



Southwestern Program Review Mathematics Program

Process

Program Review is a continuous process of collecting, evaluating, and using information to determine if and how well performance matches learning or service outcomes which occurs on at least a triennial basis. We gather evidence of student learning; discover the degree to which courses, programs, and administrative and educational support services accomplish intended outcomes; and probe the achievement of institutional projects, core themes, and mission. Southwestern conducts program reviews of all programs and services on a quadrennial basis (every 4 years) and uses the results of the assessments to enhance and improve current programs and services.

Resources

Program Review detailed instructions
[Report Documentation](#) – myLakerLink on the Resource Center tab
Reports – must be on campus or access network to process reports
[Course Completion Report](#)
[Course Completion by Course Report](#)
[Course Completion by Degree Report](#)
[Course Enrollments Report](#)
[GL Unit Costs by Fund by Unit Report](#)
[Graduates by Major Report](#)
[OLMIS](#) – Employment Opportunities
Persistence Report – being developed
[Student Enrollment Report – Enrollments, FTE, Billing Credits](#)
Transfer Reports – being developed

Program review consists of the following elements

- ✓ [Program Description and Goals / Philosophy](#)
- ✓ [Program Narratives](#)
- ✓ [Student Learning Outcomes](#) including measures and criterion for achievement
- ✓ [Operational Data](#) analysis
 - I. [Enrollments](#)
 - II. [Financial Viability](#)
 - III. [Efficiency of Delivery](#)
 - IV. [Instructional Effectiveness](#)
 - V. [Program Student Success](#)
 - VI. [Program Relevance](#)
 - VII. [Graduate Student Success](#)
- ✓ [Projects](#) planned based on evidence
- ✓ Association with core themes and other planning, processes/projects
- ✓ Activity [Timeline](#)

All reports are available within myLakerLink and are located on the Resource Center tab. Links to all reports are located within each section title of this document. Program Review requirements for certain sections include multiple reports with additional links to the reports located within the specific section of the report.

PART A: Program Review Narratives

Program Description and Goals / Philosophy

The Mathematics Program (Developmental Education Mathematics and Lower-Division Collegiate Mathematics) provides educational opportunities for all students in the SWOCC community, particularly in fulfilling the mathematics requirements for the AA/OT, OTM, ASOT, AS, and AGS degrees. The Mathematics Program also meets the following Mathematics student learning outcomes:

- Read, interpret, write, and communicate mathematical concepts with understanding, clarity, and precision.
- Demonstrate proficiency in the use of symbolic, graphical, numerical, and written representations of mathematical ideas.
- Use mathematical reasoning to identify, apply, and explain an appropriate mathematical structure or method when solving problems.
- Estimate and check solutions to problems and determine reasonableness, implications, and limitations of the methods used in context.
- Use appropriate technology to enhance mathematical thinking and understanding.
- Demonstrate an appreciation for mathematics as a rich theoretical and applied discipline.

Administration

- **Faculty / Staffing:** The Mathematics faculty consists of 5 full-time faculty and generally 7 part-time faculty. This current program review focuses on all mathematics courses. However, the overall mathematics review will also break into two areas: Developmental Education Mathematics and Lower-Division Collegiate Mathematics. Developmental Education Mathematics includes both remediation courses and CTE program mathematics courses. The LDC Mathematics courses include all math courses with numbering higher than 100. The Developmental Education Mathematics courses include all math courses with numbering lower than 100.
 - 2014/15 Faculty: Nikki Armstrong, Sean Hutcherson, Kyriakos Kypriotakis, Carol McKillip, Rob Rioux
 - 2014/15 Part-Time Faculty: Rick Worley, John Christiansen, Paula Leifer, Dawn Richardson, Billie Shannon, Norman Derby (Curry), Larry Vincent (Curry), Heinz Falenski (Curry)
 - Faculty changes 2011-2014: John Christiansen retired (2011), Kyriakos Kypriotakis hired (2011), George Elkins retired (2013), Rob Rioux hired (2013), Billie Shannon retired (2014), Nikki Armstrong hired (2014)
- **Professional Development:** At least one full-time faculty member participates in the statewide meetings of the Developmental Education Work Group, and all full-time faculty are members of and participate in the annual conference of the Oregon Mathematical Association of Two-Year Colleges. One faculty member is a member of the American Mathematical Association of Two-Year Colleges as well as the National Council for Teachers of Mathematics. Faculty regularly attend conferences and workshops nationwide. The Mathematics Department holds regular department meetings and discussions to assess current scholarship, resources, curriculum, and best-practices.
- **Support Services used (or identified need):** The Math Learning Center on the Southwestern Oregon Community College Coos Bay Campus provides support to the following Developmental Education courses: MTH 20, 60, 65, 95, 98. The MLC uses the emporium model of instruction with ALEKS instructional software. The Tutoring Center provides services for students needing additional help with all Mathematics courses. Transitional education is available for students needing reinforcement of adult basic skills and comprehension skills in Mathematics.

- **Advisory Committee (activities and membership):** N/A
- **Community Relationships / Partnerships:** The Mathematics faculty all participate actively in the Oregon Mathematical Association of Two Year Colleges. The Director of the Math Learning Center participates monthly with the South Coast Education Service District Curriculum Directors in the emerging Oregon Math Network.
- **Program Accreditation (if applicable):** N/A

Curriculum

- **Degrees/Certificates offered and changes since last review:** Mathematics has offered an AS Mathematics Emphasis, yet this degree has not been articulated with a university. Therefore, beginning fall 2015 that degree has been dropped from the SWOCC catalog. No known students had graduated with an AS Mathematics Emphasis degree.
- **Course list and changes since last review, including new and revised courses:** All Mathematics course outlines and student learning outcomes have been updated in 2014-2015. The Mathematics course outlines will now be placed on a regular, four-year, full rotation update.

