

# Peralta Community College District

Berkeley City College  
College of Alameda  
Laney College  
Merritt College



## Instructional Program Review Handbook

Fall 2015  
Version 4.



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# Purpose and Goals

The information gathered during the program review process provides the basis for informed decision making in the Peralta Community College District. Comprehensive Instructional Program Review is a systematic process for the collection, analysis, and interpretation of data concerning a program or department and its curriculum. It provides program and/or departmental accountability by collecting, analyzing and disseminating information that will inform integrated planning, resource allocation, and decision-making processes.

The primary goals are to:

- Ensure quality and excellence of academic programs.
- Provide a standardized methodology for review of instructional areas.
- Provide a mechanism for demonstrating continuous quality improvement, producing a foundation for action.
- Identify effective and exemplary practices.
- Strengthen planning and decision-making based upon current data.
- Identify resource needs.
- Develop recommendations and strategies concerning future directions and provide evidence supporting plans for the future, within the department, at the college and at the District level.
- Inform integrated planning at all levels within the College and the District.
- Ensure that educational programs reflect student needs, encourage student success, and foster improved teaching and learning.
- Provide a baseline document for demonstration of continuous improvement and use as a reference for future annual program updates.

# Components in the Process

The Comprehensive Instructional Program Review process, which occurs every three years, consists of answering a set of questions designed to aid in the examination of a discipline, department or program. These questions direct faculty to examine the curriculum, pedagogy, assessment results, and resource areas related to student success and to analyze findings in order to develop a plan that will improve the quality of teaching and learning.

The primary components in the Comprehensive Program Review process include:

- The Comprehensive Instructional Program Review Team
  - Core data elements
  - Completion of a Comprehensive Instructional Program Review Narrative Report every three years
  - Validation of the Comprehensive Instructional Program Review Report
  - Completion of three reporting templates (found in the appendix). They are:
    - The *Comprehensive Instructional Program Review Resource Requests Template* in which to summarize key resource needs.
    - The *Integrated Goal Setting Template* in which to set goals, objectives and action plans based upon the Comprehensive Instructional Program Review findings in alignment with PCCD Strategic Goals and Institutional Objectives.
    - The *Validation Process Form* in which to document the validity of the program review.
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- Annual Program Updates (APUs), which review progress in meeting goals identified in the Comprehensive Instructional Program Review, are completed in the alternate years within the Comprehensive Program Review three year- cycle.
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Thus, the recommendations and priorities from the Comprehensive Instructional Program Review feed directly into the development of departmental and/or unit plans. In turn, the departmental and/or unit plans serve as the driving mechanisms in formulation of updated educational, budget, technology and facilities plans.

# The Comprehensive Instructional Program Review Team

Each discipline, department or program at the college will assemble a Comprehensive Instructional Program Review Team at the College that is comprised of the following members:

- Department Chair, Program Coordinator, or discipline designee.
- Division Dean
- Two additional faculty members.
- All faculty members within a department are encouraged to participate in the comprehensive Instructional Program Review process, although participation is not mandatory.
- A college body, such as a validation committee or institutional effectiveness committee, comprised of faculty outside of the discipline, department or program.

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The Comprehensive Instructional Program Review Team will analyze the core data elements, course outlines, SLO assessment results, and complete the Comprehensive Instructional Program Review Narrative Report.

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**Validation:** A designated college body, such as a validation committee or institutional effectiveness committee, will review the Comprehensive Instructional Program Review Narrative Report to ensure completeness of the narrative report, the resource needs template, and the goal setting template.

The validation committee will complete the validation form, including signatures, included in Appendix C and make recommendations to the Vice President of Instruction.

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# Core Data Elements

## Part I. District Office

The *District Office of Institutional Research* will provide the following data to the College discipline, department or program by October 1<sup>st</sup> of each comprehensive program review year.

