skills.**

81157-(MATH-C008-002)-Pre-Algebra  
by Jihad Jaber

Few students achieved this Student Learning Outcome.

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**Use scientific and quantitative reasoning.**

81157-(MATH-C008-002)-Pre-Algebra  
by Jihad Jaber

Only few students did achieve this outcome. Even though, most of the discussion and the review in the discussion board and the Midterm Review relate to the scientific and quantitative thinking, only few achieved it. Some students do lack the basic skills of order of operations and apply the operations correctly to their calculations. Even the book is a great book that shows the steps and uses clear way of presenting the operations with side explanation, but still was not helping enough for some students. It would be helpful if more students are involved in the discussion board, which is something on my list to improve and maybe divide the students into groups for the discussion, not only dividing the topics.

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**( MATH-C008) Program Level SLO & Qualitative Notes**

**Select and apply correct quantitative methods to find the correct solution to a problem in familiar or unique situations or contexts.**

81157-(MATH-C008-002)-Pre-Algebra  
by Jihad Jaber

Most students achieved this outcome through the Final Exam.

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**( MATH-C010) Course Level SLO & Qualitative Notes**

**Demonstrate quantitative reasoning skills by developing convincing arguments and by communicating mathematically both verbally and in writing.**

81566-(MATH-C010-003)-Elementary Algebra  
by Thomas Cao

Brainstorm with math department to gather better assessments for SLOs

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82563-(MATH-C010-006)-Elementary Algebra  
by Phillip Dietrich,TC STAFF

There were 11 students who did not complete the class which resulted in my statistics being lower.

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**Set up the equation or inequality; then find the solution and explain the reasonableness of the answer a word or application problem.**

81566-(MATH-C010-003)-Elementary Algebra  
by Thomas Cao

Brainstorm with math department to gather better assessments for SLOs

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82563-(MATH-C010-006)-Elementary Algebra  
by Phillip Dietrich,TC STAFF

There were 11 students who did not complete the class which resulted in my statistics being lower.

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**Solve and graph linear inequalities and calculate slopes and intercepts.**

81566-(MATH-C010-003)-Elementary Algebra  
by Thomas Cao

Brainstorm with math department to gather better assessments for SLOs

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82563-(MATH-C010-006)-Elementary Algebra  
by Phillip Dietrich,TC STAFF

There were 11 students who did not complete the class which resulted in my statistics being lower.

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**Solve equations and simplify algebraic expressions involving exponents, polynomial and rational expressions and equations, roots, and radicals.**

82563-(MATH-C010-006)-Elementary Algebra  
by Phillip Dietrich,TC STAFF

There were 11 students who did not complete the class which resulted in my statistics being lower.

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81566-(MATH-C010-003)-Elementary Algebra  
by Thomas Cao

Brainstorm with math department to gather better assessments for SLOs

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**Solve linear and quadratic equations by factoring, completing the square, and using the quadratic formula.**

81566-(MATH-C010-003)-Elementary Algebra  
by Thomas Cao

Brainstorm with math department to gather better assessments for SLOs

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82563-(MATH-C010-006)-Elementary Algebra  
by Phillip Dietrich,TC STAFF

There were 11 students who did not complete the class which resulted in my statistics being lower.

---

**Use appropriate technology such as calculators or computer software to enhance mathematical thinking, visualization, and understanding, to solve mathematical problems, and judge the reasonableness of the results.**

81566-(MATH-C010-003)-Elementary Algebra  
by Thomas Cao

Brainstorm with math department to gather better assessments for SLOs

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82563-(MATH-C010-006)-Elementary Algebra  
by Phillip Dietrich,TC STAFF

There were 11 students who did not complete the class which resulted in my statistics being lower.

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**( MATH-C010) Institutional SLO & Qualitative Notes**

**Demonstrate ability to apply critical thinking and analysis.**

82563-(MATH-C010-006)-Elementary Algebra  
by Phillip Dietrich,TC STAFF

There were 11 students who did not complete the class which resulted in my statistics being lower.

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**Demonstrate innovative thinking, and adaptive, creative problem solving skills.**

82563-(MATH-C010-006)-Elementary Algebra  
by Phillip Dietrich,TC STAFF

There were 11 students who did not complete the class which resulted in my statistics being lower.

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**Use scientific and quantitative reasoning.**

82563-(MATH-C010-006)-Elementary Algebra  
by Phillip Dietrich,TC STAFF

There were 11 students who did not complete the class which resulted in my statistics being lower.

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**( MATH-C010) Program Level SLO & Qualitative Notes**

**Select and apply correct quantitative methods to find the correct solution to a problem in familiar or unique situations or contexts.**

82563-(MATH-C010-006)-Elementary Algebra  
by Phillip Dietrich,TC STAFF

There were 11 students who did not complete the class which resulted in my statistics being lower.

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**( MATH-C030) Course Level SLO & Qualitative Notes**

**Correctly solve linear, quadratic, polynomial, rational, radical, exponential, and logarithmic equations; graph any of these functions with the appropriate domain and range; analyze its behavior and make predictions.**

## Student Outcomes Qualitative Notes during CCC Fall 2012 for Mathematics

82564-(MATH-C030-003)-Intermediate Algebra  
by Mitchell Alves

In the future develop assignments in the course website tied to this SLO and require students to score 90% or better.