As of fall 2015, the Math Department offers 30 courses. There are 11 Developmental Education courses and 19 Lower-Division Collegiate courses.

Prior to fall 2015 Lower-Division Collegiate students were required to take and pass MTH 111 College Algebra to obtain a transfer degree. However, beginning fall 2015 students will have a non-algebraic math option that allows for MTH 105 Math in Society as an additional path to graduation. Addition of MTH 98 (Math Literacy) to the 2015/16 Catalog was made in response to this state-wide recognition of an alternative pathway to Math 105.

Other changes to the courses include:

Removal of MTH 97 from the 2013/14 Catalog. Removal of MTH 265 from the 2014/15 Catalog.

Addition of MTH 82 to the 2014/15 Catalog.

The Developmental Education sequence 20/70/94/95 was restructured to 20/60/65/95 to align with other Oregon Community Colleges; this included revision of the order of some of the course content. The new courses were listed in the 2014/15 Catalog.

Revision of outlines for the second year Calculus sequence included restructuring course content to align with engineering programs offered across the state. Course descriptions remained the same.

Addition of MTH 199A, Excelling in Math, a math study skills course. This course is experimental.

- **Career Pathway/Program of Study Efforts:** N/A

- **Delivery Methods/Instructional Methodology:** In Spring 2012, SWOCC adopted the Hawkes mastery-based program and opened the Math Learning Center, using the emporium model for self-paced instruction in the early Developmental Education Mathematics courses, 20 and 70. In Fall 2015, the Hawkes program was replaced with ALEKS. Mathematics courses in the MLC have instruction supplemented with hybrid/online resources and with face-to-face lectures, practice, and assessments. Online instruction includes online lectures, practice, and assessments.

The only online Mathematics courses offered are MTH 20, 60, 65, 95, 105, 111, 112. A comparison of 2014-2015 mathematics face-to-face and online courses reveals that out of 1482 students, 1154 (78%) took face-to-face Mathematics classes while 369 (22%) took online Mathematics courses. The completion rate for face-to-face classes is 64.30%, and the completion rate for the online classes is 57.18%

- **Articulation/Transferability:** SWOCC mathematics courses have been recently reviewed to verify alignment with Oregon universities. This review needs to continue as well as the discussion to convert some 4-credit mathematics courses to 5-credit courses.
- **Course scheduling issues:** Mathematics course scheduling is complex because of competing math lab availability, five full-time instructors full schedules, Related to scheduling is the difficulty of incorporating effective mathematics instruction into online courses.
- **Instructional Materials (textbook, software issues):** The Mathematics full-time faculty make a department selection for all Mathematics course textbooks used by both full- and part-time Mathematics instructors—this allows for more consistent instruction. The full-time Mathematics Director of the Math Lab coordinates and supervises the development of Mathematics courses. The textbooks are available in the College Bookstore and from online sources, and are generally easily and readily available for students.

Students

- **Recruitment:** The Mathematics program does not actively recruit.
- **Advising:** The Mathematics department has purposely met with each full-time faculty member and key campus areas such as advising and student services to explain the differences among the different math options and to determine the specific math needs of individual programs. The Mathematics Department has also generated advising guides to assist faculty and students in determining which courses are appropriate for students' academic and professional goals.
- **Student Satisfaction:** Evaluations of the full- and part-time Mathematics faculty are solid with the average student ratings for 29 math sections averages 4.00 out of 5 for spring 2015. Full-time faculty ratings average 4.07 out of 5 for 15 different sections while part-time faculty ratings average 3.93 out of 5 for 14 different sections.
- **Student Assessment Methods:** Student learning outcomes for Mathematics courses are assessed through lecture, quizzes, homework, projects, standardized tests, unit tests, and final exams. The Hawkes emporium model is proficiency-based, so students must demonstrate proficiency before moving on to the next module.

Facilities/Budget

- **Budget Changes over past 4 years:** The budget essentially has not changed over the past 4 years with an average 3.9% increase each year. The average annual budget is \$485,613.00 for the last five years.
- **Instructional Materials (software, supplies, etc.):** In 2012, the CASE grant purchased 25 computes for the newly-created Math Learning Center.
- **Equipment lists and needs:** In 2012, the CASE grant purchased 25 computes for the newly-created Math Learning Center.
- **Facilities lists and needs:** The Math Learning Center is located at TIOGA 409.
- **Student fees; N/A**

Progress of Planned Projects

- Describe progress made for each project activities planned for prior year.

NOT REQUIRED FOR 2013-2014 PROGRAM REVIEW

PART B: Program Outcomes Data Review

Student Learning Outcomes - Measures - Criteria

Outcome 1	Measureable Criteria	Measurement Tool	Courses	Time Frame
Read, interpret, write and communicate mathematical concepts with understanding, clarity, and precision.	80% of students receive a grade of C or higher	Quiz 1	MTH 65	Fall 2015

Results: Mth 65, Quiz 1. The average score was approximately 87%. 14 out of 16 or 87% students received a C or higher and 13 out of 16 or 81% a B or higher grade.

Analysis: We tested mth65 course outcome; graphing linear equations and functions. Attached is a copy of the quiz. Students do understand that parallel lines have the same slope and perpendicular lines have slopes that are the negative reciprocals of each other. And used these properties to graph parallel and perpendicular lines.

Plan: To keep reinforcing the concept that when working with equations in more than one variable, using the Cartesian graph can be an important tool to make equations easier to visualize and understand.