- Total enrollment data for each discipline, department or program (unduplicated) for the last three years disaggregated by age, gender, ethnicity and special populations.
  - Enrollment data for individual courses, by time of day, fall, spring and summer sessions, for the last three years.
  - FTES per FTEF (productivity) by course and discipline, department or program for the last three years.
  - College productivity rate for the last three years.
  - Degrees and certificates awarded, by discipline, department or program disaggregated by age, sex and ethnicity for the last three years.
  - Total degrees and certificates awarded by the college, per year, for the last three years.
  - Retention rates by course and discipline, department or program for the last three years.
  - Overall college retention rate.
  - Course completion (student success) rates, by course and discipline, department or program for the last three years.
  - College course completion rates for the last three years
  - Faculty Demographics: Full-time/part-time, age, gender, ethnicity
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## Part II. College

A. The *Office of Instruction and/or the Curriculum Specialist* at the College will provide the following to each discipline, department or program.

- A list of active courses in the discipline, department or program and the date they were last updated/approved.
  - A list of degrees and certificates
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B. The *Office of Instruction and/or SLO Coordinators* at the College will provide the following to each discipline, department or program.

- A list of courses and programs that depicts the current status of assessments at the course and program levels.
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C. The *Office of Instruction* at the College will provide the following to each discipline, department or program.

- A copy of the PCCD Strategic Goals and Institutional Objectives for the current academic year.
- A copy of the College Goals and Objectives for the current academic year.



# Definitions

**Discipline:** An individual area of study within a department/program. Each discipline consists of all the courses in the Master Course file that make of the discipline. This is the baseline level of instruction and is linked to a Taxonomy of Programs (TOP) code. TOP is a classification system for academic programs in the California Community Colleges.

**Department/Program:** An organized sequence of courses, or series of interdisciplinary courses, leading to a defined objective, a degree, a certificate, a diploma, a license, or transfer to an institution of higher education (Title 5 Section 55000).

**FTEF (Full Time Equivalent Faculty):** Also known as load equivalency. A full-time instructor teaching 15 lecture hours per week for one semester = 1.0 FTEF. One lecture hour = 50 minute instructional period. One lab hour = .8 of one lecture hour equivalent. This is a semester, or term, measure.

**FTES (Full Time Equivalent Student):** This measure is used as the basis for computation of state support for California Community Colleges. For example, one student attending 15 hours a week for 35 weeks (one academic year) generates 1 FTES.

**WSCH:** Weekly Student Contact Hours. For a particular class, Weekly Contact Hours = number of class hours per week, and WSCH for the class = total number of weekly contact hours for all students in the class as of census date.

To compute the FTES generated by a 17.5 week semester class use the formula:

$$\text{FTES} = \text{WSCH} \times 17.5 / 525$$

For example, a class of 40 students meeting 3 hours per week generates 120 WSCH, and so

$$\text{FTES} = 120 \times 17.5 / 525 = 4.0$$

**FTES/FTEF (Productivity):** The ratio of full-time equivalent students to full-time equivalent instructors. This is a measure of class size and will differ across disciplines and types of classes. For lecture classes, Productivity = enrollment/2. For example, if there are 35 students in a lecture class, productivity =  $35/2 = 17.5$ .

**Retention:** The percent of students earning any grade but “W” in a course or series of courses. To compute retention for a class, take class completion with grade other than “W” and divide by enrollment at census. Grade other than W = A, B, C, D, F, I, Pass, No Pass, In Progress, Report Delayed, No Grade

**Student Success:** Course completion rate with a grade “C” or better.

# The Comprehensive Instructional Program Review Report

## 1. College: Alameda

**Discipline, Department or Program: Mathematics**

**Date: 11/13/15**

**Members of the Comprehensive Instructional Program Review Team: Vanson Nguyen**

**Members of the Validation Team:**

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## 2. Narrative Description of the Discipline, Department or Program:

Please provide a mission statement or a brief general statement of the primary goals and objectives of the discipline, department or program. Include any unique characteristics, degrees and certificates the program or department currently offers, concerns or trends affecting the discipline, department or program, and a description of how the discipline, department or program aligns with the college mission statement.

It is the Mission of College of Alameda to serve the educational needs of its diverse community by providing comprehensive and flexible programs and resources that empower students to achieve their goals.

COA's Math Department is dedicated to providing a comprehensive and flexible program that enables students to transfer to a four-year institution with a major in Mathematics, Applied Mathematics, or other math- or science-oriented fields. Students who have completed the program will be mathematically prepared to succeed in junior level courses of the mathematics major, and will have already satisfied the math breadth requirements to graduate in any major.