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82966-(MATH-C030-005)-Intermediate Algebra  
by Mitchell Alves

In the future develop assignments in the course website tied to this SLO and require students to score 90% or better.

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**Demonstrate quantitative reasoning skills by developing convincing arguments and by communicating mathematically both verbally and in writing.**

82966-(MATH-C030-005)-Intermediate Algebra  
by Mitchell Alves

In the future develop assignments in the course website tied to this SLO and require students to score 90% or better.

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82564-(MATH-C030-003)-Intermediate Algebra  
by Mitchell Alves

In the future develop assignments in the course website tied to this SLO and require students to score 90% or better.

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**Express a real-world problem as an equation or system of equations, estimate the answer, then solve the equation or system to find a solution and judge its reasonableness.**

82564-(MATH-C030-003)-Intermediate Algebra  
by Mitchell Alves

In the future develop assignments in the course website tied to this SLO and require students to score 90% or better.

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82966-(MATH-C030-005)-Intermediate Algebra  
by Mitchell Alves

In the future develop assignments in the course website tied to this SLO and require students to score 90% or better.

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**Identify and graph conic sections including parabolas, circles, ellipses and hyperbolas; show major and minor axes, intercepts, foci, and asymptotes; given a graph write the equation for the conic section in standard form; solve applications involving conic sections.**

82966-(MATH-C030-005)-Intermediate Algebra  
by Mitchell Alves

In the future develop assignments in the course website tied to this SLO and require students to score 90% or better.

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82564-(MATH-C030-003)-Intermediate Algebra  
by Mitchell Alves

In the future develop assignments in the course website tied to this SLO and require students to score 90% or better.

---

**Use appropriate technology such as calculators or computer software to enhance mathematical thinking, visualization, and understanding, to solve mathematical problems, and judge the reasonableness of the results.**

82564-(MATH-C030-003)-Intermediate Algebra  
by Mitchell Alves

In the future develop assignments in the course website tied to this SLO and require students to score 90% or better.

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82966-(MATH-C030-005)-Intermediate Algebra  
by Mitchell Alves

In the future develop assignments in the course website tied to this SLO and require students to score 90% or better.

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**( MATH-C030) Institutional SLO & Qualitative Notes**

**Demonstrate ability to apply critical thinking and analysis.**

82966-(MATH-C030-005)-Intermediate Algebra  
by Mitchell Alves

In the future develop assignments in the course website tied to this SLO and require students to score 90% or better.

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82564-(MATH-C030-003)-Intermediate Algebra  
by Mitchell Alves

In the future develop assignments in the course website tied to this SLO and require students to score 90% or better.

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**Demonstrate information competency.**

82564-(MATH-C030-003)-Intermediate Algebra  
by Mitchell Alves

In the future develop assignments in the course website tied to this SLO and require students to score 90% or better.

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82966-(MATH-C030-005)-Intermediate Algebra  
by Mitchell Alves

In the future develop assignments in the course website tied to this SLO and require students to score 90% or better.

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**Demonstrate innovative thinking, and adaptive, creative problem solving skills.**

82564-(MATH-C030-003)-Intermediate Algebra  
by Mitchell Alves

In the future develop assignments in the course website tied to this SLO and require students to score 90% or better.

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82966-(MATH-C030-005)-Intermediate Algebra  
by Mitchell Alves

In the future develop assignments in the course website tied to this SLO and require students to score 90% or better.

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**Use scientific and quantitative reasoning.**

82564-(MATH-C030-003)-Intermediate Algebra  
by Mitchell Alves

In the future develop assignments in the course website tied to this SLO and require students to score 90% or better.

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82966-(MATH-C030-005)-Intermediate Algebra  
by Mitchell Alves

In the future develop assignments in the course website tied to this SLO and require students to score 90% or better.

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**Adequately explain thinking and mathematical processes, and justify mathematical solutions effectively and accurately.**

82966-(MATH-C030-005)-Intermediate Algebra  
by Mitchell Alves

In the future develop assignments in the course website tied to this SLO and require students to score 90% or better.

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82564-(MATH-C030-003)-Intermediate Algebra  
by Mitchell Alves

In the future develop assignments in the course website tied to this SLO and require students to score 90% or better.

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**Select and apply correct quantitative methods to find the correct solution to a problem in familiar or unique situations or contexts.**

82564-(MATH-C030-003)-Intermediate Algebra  
by Mitchell Alves

In the future develop assignments in the course website tied to this SLO and require students to score 90% or better.

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82966-(MATH-C030-005)-Intermediate Algebra  
by Mitchell Alves

In the future develop assignments in the course website tied to this SLO and require students to score 90% or better.

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**( MATH-C103) Course Level SLO & Qualitative Notes**

**Collect, analyze, and summarize sample data; write inferences; make predictions; and explain the learning process used by elementary school students to master these topics.**

82271-(MATH-C103-001)-Statistics For Elemen Teachers  
by Richard Shiring

The students in this course are generally very conscientious students who are very close to earning their Elementary Education Teaching Credential or they are already educators trying to expand on the subjects they are qualified to teach. This was true for 75% of the class who completed all their assignments and exams plus the three special projects required in this course including an Observation of an Elementary class in session: These students received excellent grades in the course. However, twenty percent of this class (4 students) procrastinated and did not complete the Special Projects and then failed to take the Final Exam: These students failed the course. It is unfortunate that SLO ratings have to include the results of these irresponsible students who did not even respond to any “wake-up” e-mails attempting to help them. There were also two other students (10%) of the class who have requested taking the Final Exam in January having missed the messages and e-mails indicating when the DLC would close for the holidays, and their current total scores on which the SLO ratings are based reflect this missing grade.