Outcome 2	Measureable Criteria	Measurement Tool	Courses	Time Frame
Demonstrate proficiency in the use of symbolic, graphical, numerical, and written representations of mathematical ideas.	80% of students receive a grade of C or higher	Quiz 5	MTH 65	Fall 2015

Results: Mth 65, Quiz 5. The overall student grade was 87.5%. 14 out of 16 or 87.5% scored a C or higher and 75% of them did a B or better.

Analysis: The outcome we tested was executing mathematical operations with rational expressions and functions. Students had to demonstrate proficiency in using symbolic and numerical representations of rational expressions and being able to add/subtract/multiply and divide them and find their corresponding domains. A copy of the quiz is attached, extra credit was not counted in this analysis.

Plan: Students do understand that rational expressions are closed under addition, subtraction, multiplication, and division they also know how to add, subtract, multiply, and divide rational expressions. They're really not that different from adding, subtracting, and multiplying polynomials.

Outcome 3	Measureable Criteria	Measurement Tool	Courses	Time Frame
Use mathematical reasoning to identify, apply, and explain an appropriate mathematical structure or method when solving problems.	80% of students receive a grade of C or higher	Test 2 Confidence Intervals	MTH 243	Fall 2015

Results: Mth 243, test 2. The overall student grade was 73.4% and 85% of the student population scored 75% or higher.

Analysis: The outcome we tested was confidence intervals for one mean with sigma known. Students had determine the appropriate z-value to be used given the level of confidence and given a confidence level and sample statistic from a random sample from a population of interest, calculate a confidence interval for the population mean.

Plan: A key goal in applied mathematics is to make inferences about unknown population parameters based on sample statistics. We will keep computing confidence intervals for the means and proportions in independent samples.

Outcome 4	Measureable Criteria	Measurement Tool	Courses	Time Frame
Estimate and check solutions to problems and determine reasonableness, implications, and limitations of the methods used in context.	80% of students receive a grade of C or higher	Homework	MTH 98	Fall 2015

Results: MTH 98, Lesson 1-4 Applications. The overall student grade was 77%. 22 out of 25 students or 88% scored a C or higher.

Analysis: The outcome we assessed was using estimation and number sense in context. Students had to estimate frequencies from a pie chart, estimate a distance from a map, approximate a purchase total, and estimate a tip using rounding and mental math. Students checked their answers for accuracy in total frequency count as well as discussed the limitations they experienced in producing their estimates.

Plan: Students have difficulty using estimation in place of finding an exact answer and seeing the purpose in doing so. Students also struggle with pausing to reflect on the reasonableness of their answers. We will continue to present students with opportunities to estimate and observe what is limiting their ability to estimate accurately. We will continue to prompt students to consider if their answers are reasonable in the context given.

Outcome 5	Measureable Criteria	Measurement Tool	Courses	Time Frame
Use appropriate technology to enhance mathematical thinking and understanding.	80% of students receive a grade of C or higher	Technology assignment – Excel spreadsheet	MTH 98	Fall 2015

Results: Mth 98, Lesson 1-1 Technology Assignment. The overall student grade was 90%. 20 out of 25 or 80% scored a C or higher.

Analysis: The outcome we tested was using frequencies and percentages to create a pie chart. Students had to create a time schedule chart, create a corresponding frequency chart for time schedule categories, and use excel to create a pie chart representing the time spent for various categories. Students were asked to reflect on and analyze their pie chart.

Plan: Students have difficulty visualizing percentages and using them in different contexts. We will continue to present students with opportunities to work with percentages in a variety of contexts with and without technology.

Outcome 6	Measureable Criteria	Measurement Tool	Courses	Time Frame
Demonstrate an appreciation for mathematics as a rich theoretical and applied discipline.	To be determined	MSEAQ Informal class evaluation	MTH 65 MTH 112	Spring 2015

Results: 5 students took the survey. Results were mixed. Will be currently re-doing the survey.

Analysis:

Plan:

PART C: Program Operational Data Review

I Enrollments

Exhibit I.A: Total Enrollments – Program

Exhibit I.B: Number of Students in Major, if applicable

Exhibit I.C: Student Demographics (optional)

- **Analysis:** *Reflect upon the trends, what does the data tell you, what has been accomplished/achieved and where are the gaps.*

The total enrollments in the overall Mathematics program have decreased 11% between 2009 and 2013. The year 2009 had a total enrollment of 2655 students while in 2013, the total enrollment in 2013 was 2364 students. This decrease represents an average of 2.7% decrease each year.

The total enrollments in Developmental Education Mathematics decreased 21% between 2009 and 2013. The year 2009 had a total enrollment of 1799 students while in 2013, the total enrollment in 2013 was 1417 students. This decrease represents an average of 5.64% decrease each year.

The total enrollments in Lower-Division Mathematics increased 12.77% between 2009 and 2013. The year 2013 had a total enrollment of 947 students, while 2010, the total enrollment was 756 students. This increase represents an average of 3.19% increase each year.

Developmental Education Mathematics makes up approximately 68% of entire Mathematics program. Lower-Division Collegiate Mathematics makes up approximately 32% of the entire Mathematics program.

- **Plan:** *Respond to the data evidence – how will the data results be utilized to enhance and improve program enrollments, list specific planned projects*
 - 1.
 - 2.

II. Financial Viability

Exhibit II.A: Student FTE

Exhibit II.B: Billing Credits

Exhibit II.C: Cost / FTE

- **Analysis:** *Reflect upon the trends, what does the data tell you, what has been accomplished/achieved and where are the gaps*
The average Mathematics annual student FTE is 223.72 with Developmental Education Mathematics annual student FTE at 148.23 and Lower-Division Collegiate Mathematics annual student FTE at 74.12.

The year 2009 has the most student FTE for Mathematics (235.8) and for Developmental Education Mathematics (159.75). Yet the year 2013 has the most student FTE for Lower-Division Collegiate Mathematics (83.58).