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## 3. Curriculum:

Please answer the following questions and/or insert your most recent curriculum review report (within the past 3 years) here.

*Attach the Curriculum Review Report or Answer these Questions:*

- Have all of your course outlines of record been updated or deactivated in the past three years? If not, list the courses that still need updating and specify when your department will update each one, within the next three years.

Recently updated COORs: Math 1, 2, 3A, 3B, 3C, 3E, 11, 13  
Need to be updated: 12, 15, 16A, 49, 50, 202, 203, 225, 250, 253, 257

The following courses will be discussed as to whether activation, deactivation or inactivation is appropriate: 12, 16A, 49, 257

- What are the discipline, department or program of study plans for curriculum improvement (i.e., courses or programs to be developed, enhanced, or deactivated)?

Math 206 – Algebra for Statistics, will be developed for Fall 2016. There is an interest in bringing Math 1 (Pre...) back to course offerings to reduce the number of exit points for STEM majors.

- Please list your degrees and/or certificates. Can any of these degrees and/or certificates be completed through Distance Education (50% or more of the course online)? Which degree or certificate?

AA, AS, AA-T, AS-T in mathematics are available. These degrees cannot be completed through distance education.

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#### 4. Assessment:

Please answer the following questions and attach the TaskStream “At a Glance” report for your discipline, department, or program for the past three years. Please review the “At a Glance” reports and answer the following questions.

*Questions:*

- How does your discipline, department or program ensure that students are aware of the learning outcomes of the courses and instructional programs in which they are enrolled? Where are your discipline, department or program course and program SLOs published? (For example: syllabi, catalog, department website, etc. If they are on a website, please include a live link to the page where they can be found)

Catalog is directly on website:

<http://alameda.peralta.edu/college-catalog/files/2015/08/Mathematics.pdf>

Course SLO's are not available for public viewing. Program Learning Outcomes are available on the course website:

<http://alameda.peralta.edu/mathematics/>

- Briefly describe at least three of the **most significant changes/improvements** your discipline, department or program made in the past three years as a response to course and program assessment results. Please state the course number or program name and assessment cycle (year) for each example and attach the data from the “Status Report” section of TaskStream for these findings.

Improvement 1.

N/A

Improvement 2.

N/A

Improvement 3.

N/A

- **Briefly describe three of the most significant examples** of your discipline, department or program plans for course and /or program level improvement for the next three years as result of what you learned during the assessment process. Please state the course number or program name and attach the data from the “Assessment Findings and Action Plan” section for each example.

Plan 1. Assess all courses over the next 3 academic years

Plan 2. Use both formative and summative assessments

Plan 3. N/A

- Describe how assessment results for Distance Education courses and/or programs compare to the results for the corresponding face-to-face classes.

N/A

- Describe assessment results for courses with multiple sections. Are there similar results in each section?

N/A

- Describe your discipline, department or program participation in assessment of institutional level outcomes (ILOs).

SLO's are mapped to ILO's and, consequently, are assessing both at the course and institutional level. Additionally, as the PRIEC develops ILO assessments, the Math department will work directly with the committee to gather data.

- How are your course and/or program level outcomes aligned with the institutional level outcomes? Please describe and attach the “Goal Alignment Summary” from TaskStream.

See attached.

## 5. Instruction:

- Describe effective and innovative strategies used by faculty to involve students in the learning process.

Project based learning and collaborative learning are used in the classroom; this type of pedagogy engages students with curricular content and makes the student the center of the learning process.

- How has new technology been used by the discipline, department or program to improve student learning?

Technology is used in the classroom in several ways: online course management system (Moodle), online homework through Pearson My Math Lab and Cengage Web Assign for calculus, Texas Instruments graphing calculators provide real-time graphing and statistical functionality.

- How does the discipline, department, or program maintain the integrity and consistency of academic standards with all methods of delivery, including face to face, hybrid, and Distance Education courses?

By attending conferences, the math department is able to stay up to date with all methods of delivery. These include California Mathematics Council of Community Colleges (CMC<sup>3</sup>), Creating Balance in an Unjust World (CBUW), Teachers for Social Justice (T4SJ). Additionally, the department meets regularly about assessment; in those discussions, curriculum and pedagogy are the primary topics that include new, innovative practices.