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**( MATH-C103) Institutional SLO & Qualitative Notes**

**Demonstrate ability to apply critical thinking and analysis.**

82271-(MATH-C103-001)-Statistics For Elemen Teachers  
by Richard Shiring

The students in this course are generally very conscientious students who are very close to earning their Elementary Education Teaching Credential or they are already educators trying to expand on the subjects they are qualified to teach. This was true for 75% of the class who completed all their assignments and exams plus the three special projects required in this course including an Observation of an Elementary class in session: These students received excellent grades in the course. However, twenty percent of this class (4 students) procrastinated and did not complete the Special Projects and then failed to take the Final Exam: These students failed the course. It is unfortunate that SLO ratings have to include the results of these irresponsible students who did not even respond to any “wake-up” e-mails attempting to help them. There were also two other students (10%) of the class who have requested taking the Final Exam in January having missed the messages and e-mails indicating when the DLC would close for the holidays, and their current total scores on which the SLO ratings are based reflect this missing grade.

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**Demonstrate innovative thinking, and adaptive, creative problem solving skills.**

82271-(MATH-C103-001)-Statistics For Elemen Teachers  
by Richard Shiring

The students in this course are generally very conscientious students who are very close to earning their Elementary Education Teaching Credential or they are already educators trying to expand on the subjects they are qualified to teach. This was true for 75% of the class who completed all their assignments and exams plus the three special projects required in this course including an Observation of an Elementary class in session: These students received excellent grades in the course. However, twenty percent of this class (4 students) procrastinated and did not complete the Special Projects and then failed to take the Final Exam: These students failed the course. It is unfortunate that SLO ratings have to include the results of these irresponsible students who did not even respond to any “wake-up” e-mails attempting to help them. There were also two other students (10%) of the class who have requested taking the Final Exam in January having missed the messages and e-mails indicating when the DLC would close for the holidays, and their current total scores on which the SLO ratings are based reflect this missing grade.

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**Use scientiic and quantitative reasoning.**

82271-(MATH-C103-001)-Statistics For Elemen Teachers  
by Richard Shiring

The students in this course are generally very conscientious students who are very close to earning their Elementary Education Teaching Credential or they are already educators trying to expand on the subjects they are qualified to teach. This was true for 75% of the class who completed all their assignments and exams plus the three special projects required in this course including an Observation of an Elementary class in session: These students received excellent grades in the course. However, twenty percent of this class (4 students) procrastinated and did not complete the Special Projects and then failed to take the Final Exam: These students failed the course. It is unfortunate that SLO ratings have to include the results of these irresponsible students who did not even respond to any “wake-up” e-mails attempting to help them. There were also two other students (10%) of the class who have requested taking the Final Exam in January having missed the messages and e-mails indicating when the DLC would close for the holidays, and their current total scores on which the SLO ratings are based reflect this missing grade.

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**( MATH-C103) Program Level SLO & Qualitative Notes**

**Adequately explain thinking and mathematical processes, and justify mathematical solutions effectively and accurately.**

82271-(MATH-C103-001)-Statistics For Elemen Teachers

by Richard Shiring

The students in this course are generally very conscientious students who are very close to earning their Elementary Education Teaching Credential or they are already educators trying to expand on the subjects they are qualified to teach. This was true for 75% of the class who completed all their assignments and exams plus the three special projects required in this course including an Observation of an Elementary class in session: These students received excellent grades in the course. However, twenty percent of this class (4 students) procrastinated and did not complete the Special Projects and then failed to take the Final Exam: These students failed the course. It is unfortunate that SLO ratings have to include the results of these irresponsible students who did not even respond to any “wake-up” e-mails attempting to help them. There were also two other students (10%) of the class who have requested taking the Final Exam in January having missed the messages and e-mails indicating when the DLC would close for the holidays, and their current total scores on which the SLO ratings are based reflect this missing grade.

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**Select and apply correct quantitative methods to find the correct solution to a problem in familiar or unique situations or contexts.**

82271-(MATH-C103-001)-Statistics For Elemen Teachers

by Richard Shiring

The students in this course are generally very conscientious students who are very close to earning their Elementary Education Teaching Credential or they are already educators trying to expand on the subjects they are qualified to teach. This was true for 75% of the class who completed all their assignments and exams plus the three special projects required in this course including an Observation of an Elementary class in session: These students received excellent grades in the course. However, twenty percent of this class (4 students) procrastinated and did not complete the Special Projects and then failed to take the Final Exam: These students failed the course. It is unfortunate that SLO ratings have to include the results of these irresponsible students who did not even respond to any “wake-up” e-mails attempting to help them. There were also two other students (10%) of the class who have requested taking the Final Exam in January having missed the messages and e-mails indicating when the DLC would close for the holidays, and their current total scores on which the SLO ratings are based reflect this missing grade.

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**( MATH-C104) Course Level SLO & Qualitative Notes**

**Apply number theory, arithmetic and algebraic concepts at a collegiate level and understand the learning process used by elementary school students to master these topics.**

81565-(MATH-C104-001)-Mathematics for Elem Teachers

by Jihad Jaber

This objective was met through the Observation and the Lesson Report assignment in Elementary Schools.