- The annual average Mathematics annual billing credits is 8396.8 with Developmental Education Mathematics annual billing credits at 5128.4 and Lower-Division Collegiate at 2268.4.

The lowest year of Mathematics annual billing credits differs for each area. The year 2013 is lowest for Mathematics (7480); 2011 is the lowest year for Developmental Education Mathematics (1313); and 2013 is the lowest year for Lower-Division Collegiate(

- **Plan:** *Respond to the data evidence – how will the data results be utilized to enhance and improve the financial viability of the program, list specific planned projects*
 - 1.
 - 2.

III. Efficiency of Delivery

Exhibit III.A: Average Class Enrollments

Exhibit III.B: Student FTE to Faculty FTE Ratio (1 Faculty FTE = 45 Workload Credits)

Exhibit III.C: Course Capacity Percentage (section enrollment is what percent of section capacity)

- **Analysis:** *Reflect upon the trends, what does the data tell you, what has been accomplished/achieved and where are the gaps.*
Average enrollments for all Mathematics classes are 12.39 students per class. Developmental Education Mathematics class average enrollments are at 12.57 students, and Lower-Division Collegiate Mathematics class average enrollments are at 12.25 students.

Average student FTE to faculty FTE ration for all Mathematics classes is 19.19. Developmental Education Mathematics average student FTE to faculty FTE ratio is 12.57. Lower-Division Collegiate Mathematics average student FTE to faculty FTE ratio is 6.39.

Average course capacity (fill rate) for all Mathematics classes is 69.4%. Developmental Education Mathematics average course capacity is 52%. Lower-Division Collegiate Mathematics course capacity is 46.6%.

- **Plan:** *Respond to the data evidence – how will the data results be utilized to enhance the efficiency of delivery associated with the program, list specific planned projects*
 - 1.
 - 2.

IV. Instructional Effectiveness

Exhibit IV.A: Course Retention – completion rate

- **Analysis:** *Reflect upon the trends, what does the data tell you, what has been accomplished/achieved and where are the gaps*
Average course retention-completion rate for all Mathematics is 86.2%. Developmental Education Mathematics average retention-completion rate is 65%. Lower-Division Collegiate Mathematics average retention-completion rate is 82.2%.

- **Plan:** *Respond to the data evidence – how will the data results be utilized to enhance and improve instructional effectiveness of the program, list specific planned projects.*
 - 1.
 - 2.

V. Program Student Success

~~Exhibit V.A: Program Persistence from Persistence Report (being developed)~~

~~Exhibit V.B: Program Completers (Graduated) (unduplicated student count)~~

~~Exhibit V.C: Program Awards (all certificates and degree, duplicated)~~

~~Exhibit V.D: Transfer Rate (student who did not graduate yet transferred) from Transfer Report (being developed)~~

~~Exhibit V.E: Transfer Figures from Transfer Report (being developed)~~

- **Analysis:** *Reflect upon the trends, what does the data tell you, what has been accomplished/achieved and where are the gaps*
N/A
- **Plan:** *Respond to the data evidence – how will the data results be utilized to enhance students success within the program, list specific planned projects*
N/A

VI. Program Relevance

Exhibit II.A: OLMIS Reports Demonstrate Employment Opportunities - **OLMIS DATA:** <http://www.qualityinfo.org/olmisj/OlmisZine>

Exhibit II.B: Advisory Committee Recommendations

- **Analysis:** *Reflect upon the trends, what does the data tell you, what has been accomplished/achieved and where are the gaps*
OLMIS is not applicable.
- **Plan:** *Respond to the data evidence – how will the data results be utilized to ensure program relevance of the program, list specific planned projects*
 - 1.
 - 2.

VII. Graduate Student Success: Oregon 4 Year Completion Data, Wage Match Data, Placement

Exhibit VI.A: 4 Year Achievement (if available)

Exhibit VI.B: Wage Information (if available)

Exhibit VI.C: Placement Rates (if available)

- **Analysis:** *Reflect upon the trends, what does the data tell you, what has been accomplished/achieved and where are the gaps*
- **Plan:** *Respond to the data evidence – how will the data results be utilized to enhance and improve graduate student success within the program, list specific planned projects*

PART D: Systemic Program Review

Systemic Program Enhancements and Projects Not Addressed in Program Outcomes or Operational Data Analysis Data

Address systemic issues

Proposed Systemic Project(s):

Systemic Program Viability Analysis

- **Program Demand:** Review of overall 4-year trend of enrollments in discipline courses 15.02%

Mathematics -2.7%

>10 Growing Strong (20 pt.)
 5-10% Growing (17 pt.)
 0-5% Maintaining (14 pt.)
 5-0% Dropping (10 pt.)
 <-5% (5 pt.)

Dev. Ed. Mathematics -5.6%

>10 Growing Strong (20 pt.)
 5-10% Growing (17 pt.)
 0-5% Maintaining (14 pt.)
 5-0% Dropping (10 pt.)
 <-5% (5 pt.)

LDC Mathematics 12.77%

>10 Growing Strong (20 pt.)
 5-10% Growing (17 pt.)
 0-5% Maintaining (14 pt.)
 5-0% Dropping (10 pt.)
 <-5% (5 pt.)

- **Program Outcomes Assessment:**

Assessment Category	No Evidence (1 pt.)	In Development <30% (2 pt.)	Implemented in Some Areas 30-80% (3 pt.)	Fully Implemented 81-100% (4 pt.)	TOTAL SCORE
Mathematics					
Development of course outcomes				x	4
Mapping course to program outcomes				x	4
Multiple Assessment measures documented and mapped to program outcomes				x	3
Course Assessment data collected and analyzed				x	4
Assessment Data used to improve course teaching / learning and is documented			x		3
Total					19

- **Program Size:** Review of unduplicated student FTE (all terms) in discipline courses in prior year

Mathematics 223.72

>50 FTE (20 pt.)