- How do you ensure that Distance Education classes have the same level of rigor as the corresponding face-to-face classes?

The department uses the same course outline of record. The expectations in Distance Education are no difference than face-to-face: delivery is different, but students are still required to do homework, take tests, quizzes and finals; there is no disparity in this sense.

- Briefly discuss the enrollment trends of your discipline, department or program. Include the following:
  - Overall enrollment trends in the past three years

|           | 2012<br>Summer | 2012<br>Fall | 2013<br>Spring | 2013<br>Summer | 2013<br>Fall | 2014<br>Spring | 2014<br>Summer | 2014<br>Fall | 2015<br>Spring |
|-----------|----------------|--------------|----------------|----------------|--------------|----------------|----------------|--------------|----------------|
| Headcount | 790            | 1,485        | 1,600          | 773            | 1,481        | 1,646          | 558            | 1,305        | 1,403          |

- An explanation of student demand (or lack thereof) for specific courses.

Mathematics is required for Associate's Degrees, CSU transfer and Intersegmental General Education Transfer Curriculum (IGETC). Additionally, Math is a pre-requisite for several science courses. As a result, demand for mathematics is high. Math 203, Intermediate Algebra, is

the minimum Associate's degree requirement and has the most offerings. Math 13 Introduction to Statistics, is the math transfer requirement for non-STEM majors and has the second most offerings.

- Productivity for the discipline, department, or program compared to the college productivity rate.

|              | 2012<br>SUMMER | 2012<br>FALL | 2013<br>SPRING | 2013<br>SUMMER | 2013<br>FALL | 2014<br>SPRING | 2014<br>SUMMER | 2014<br>FALL | 2015<br>SPRING |
|--------------|----------------|--------------|----------------|----------------|--------------|----------------|----------------|--------------|----------------|
| Productivity | 21.53          | 23.38        | 22.60          | 19.59          | 21.84        | 22.50          | 16.31          | 21.52        | 21.39          |

College productivity rate 17.5%

- Salient factors, if known, affecting the enrollment and productivity trends you mention above.

Math is a general education and transfer requirement for every degree and major. As a result, demand is high and productivity is high; in fact, the department regularly beats the college productivity rate during the regular semesters (non-summer). This helps out the college in that other programs with lower productivity are balanced out by the Math department.

- Are courses scheduled in a manner that meets student needs and demands? How do you know?

Look at past enrollment data and schedule classes that are most popular for subsequent semesters. With improved placement initiative coming down the pipeline, an extra Math 13 and Math 3A are offered.

- Recommendations and priorities.

Hire 2 new full-time faculty members: enrollment is healthy, courses are always in demand, the department is looking to add instructional programming (see section 10) and the department is majorly dependent on part timers (there is a 1:3 ratio of full-time faculty to part-time faculty and over half of the courses are taught by part-timers).

Department funding for professional development in the form of conferences.

Computer lab designated for the Math Department.

Enrollment cap for all math courses changed to 40; the productivity rate for Spring 2015 would have been 19.01 while Fall 2014 would have been 19.05 still above the college productivity rate. The decrease in class size would majorly help instructors with focusing on students, research shows that smaller class sizes result in higher learning outcomes, and help with grading. New productivity rates was found by multiplying FTEF by 45 then dividing by 40 (creating the new FTEF). This number is divided into FTES total.

## 6. Student Success and Student Equity:

- Describe course completion rates (*% of students that earned a grade "C" or better or "Credit"*) in the discipline, department, or program for the past three years. Please list each course separately. How do

the discipline, department, or program course completion rates compare to the college course completion standard?