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**( MATH-C104) Institutional SLO & Qualitative Notes**

**Demonstrate ability to apply critical thinking and analysis.**

81565-(MATH-C104-001)-Mathematics for Elem Teachers

by Jihad Jaber

## Student Outcomes Qualitative Notes during CCC Fall 2012 for Mathematics

Most students archived this outcome in the Midterm Exam mainly in the problems that covered: looking for patterns in a sequences and find the Function rule; finding the missing digits in a sequence; solving word problems to build a system of equations to solve for two variables.; and magic squares.

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### **Demonstrate innovative thinking, and adaptive, creative problem solving skills.**

81565-(MATH-C104-001)-Mathematics for Elem Teachers  
by Jihad Jaber

Most students did achieve this outcome in the Interpretation of Data; in tables and sequences; in solving a word problem to find the walking area around a garden with given dimensions of the garden and the width of the walking area; and in finding the maximum quotient possible in dividing a 3 digit number by a 2 digit number, give 5 numbers to build from.

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### **Use scientiic and quantitative reasoning.**

81565-(MATH-C104-001)-Mathematics for Elem Teachers  
by Jihad Jaber

Some students struggled in finding the missing digits in addition and subtraction problems In future semesters, this will be discussed in the discussion board to avoid it.

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### **( MATH-C104) Program Level SLO & Qualitative Notes**

#### **Adequately explain thinking and mathematical processes, and justify mathematical solutions effectively and accurately.**

81565-(MATH-C104-001)-Mathematics for Elem Teachers  
by Jihad Jaber

Many students partially met this outcome in word problems like: Missy earns \$ 60/hour and Adam earns \$30/hour they earn the same amount per week, but Adam works 3 more hours; how many hours did each work? In future semesters, more of this type of problems will be added to the discussion board and the Midterm Review.

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#### **Select and apply correct quantitative methods to find the correct solution to a problem in familiar or unique situations or contexts.**

81565-(MATH-C104-001)-Mathematics for Elem Teachers  
by Jihad Jaber

Many students did not achieve this outcome; in finding the area of a walkway around a garden with the given dimensions; not given graph. This will have to be enforced in the discussion board in the coming semesters to ask the students with a graph and labeling it first.

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**( MATH-C120) Course Level SLO & Qualitative Notes**

**Identify and apply the laws and functions for trigonometric functions and inverse trigonometric functions.**

82799-(MATH-C120-001)-Trigonometry  
by Thanhthuy Lieu

Solve the triangle with the given angle  $B = 51$ ,  $A = 26$ , and  $c = 24$ .

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83807-(MATH-C120-003)-Trigonometry  
by Richard Shiring

This class consisted of 32 students: Seventy-two percent were high school students in the Early College-High School Program at Costa Mesa; the other 28% were regular College Students. The regular college students were a highly motivated group most of whom needed the course to transfer and therefore were very conscientious. The Early-College High-School student group was a very well disciplined group of young adults that were eager to learn. In a group of close nit high school students such as this group, there is a competitiveness among them to score well on exams that helps to motivate them and this definitely improves the overall class performance. High school students are also more regimented and disciplined with respect to doing homework assignments and class attendance. With most of this group having perfect or near perfect attendance records and timely completion of assignments, their overall class performance was very satisfactory.

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**( MATH-C120) Institutional SLO & Qualitative Notes**

**Demonstrate innovative thinking, and adaptive, creative problem solving skills.**

83807-(MATH-C120-003)-Trigonometry  
by Richard Shiring

This class consisted of 32 students: Seventy-two percent were high school students in the Early College-High School Program at Costa Mesa; the other 28% were regular College Students. The regular college students were a highly motivated group most of whom needed the course to transfer and therefore were very conscientious. The Early-College High-School student group was a very well disciplined group of young adults that were eager to learn. In a group of close nit high school students such as this group, there is a competitiveness among them to score well on exams that helps to motivate them and this definitely improves the overall class performance. High school students are also more regimented and disciplined with respect to doing homework assignments and class attendance. With most of this group having perfect or near perfect attendance records and timely completion of assignments, their overall class performance was very satisfactory.

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82799-(MATH-C120-001)-Trigonometry  
by Thanhthuy Lieu

Two ships leave port at the same time. One sails north at 16 knots (nautical miles per hour). The other sails 480 east of north at 25 knots. How far apart are the ships after one hour?

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**Use scientific and quantitative reasoning.**

82799-(MATH-C120-001)-Trigonometry  
by Thanhthuy Lieu

Use the identities for the cosine of a sum to simplify  $\cos(\alpha+270^\circ)$

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83807-(MATH-C120-003)-Trigonometry  
by Richard Shiring

This class consisted of 32 students: Seventy-two percent were high school students in the Early College-High School Program at Costa Mesa; the other 28% were regular College Students. The regular college students were a highly motivated group most of whom needed the course to transfer and therefore were very conscientious. The Early-College High-School student group was a very well disciplined group of young adults that were eager to learn. In a group of close nit high school students such as this group, there is a competitiveness among them to score well on exams that helps to motivate them and this definitely improves the overall class performance. High school students are also more regimented and disciplined with respect to doing homework assignments and class attendance. With most of this group having perfect or near perfect attendance records and timely completion of assignments, their overall class performance was very satisfactory.