30-50 FTE (17 pt.)

20-30 FTE (14 pt.)

15-20 FTE (10 pt.)

10-14 FTE (7 pt.)

<10 FTE (5 pt.)

Dev. Ed. Mathematics 148.23

>50 FTE (20 pt.)

30-50 FTE (17 pt.)

20-30 FTE (14 pt.)

15-20 FTE (10 pt.)

10-14 FTE (7 pt.)

<10 FTE (5 pt.)

LDC Mathematics 74.2

>50 FTE (20 pt.)

30-50 FTE (17 pt.)

20-30 FTE (14 pt.)

15-20 FTE (10 pt.)

10-14 FTE (7 pt.)

<10 FTE (5 pt.)

- **Proposed Productivity:** Percent of students in all discipline classes for a year that earned C or better compared to number of students enrolled in same classes at end of second week

Mathematics 86.2%

>95% (20 pt.)

90-95% Growing (18 pt.)

80-90% Maintaining (16 pt.)

70-80% Dropping (14 pt.)

60-70% (10 pt.)

<10% (5 pt.)

Dev. Ed. Mathematics 65%

>95% (20 pt.)

90-95% Growing (18 pt.)

80-90% Maintaining (16 pt.)

70-80% Dropping (14 pt.)

60-70% (10 pt.)

<10% (5 pt.)

LDC Mathematics 80.2%

>95% (20 pt.)

90-95% Growing (18 pt.)

80-90% Maintaining (16 pt.)

70-80% Dropping (14 pt.)

60-70% (10 pt.)

<10% (5 pt.)

- **Program Cost:** Cost of program per student FTE in prior year

Mathematics \$2177.63

< \$1000/FTE (20 pt.)

\$1-2000/FTE (17.pt.)

\$2-3000/FTE (14 pt.)

\$3-4000/FTE (10 pt.)

\$>4000/FTE (5 pt.)

Dev. Ed Mathematics \$3305.97

< \$1000/FTE (20 pt.)

\$1-2000/FTE (17.pt.)

\$2-3000/FTE (14 pt.)

\$3-4000/FTE (10 pt.)

\$>4000/FTE (5 pt.)

LDC Mathematics \$6593.58

< \$1000/FTE (20 pt.)

\$1-2000/FTE (17.pt.)

\$2-3000/FTE (14 pt.)

\$3-4000/FTE (10 pt.)

\$>4000/FTE (5 pt.)

OVERALL PROGRAM VIABILITY SCORE:

Mathematics 74

Dev. Ed Mathematics 64

LDC Mathematics 80

PART E: Program Project Timeline – All Projects

Activity Timeline that includes core theme association, staff lead responsibility, start and projected end dates, association with other planning activities (academic master plan, technology plan, facilities plan), association with instructional projects.

Project	Person Responsible	Activity Year	Budget Request (for 2015 activities only)	Core Theme/ Objective	Associated Plans	Associated Projects
1. Create Math Honors option for college level courses: MTH 105, 111, 243, 256	Math Department	2016-2017	\$0	Learning & Achievement	See AMP	
2. Hire full-time math faculty (visiting/adjunct) Possible statistics option	VP Instruction	2016-2017	\$84,000	Learning & Achievement	See AMP	
3. Rearticulate AS Math with UO and OSU	Math Department	2016-2017	\$0	Learning & Achievement	See AMP	
4. Explore alternative textbook options for college-level courses	Math Department	2016-2017	\$0	Learning & Achievement	See AMP	
5. New carpet/flooring in Tioga 409 (Math Learning Center)	Maintenance			Learning & Achievement	See AMP	
6. Re-fill full-time math faculty to replace retiring faculty	VP Instruction	2016-2017	\$84,000	Learning & Achievement	See AMP	
7.						
8.						

Southwestern Oregon Community College does not discriminate on the basis of race, color, gender, sexual orientation, marital status, religion, national origin, age, disability status, gender identity, or protected veterans in employment, education, or activities as set forth in compliance with federal and state statutes and regulations.