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## ( MATH-C120) Program Level SLO & Qualitative Notes

**Adequately explain thinking and mathematical processes, and justify mathematical solutions effectively and accurately.**

83807-(MATH-C120-003)-Trigonometry  
by Richard Shiring

This class consisted of 32 students: Seventy-two percent were high school students in the Early College-High School Program at Costa Mesa; the other 28% were regular College Students. The regular college students were a highly motivated group most of whom needed the course to transfer and therefore were very conscientious. The Early-College High-School student group was a very well disciplined group of young adults that were eager to learn. In a group of close nit high school students such as this group, there is a competitiveness among them to score well on exams that helps to motivate them and this definitely improves the overall class performance. High school students are also more regimented and disciplined with respect to doing homework assignments and class attendance. With most of this group having perfect or near perfect attendance records and timely completion of assignments, their overall class performance was very satisfactory.

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82799-(MATH-C120-001)-Trigonometry  
by Thanhthuy Lieu

Given  $\sin A = -1/2$  and  $\sin B = 1/4$ , with A in quadrant 4 and B in quadrant 2. Find  $\cos(A+B)$ .

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**Select and apply correct quantitative methods to find the correct solution to a problem in familiar or unique situations or contexts.**

82799-(MATH-C120-001)-Trigonometry  
by Thanhthuy Lieu

Find the values of angle  $\theta$  on the interval  $[0, 360]$  that satisfy the equation:  $2 \cos^2 \theta - \cos \theta = 1$

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83807-(MATH-C120-003)-Trigonometry  
by Richard Shiring

This class consisted of 32 students: Seventy-two percent were high school students in the Early College-High School Program at Costa Mesa; the other 28% were regular College Students. The regular college students were a highly motivated group most of whom needed the course to transfer and therefore were very conscientious. The Early-College High-School student group was a very

well disciplined group of young adults that were eager to learn. In a group of close nit high school students such as this group, there is a competitiveness among them to score well on exams that helps to motivate them and this definitely improves the overall class performance. High school students are also more regimented and disciplined with respect to doing homework assignments and class attendance. With most of this group having perfect or near perfect attendance records and timely completion of assignments, their overall class performance was very satisfactory.

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### **Select and use appropriate software and apply conceptual thinking skills to solve problems and complete specific technology-related projects.**

83807-(MATH-C120-003)-Trigonometry  
by Richard Shiring

This class consisted of 32 students: Seventy-two percent were high school students in the Early College-High School Program at Costa Mesa; the other 28% were regular College Students. The regular college students were a highly motivated group most of whom needed the course to transfer and therefore were very conscientious. The Early-College High-School student group was a very well disciplined group of young adults that were eager to learn. In a group of close nit high school students such as this group, there is a competitiveness among them to score well on exams that helps to motivate them and this definitely improves the overall class performance. High school students are also more regimented and disciplined with respect to doing homework assignments and class attendance. With most of this group having perfect or near perfect attendance records and timely completion of assignments, their overall class performance was very satisfactory.

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82799-(MATH-C120-001)-Trigonometry  
by Thanhthuy Lieu

Perform the indicated operation. Write the answer in the form  $a + bi$ .  $5(\cos 60^\circ + i \sin 60^\circ) \cdot 2(\cos 90^\circ + i \sin 90^\circ)$

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### **( MATH-C150) Institutional SLO & Qualitative Notes**

#### **Demonstrate ability to apply critical thinking and analysis.**

83773-(MATH-C150-001)-Finite Math with Applications  
by Thanhthuy Lieu

Construct the true table for the compound statement  $p \sim (sc)$

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#### **Demonstrate innovative thinking, and adaptive, creative problem solving skills.**

83773-(MATH-C150-001)-Finite Math with Applications  
by Thanhthuy Lieu

Let  $p$  represent “the puppy behaves well,” let  $q$  represent “the puppy’s owners are happy,” and let  $r$  represent “the puppy is trained.” Express the statement in words.  $(rp) \rightarrow q$  a. If the puppy is trained and the puppy behaves well, then his owners are happy. b. If the puppy is trained or the puppy behaves well, then his owners are happy. c. If the puppy is trained, then the puppy behaves well and his owners are happy. d. The puppy is trained and the puppy behaves well if his owners are happy.

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#### **Use scientiic and quantitative reasoning.**

83773-(MATH-C150-001)-Finite Math with Applications  
by Thanhthuy Lieu

Bill needs \$8000 to buy a new car in five years. How much should he deposit at the end of every quarter into an account that earns 8% interest compounded quarterly?

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**( MATH-C150) Program Level SLO & Qualitative Notes**

**Accurately interpret and create mathematical models such as formulas, graphs, tables, and schematics; include predictions based on the model.**

83773-(MATH-C150-001)-Finite Math with Applications  
by Thanhthuy Lieu

A small print shop that produces full-color brochures has start-up costs of \$8,000 for equipment. The total cost,  $C(x)$ , in dollars, for the shop to produce  $x$  brochures and the revenue  $R(x)$ , in dollars, from the sale of  $x$  brochures are given by the equations  $C(x)=8,000+2.0x$   $R(x)=3.5x$  a. Sketch the graph of this system of equations over the interval  $0 \leq x \leq 8000$  b. What do the coefficients 2.0 and 3.5 represent on the graph, and what do they represent in terms of the print shop's costs and revenues? c. Solve the equations algebraically to find the number of brochure where the revenue and cost are the same. How much will you have in revenue and cost at this time?

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**Adequately explain thinking and mathematical processes, and justify mathematical solutions effectively and accurately.**

83773-(MATH-C150-001)-Finite Math with Applications  
by Thanhthuy Lieu

A survey revealed that 35% of students are majored in business, 20% are majored in physic, and 40% are majored in both business and physic. What is the probability that a person will be majored in either business or physic? Express your answer as a percentage.

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**Select and apply correct quantitative methods to find the correct solution to a problem in familiar or unique situations or contexts.**

83773-(MATH-C150-001)-Finite Math with Applications  
by Thanhthuy Lieu

Use the Gauss-Jordan method to solve the system of the equations.  $x + y + z = 5$   $-2x - 3y + 2z = 8$   $3x - y - 2z = 3$

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**Select and use appropriate software and apply conceptual thinking skills to solve problems and complete specific technology-related projects.**

83773-(MATH-C150-001)-Finite Math with Applications  
by Thanhthuy Lieu

## Student Outcomes Qualitative Notes during CCC Fall 2012 for Mathematics

The following table is an abbreviated life expectancy table for U.S. males. Current Age: 0, 20, 50, 60, 80 Life Expectancy: 75.2, 76.2, 78.7, 82.8, 90.2 a. Complete the table and find the values of m and b for the straight line that provides the best least-squares fit to these data  $\hat{y} = mx + b$ . Use the straight line of part (a) to estimate the life expectancy of a 40-year-old U.S. male. (Note: the actual life expectancy is 78.0 years.)

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### (MATH-C160) Course Level SLO & Qualitative Notes

**Collect, analyze, and summarize sample data; write inferences; make predictions; and solve problems involving analysis of variance.**

82568-(MATH-C160-002)-Introduction To Statistics  
by Lisa Lee

Students had difficulty to complete the hypothesis testing steps. More examples are needed to enforce the concepts.

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82693-(MATH-C160-003)-Introduction To Statistics  
by Lisa Lee

Students had difficulty to complete the hypothesis testing steps. More examples are needed to enforce the concepts.

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83579-(MATH-C160-005)-Introduction To Statistics  
by May Xu

Use semester project to do this.

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83622-(MATH-C160-007)-Introduction To Statistics  
by Lisa Lee

Students had difficulty to complete the hypothesis testing steps. More examples are needed to enforce the concepts.

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### (MATH-C160) Institutional SLO & Qualitative Notes

**Demonstrate ability to apply critical thinking and analysis.**

83622-(MATH-C160-007)-Introduction To Statistics  
by Lisa Lee

Students had difficulty to complete the hypothesis testing steps. More examples are needed to enforce the concepts.

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83579-(MATH-C160-005)-Introduction To Statistics

# Student Outcomes Qualitative Notes during CCC Fall 2012 for Mathematics

by May Xu

This is always a challenge for some students

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82693-(MATH-C160-003)-Introduction To Statistics  
by Lisa Lee

Students had difficulty to complete the hypothesis testing steps. More examples are needed to enforce the concepts.

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82568-(MATH-C160-002)-Introduction To Statistics  
by Lisa Lee

Students had difficulty to complete the hypothesis testing steps. More examples are needed to enforce the concepts.

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## **Demonstrate information competency.**

83579-(MATH-C160-005)-Introduction To Statistics  
by May Xu

Majority students able to do that.

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82568-(MATH-C160-002)-Introduction To Statistics  
by Lisa Lee

Students had difficulty to complete the hypothesis testing steps. More examples are needed to enforce the concepts.

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82693-(MATH-C160-003)-Introduction To Statistics  
by Lisa Lee

Students had difficulty to complete the hypothesis testing steps. More examples are needed to enforce the concepts.

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83622-(MATH-C160-007)-Introduction To Statistics  
by Lisa Lee

Students had difficulty to complete the hypothesis testing steps. More examples are needed to enforce the concepts.

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## **Demonstrate innovative thinking, and adaptive, creative problem solving skills.**

82693-(MATH-C160-003)-Introduction To Statistics

## Student Outcomes Qualitative Notes during CCC Fall 2012 for Mathematics

by Lisa Lee

Students had difficulty to complete the hypothesis testing steps. More examples are needed to enforce the concepts.

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83579-(MATH-C160-005)-Introduction To Statistics  
by May Xu

Need improvement.

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83622-(MATH-C160-007)-Introduction To Statistics  
by Lisa Lee

Students had difficulty to complete the hypothesis testing steps. More examples are needed to enforce the concepts.

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82568-(MATH-C160-002)-Introduction To Statistics  
by Lisa Lee

Students had difficulty to complete the hypothesis testing steps. More examples are needed to enforce the concepts.

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### **Use scientiic and quantitative reasoning.**

83579-(MATH-C160-005)-Introduction To Statistics  
by May Xu

progress made

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83622-(MATH-C160-007)-Introduction To Statistics  
by Lisa Lee

Students had difficulty to complete the hypothesis testing steps. More examples are needed to enforce the concepts.

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82693-(MATH-C160-003)-Introduction To Statistics  
by Lisa Lee

Students had difficulty to complete the hypothesis testing steps. More examples are needed to enforce the concepts.