Math Program Operational Data

Discipline: No Q, No X

Subjects: MTH

Other Criteria: XXXX

PART C: Program Operational Data Review

Base Criteria: Activity codes- XXXX

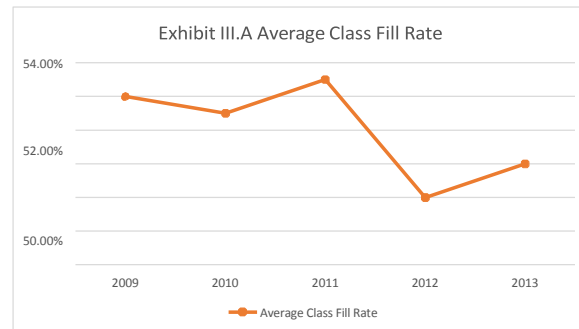
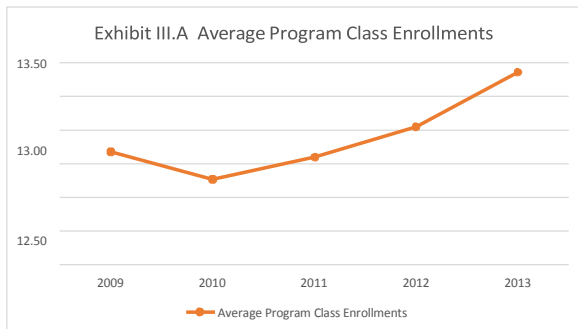
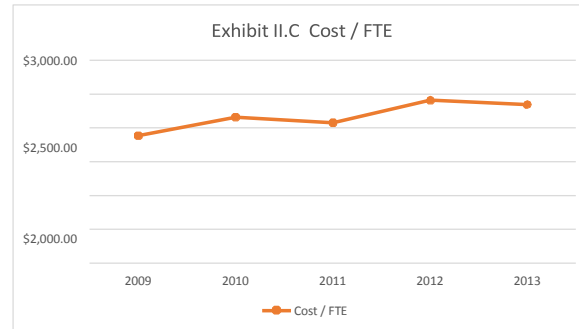
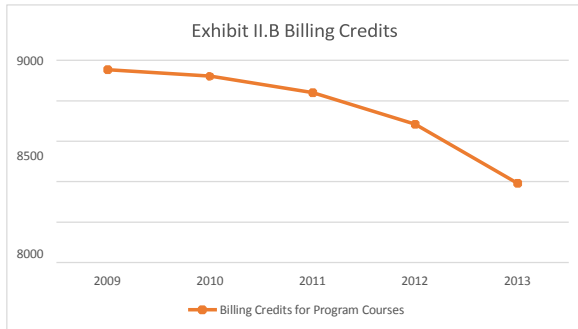
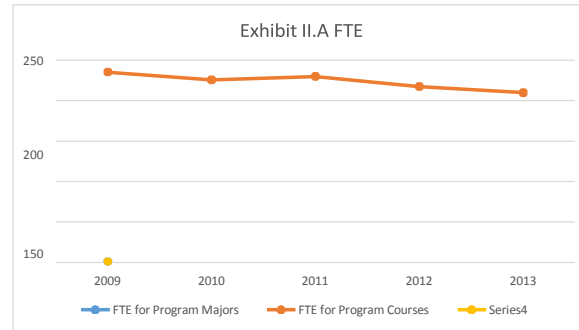
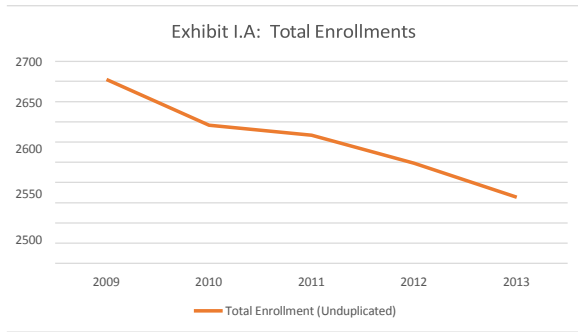
I Enrollments	Source*	2009	2010	2011	2012	2013
Exhibit I.A: Total Enrollments (all terms)	CER	2655	2542	2517	2448	2364
II. Financial Viability		2009	2010	2011	2012	2013
Exhibit II.A: FTE						
Exhibit II.A: FTE for program courses	CER	235.48	225.77	229.93	217.45	210.01
Exhibit II.B: Billing Credits						
Exhibit II.B: Billing Credits for program courses	CER	8886	8805	8601	8212	7480
Exhibit II.C: Cost / FTE						
Actuals: Cost for GL Unit XXXX (including FT and PT Faculty)	<i>Budget</i>	\$444,219.00	\$487,636.00	\$477,760.00	\$525,157.00	\$493,293.00
Student FTE (from II.A above)	<i>II.A</i>	235.48	225.77	229.93	217.45	210.01
Calculated Cost per Student FTE	<i>Calculated</i>	\$1,886.44	\$2,159.88	\$2,077.85	\$2,415.07	\$2,348.90
III. Efficiency of Delivery		2009	2010	2011	2012	2013
Exhibit III.A: Course Enrollments						
Average Class Enrollments	CER	12.18	11.77	12.10	12.55	13.36
Fill rate	CER	52.00%	51.00%	53.00%	46.00%	48.00%
Exhibit III.B: Student FTE to Faculty FTE Ratio						
Student FTE for Program Courses (II.A above)	<i>II.A</i>	235.48	225.77	229.93	217.45	210.01
Faculty FTE (FT and PT Faculty)	<i>Deans</i>	12.63	12.73	11.45	10.96	10.68
Calculated: Student FTE / Faculty FTE	<i>Calculated</i>	18.64	17.74	20.08	19.84	19.66
IV. Instructional Effectiveness		2009	2010	2011	2012	2013
Exhibit IV.A: Course Retention – completion rate	CCR	71%	70%	65%	68%	74%

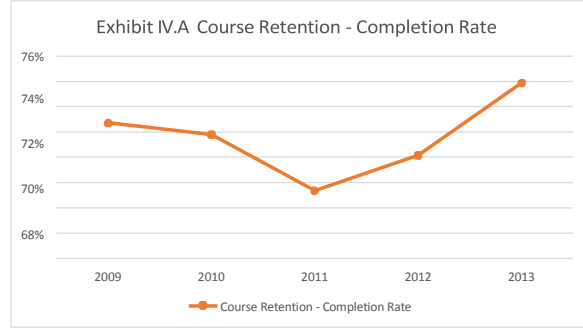
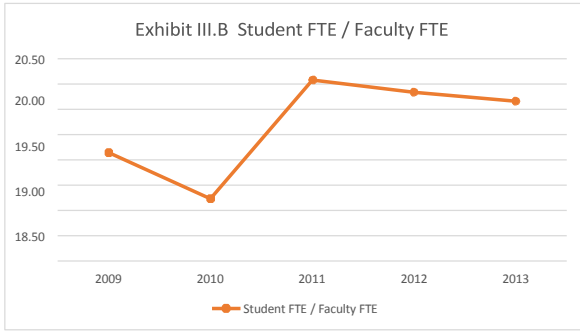
*Source Legend