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82568-(MATH-C160-002)-Introduction To Statistics  
by Lisa Lee

Students had difficulty to complete the hypothesis testing steps. More examples are needed to enforce the concepts.

**( MATH-C160) Program Level SLO & Qualitative Notes**

**Accurately interpret and create mathematical models such as formulas, graphs, tables, and schematics; include predictions based on the model.**

82568-(MATH-C160-002)-Introduction To Statistics  
by Lisa Lee

Students had difficulty to complete the hypothesis testing steps. More examples are needed to enforce the concepts.

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82693-(MATH-C160-003)-Introduction To Statistics  
by Lisa Lee

Students had difficulty to complete the hypothesis testing steps. More examples are needed to enforce the concepts.

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83622-(MATH-C160-007)-Introduction To Statistics  
by Lisa Lee

Students had difficulty to complete the hypothesis testing steps. More examples are needed to enforce the concepts.

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83579-(MATH-C160-005)-Introduction To Statistics  
by May Xu

progress made

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**Adequately explain thinking and mathematical processes, and justify mathematical solutions effectively and accurately.**

83579-(MATH-C160-005)-Introduction To Statistics  
by May Xu

need more practice.

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83622-(MATH-C160-007)-Introduction To Statistics  
by Lisa Lee

Students had difficulty to complete the hypothesis testing steps. More examples are needed to enforce the concepts.

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82693-(MATH-C160-003)-Introduction To Statistics

## Student Outcomes Qualitative Notes during CCC Fall 2012 for Mathematics

by Lisa Lee

Students had difficulty to complete the hypothesis testing steps. More examples are needed to enforce the concepts.

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82568-(MATH-C160-002)-Introduction To Statistics

by Lisa Lee

Students had difficulty to complete the hypothesis testing steps. More examples are needed to enforce the concepts.

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### **Select and apply correct quantitative methods to find the correct solution to a problem in familiar or unique situations or contexts.**

82568-(MATH-C160-002)-Introduction To Statistics

by Lisa Lee

Students had difficulty to complete the hypothesis testing steps. More examples are needed to enforce the concepts.

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82693-(MATH-C160-003)-Introduction To Statistics

by Lisa Lee

Students had difficulty to complete the hypothesis testing steps. More examples are needed to enforce the concepts.

---

83622-(MATH-C160-007)-Introduction To Statistics

by Lisa Lee

Students had difficulty to complete the hypothesis testing steps. More examples are needed to enforce the concepts.

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83579-(MATH-C160-005)-Introduction To Statistics

by May Xu

Need to improve on the reading skills

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### **Select and use appropriate software and apply conceptual thinking skills to solve problems and complete specific technology-related projects.**

83579-(MATH-C160-005)-Introduction To Statistics

by May Xu

Using technology and other web resources

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83622-(MATH-C160-007)-Introduction To Statistics

## Student Outcomes Qualitative Notes during CCC Fall 2012 for Mathematics

by Lisa Lee

Students had difficulty to complete the hypothesis testing steps. More examples are needed to enforce the concepts.

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82693-(MATH-C160-003)-Introduction To Statistics

by Lisa Lee

Students had difficulty to complete the hypothesis testing steps. More examples are needed to enforce the concepts.

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82568-(MATH-C160-002)-Introduction To Statistics

by Lisa Lee

Students had difficulty to complete the hypothesis testing steps. More examples are needed to enforce the concepts.

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### **( MATH-C170) Course Level SLO & Qualitative Notes**

**Given a function, find real and complex roots to solve, graph, and model polynomial and trigonometric equations and decompose a rational expression.**

81103-(MATH-C170-001)-Precalculus

by Mitchell Alves

In the future develop assignments in the course website tied to this SLO and require students to score 90% or better.

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### **( MATH-C170) Institutional SLO & Qualitative Notes**

**Demonstrate ability to apply critical thinking and analysis.**

81103-(MATH-C170-001)-Precalculus

by Mitchell Alves

In the future develop assignments in the course website tied to this SLO and require students to score 90% or better.

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**Demonstrate innovative thinking, and adaptive, creative problem solving skills.**

81103-(MATH-C170-001)-Precalculus

by Mitchell Alves

In the future develop assignments in the course website tied to this SLO and require students to score 90% or better.

**Use scientific and quantitative reasoning.**

81103-(MATH-C170-001)-Precalculus  
by Mitchell Alves

In the future develop assignments in the course website tied to this SLO and require students to score 90% or better.

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**( MATH-C170) Program Level SLO & Qualitative Notes**

**Adequately explain thinking and mathematical processes, and justify mathematical solutions effectively and accurately.**

81103-(MATH-C170-001)-Precalculus  
by Mitchell Alves

In the future develop assignments in the course website tied to this SLO and require students to score 90% or better.

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**Select and apply correct quantitative methods to find the correct solution to a problem in familiar or unique situations or contexts.**

81103-(MATH-C170-001)-Precalculus  
by Mitchell Alves

In the future develop assignments in the course website tied to this SLO and require students to score 90% or better.

---

**Select and use appropriate software and apply conceptual thinking skills to solve problems and complete specific technology-related projects.**

81103-(MATH-C170-001)-Precalculus  
by Mitchell Alves

In the future develop assignments in the course website tied to this SLO and require students to score 90% or better.