CER = Course Enrollment Report
 CCR = Course Completion Report
 GBM = Graduates by Major Report
 SER = Student Enrollment Report
 Calculated = Calculated by Excel

average total enrollments 2505.2
 average enrollment changes -2.70%
 average student FTE 223.72
 average billing credits 8396.8
 average student/faculty F 19.19
 average class enrollment 12.39
 average fill rate 69.40%
 average retention-completion 86.20%
 average cost per student FTE \$2,177.63

Math Program Operational Data





Math LDC Program Operational Data

Discipline: No Q, No X

Subjects: MTH

Other Criteria: **XXXX**

PART C: Program Operational Data Review

Base Criteria: Activity codes- **XXXX**

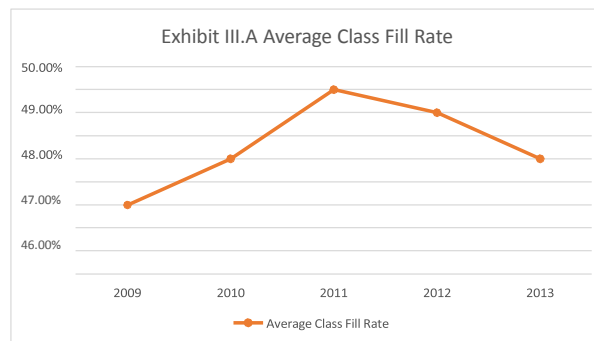
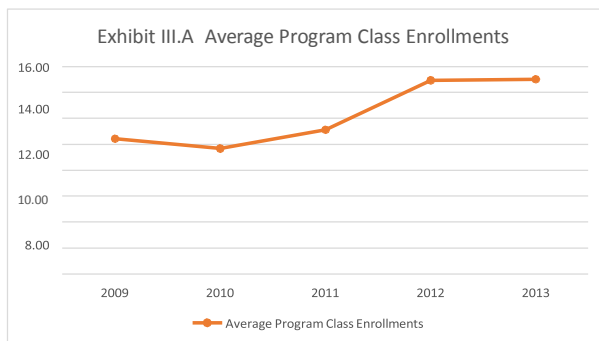
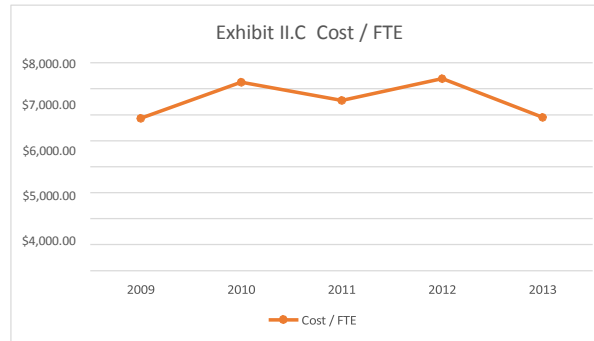
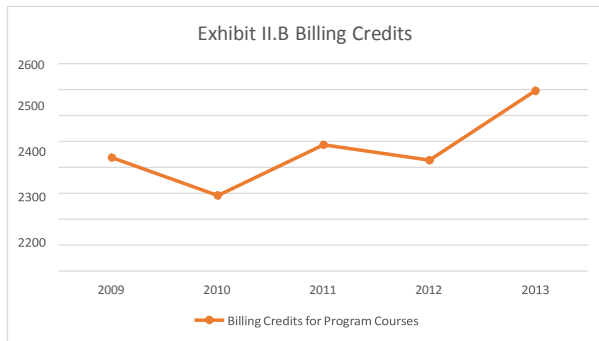
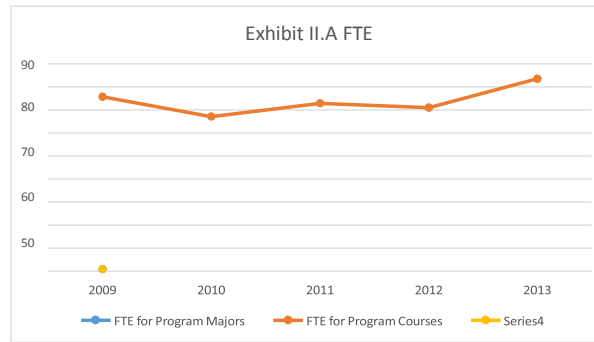
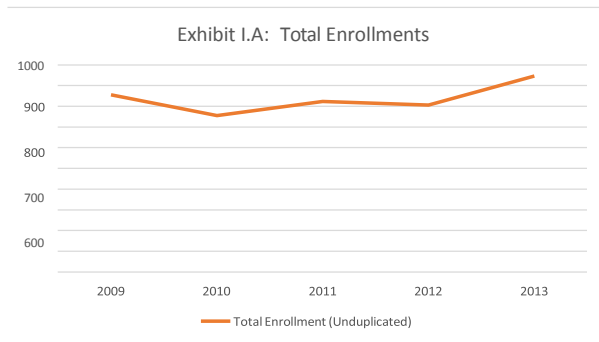
I Enrollments	Source*	2009	2010	2011	2012	2013
Exhibit I.A: Total Enrollments (all terms)	CER	856	756	824	807	947
II. Financial Viability		2009	2010	2011	2012	2013
Exhibit II.A: FTE						
Exhibit II.A: FTE for program courses	CER	75.73	67.19	72.94	71.04	83.58
Exhibit II.B: Billing Credits						
Exhibit II.B: Billing Credits for program courses	CER	2238	2092	2288	2228	2496
Exhibit II.C: Cost / FTE						
<i>Actuals: Cost for GL Unit XXXX (including FT and PT Faculty)</i>	<i>Budget</i>	\$444,219.00	\$487,636.00	\$477,760.00	\$525,157.00	\$493,293.00
<i>Student FTE (from II.A above)</i>	<i>II.A</i>	75.73	67.19	72.94	71.04	83.58
<i>Calculated Cost per Student FTE</i>	<i>Calculated</i>	\$5,865.83	\$7,257.57	\$6,550.04	\$7,392.41	\$5,902.05
III. Efficiency of Delivery		2009	2010	2011	2012	2013
Exhibit III.A: Course Enrollments						
Average Class Enrollments	CER	10.44	9.69	11.14	14.94	15.03
Fill rate	CER	44.00%	46.00%	49.00%	48.00%	46.00%
Exhibit III.B: Student FTE to Faculty FTE Ratio						
<i>Student FTE for Program Courses (II.A above)</i>	<i>II.A</i>	75.73	67.19	72.94	71.04	83.58
<i>Faculty FTE (FT and PT Faculty)</i>	<i>Deans</i>	12.63	12.73	11.45	10.96	10.68
<i>Calculated: Student FTE / Faculty FTE</i>	<i>Calculated</i>	6.00	5.28	6.37	6.48	7.83
IV. Instructional Effectiveness		2009	2010	2011	2012	2013
Exhibit IV.A: Course Retention – completion rate	CCR	84%	82%	79%	81%	85%

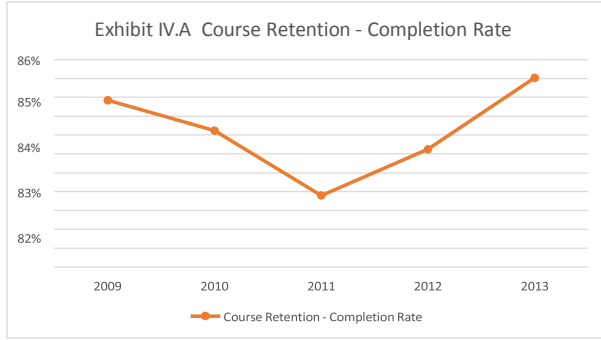
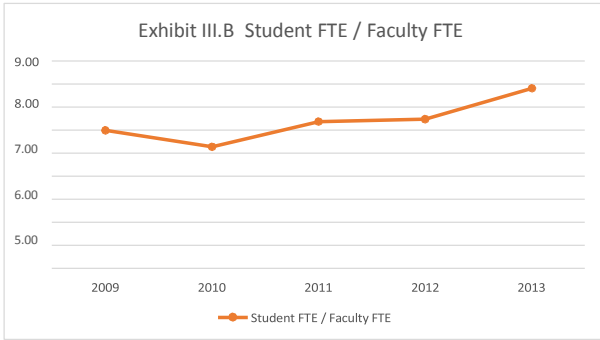
*Source Legend

CER = Course Enrollment Report
 CCR = Course Completion Report
 GBM = Graduates by Major Report
 SER = Student Enrollment Report
 Calculated = Calculated by Excel

average student enrollments 838
 average enrollment changes 3.19%
 average student FTE 74.2
 average billing credits 2268.4
 average student/faculty FTE 6.39
 average class enrollment 12.25

Math LDC Program Operational Data





Math Dev Ed Program Operational Data

Discipline: No Q, No X

Subjects: MTH

Other Criteria: XXXX

PART C: Program Operational Data Review

Base Criteria: Activity codes- XXXX

I Enrollments	Source*	2009	2010	2011	2012	2013
Exhibit I.A: Total Enrollments (all terms)	CER	1799	1786	1693	1641	1417
II. Financial Viability		2009	2010	2011	2012	2013
Exhibit II.A: FTE						
Exhibit II.A: FTE for program courses	CER	159.75	158.57	149.99	146.42	126.42
Exhibit II.B: Billing Credits						
Exhibit II.B: Billing Credits for program courses	CER	6648	6713	1313	5984	4984
Exhibit II.C: Cost / FTE						
Actuals: Cost for GL Unit XXXX (including FT and PT Faculty)	<i>Budget</i>	\$444,219.00	\$487,636.00	\$477,760.00	\$525,157.00	\$493,293.00
Student FTE (from II.A above)	<i>II.A</i>	159.75	158.57	149.99	146.42	126.42
Calculated Cost per Student FTE	<i>Calculated</i>	\$2,780.71	\$3,075.21	\$3,185.28	\$3,586.65	\$3,902.02
III. Efficiency of Delivery		2009	2010	2011	2012	2013
Exhibit III.A: Course Enrollments						
Average Class Enrollments	CER	13.23	12.94	12.63	11.64	12.43
Fill rate	CER	57.00%	54.00%	55.00%	45.00%	49.00%
Exhibit III.B: Student FTE to Faculty FTE Ratio						
Student FTE for Program Courses (II.A above)	<i>II.A</i>	159.75	158.57	149.99	146.42	126.42
Faculty FTE (FT and PT Faculty)	<i>Deans</i>	12.63	12.73	11.45	10.96	10.68
Calculated: Student FTE / Faculty FTE	<i>Calculated</i>	12.65	12.46	13.10	13.36	11.84
IV. Instructional Effectiveness		2009	2010	2011	2012	2013
Exhibit IV.A: Course Retention – completion rate	CCR	66%	66%	60%	64%	69%

*Source Legend

CER = Course Enrollment Report
 CCR = Course Completion Report
 GBM = Graduates by Major Report
 SER = Student Enrollment Report
 Calculated = Calculated by Excel

average student enrollment 1667.2
 average enrollment change -5.64%
 average student FTE 148.23
 average billing credits 5128.4
 average student/faculty F 12.68
 average class enrollment 12.57
 average fill rate 52%
 average retention-completion 65%
 average cost per student FTE \$3,305.97

Math Dev Ed Program Operational Data