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**( MATH-C180) Course Level SLO & Qualitative Notes**

**Apply differential calculus and integration skills to solve problems involving area, volume, length of curves, surface of revolution, moments and centers of mass, work and fluid forces.**

83612-(MATH-C180-003)-Calculus 1

by Lisa Lee

Students had difficulty to solve the problem that involved with the area between two curves by using Intergration. More examples should be given as supplementary materials to enforce the concepts.

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**( MATH-C180) Institutional SLO & Qualitative Notes**

**Demonstrate ability to apply critical thinking and analysis.**

83612-(MATH-C180-003)-Calculus 1

by Lisa Lee

Students had difficulty to solve the problem that involved with the area between two curves by using Intergration. More examples should be given as supplementary materials to enforce the concepts.

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**Demonstrate innovative thinking, and adaptive, creative problem solving skills.**

83612-(MATH-C180-003)-Calculus 1

by Lisa Lee

Students had difficulty to solve the problem that involved with the area between two curves by using Intergration. More examples should be given as supplementary materials to enforce the concepts.

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**Use scientiic and quantitative reasoning.**

83612-(MATH-C180-003)-Calculus 1

by Lisa Lee

Students had difficulty to solve the problem that involved with the area between two curves by using Intergration. More examples should be given as supplementary materials to enforce the concepts.

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**( MATH-C180) Program Level SLO & Qualitative Notes**

**Adequately explain thinking and mathematical processes, and justify mathematical solutions effectively and accurately.**

83612-(MATH-C180-003)-Calculus 1  
by Lisa Lee

Students had difficulty to solve the problem that involved with the area between two curves by using Intergration. More examples should be given as supplementary materials to enforce the concepts.

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**Select and apply correct quantitative methods to find the correct solution to a problem in familiar or unique situations or contexts.**

83612-(MATH-C180-003)-Calculus 1  
by Lisa Lee

Students had difficulty to solve the problem that involved with the area between two curves by using Intergration. More examples should be given as supplementary materials to enforce the concepts.

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**Select and use appropriate software and apply conceptual thinking skills to solve problems and complete specific technology-related projects.**

83612-(MATH-C180-003)-Calculus 1  
by Lisa Lee

Students had difficulty to solve the problem that involved with the area between two curves by using Intergration. More examples should be given as supplementary materials to enforce the concepts.

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**( MATH-C185) Course Level SLO & Qualitative Notes**

**Solve first-order differential equations; apply higher-level integration skills; and determine the convergence or divergence of sequences, series, and power series.**

81160-(MATH-C185-001)-Calculus 2  
by Nigie Shi

Taking calculus 2 online requires self-displine and good self-study skills. Many students dropped the course early in the semester. However, most remaining students finished the course with A or B.

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**( MATH-C280) Course Level SLO & Qualitative Notes**

**Apply multiple integrals, principles of differential calculus, and integration to solve problems involving vector fields and calculate partial derivatives.**

83066-(MATH-C280-001)-Calculus 3  
by Jose Villalobos

## Student Outcomes Qualitative Notes during CCC Fall 2012 for Mathematics

The SLO was measured using the final exam. The results were the following. Fully Met: 69% Partially Met: 17% Did Not Met: 14% I will not be teaching this class in the near future. (These results are not final since some students haven't taken the final exam)

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### ( MATH-C280) Institutional SLO & Qualitative Notes

#### **Demonstrate ability to apply critical thinking and analysis.**

83066-(MATH-C280-001)-Calculus 3  
by Jose Villalobos

The SLO was measured using the final exam. The results were the following. Fully Met: 69% Partially Met: 17% Did Not Met: 14% I will not be teaching this class in the near future. (These results are not final since some students haven't taken the final exam)

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#### **Demonstrate innovative thinking, and adaptive, creative problem solving skills.**

83066-(MATH-C280-001)-Calculus 3  
by Jose Villalobos

The SLO was measured using the final exam. The results were the following. Fully Met: 69% Partially Met: 17% Did Not Met: 14% I will not be teaching this class in the near future. (These results are not final since some students haven't taken the final exam)

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#### **Use scientific and quantitative reasoning.**

83066-(MATH-C280-001)-Calculus 3  
by Jose Villalobos

The SLO was measured using the final exam. The results were the following. Fully Met: 69% Partially Met: 17% Did Not Met: 14% I will not be teaching this class in the near future. (These results are not final since some students haven't taken the final exam)

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### ( MATH-C280) Program Level SLO & Qualitative Notes

#### **Adequately explain thinking and mathematical processes, and justify mathematical solutions effectively and accurately.**

83066-(MATH-C280-001)-Calculus 3  
by Jose Villalobos

The SLO was measured using the final exam. The results were the following. Fully Met: 69% Partially Met: 17% Did Not Met: 14% I will not be teaching this class in the near future. (These results are not final since some students haven't taken the final exam)

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**Select and apply correct quantitative methods to find the correct solution to a problem in familiar or unique situations or contexts.**

83066-(MATH-C280-001)-Calculus 3  
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**Select and use appropriate software and apply conceptual thinking skills to solve problems and complete specific technology-related projects.**

83066-(MATH-C280-001)-Calculus 3  
by Jose Villalobos

The SLO was measured using the final exam. The results were the following. Fully Met: 69% Patially Met: 17% Did Not Met: 14% I will not be teaching this class in the near future. (These results are not final since some students haven't taken the final exam)

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