| Course                                      | 2012<br>Summer | 2012<br>Fall  | 2013<br>Spring | 2013<br>Summer | 2013<br>Fall  | 2014<br>Spring | 2014<br>Summer | 2014<br>Fall  | 2015<br>Spring |
|---|----------------|---------------|----------------|----------------|---------------|----------------|----------------|---------------|----------------|
| MATH 13 - INTRO TO STATISTICS               | 56.20%         | 65.78%        | 58.98%         | 70.05%         | 59.34%        | 55.50%         | 71.05%         | 59.84%        | 58.37%         |
| MATH 2 - PRECALCULUS/GEOMETRY               | 94.29%         | 75.00%        | 46.81%         | 92.11%         | 59.02%        | 45.76%         | 85.71%         | 56.86%        | 66.15%         |
| MATH 201 - ELEMENTARY ALGEBRA               | 55.03%         | 52.48%        | 38.29%         | 59.05%         | 49.15%        | 40.23%         | 57.95%         | 53.87%        | 46.19%         |
| MATH 202 - GEOMETRY                         | NA             | 61.70%        | 84.44%         | NA             | 62.50%        | 70.00%         | NA             | 48.72%        | 73.33%         |
| MATH 203 - INTERMEDIATE ALGEBRA             | 57.58%         | 52.02%        | 39.10%         | 65.36%         | 59.28%        | 61.41%         | 62.93%         | 57.94%        | 53.30%         |
| MATH 225 - MATH FOR TECHNICIANS             | NA             | 61.54%        | 76.67%         | NA             | 90.00%        | 65.22%         | NA             | 85.71%        | 75.00%         |
| MATH 248AF - ACCELERATED MATH FOR STATISTIC | NA             | 85.71%        | 88.24%         | NA             | 88.89%        | NA             | NA             | NA            | NA             |
| MATH 250 - ARITHMETIC                       | 14.29%         | 64.23%        | 56.25%         | 82.61%         | 64.58%        | 56.94%         | 80.00%         | 54.48%        | 34.68%         |
| MATH 253 - PRE-ALGEBRA                      | 68.29%         | 60.13%        | 51.39%         | 81.08%         | 62.59%        | 73.89%         | 76.47%         | 59.85%        | 52.63%         |
| MATH 3A - CALCULUS I                        | 65.96%         | 53.62%        | 58.70%         | 58.14%         | 48.75%        | 64.10%         | NA             | 58.62%        | 67.57%         |
| MATH 3B - CALCULUS II                       | 81.54%         | 85.98%        | 51.43%         | 96.72%         | 58.06%        | 54.35%         | 81.25%         | 70.59%        | 50.00%         |
| MATH 3C - CALCULUS III                      | 92.31%         | NA            | 94.55%         | 84.44%         | NA            | 64.00%         | NA             | 74.29%        | 65.00%         |
| MATH 3E - LINEAR ALGEBRA                    | NA             | NA            | 83.33%         | NA             | NA            | 60.61%         | NA             | 70.97%        | NA             |
| MATH 3F - DIFFERENTIAL EQUA.                | NA             | NA            | 95.35%         | NA             | NA            | NA             | NA             | NA            | NA             |
| MATH 3F - DIFFERENTIAL EQUATIONS            | NA             | NA            | NA             | NA             | NA            | NA             | NA             | NA            | 55.17%         |
| MATH 49 - I/S - MATHEMATICS                 | NA             | NA            | NA             | NA             | NA            | NA             | 66.67%         | NA            | NA             |
| MATH 50 - TRIGONOMETRY                      | 72.22%         | 58.70%        | 73.47%         | 92.16%         | 58.06%        | 57.61%         | 85.11%         | 69.05%        | 65.35%         |
| <b>Grand Total</b>                          | <b>63.87%</b>  | <b>61.18%</b> | <b>55.68%</b>  | <b>73.35%</b>  | <b>58.28%</b> | <b>56.99%</b>  | <b>69.70%</b>  | <b>58.73%</b> | <b>54.26%</b>  |

- Are there differences in the course completion rates when disaggregated by age, gender, ethnicity or special population (current or former foster youth, students with disabilities, low income students, Veterans)? If so, please describe.

Overall course completion rates for African American and Latino students, which are large groups of students on campus, fall well behind their counterparts. Pacific Islander and American Indian/Alaskan Native students also have similar success rates, yet their overall headcounts are much lower.

| Ethnicity                      | 2012<br>Summer | 2012<br>Fall  | 2013<br>Spring | 2013<br>Summer | 2013<br>Fall  | 2014<br>Spring | 2014<br>Summer | 2014<br>Fall  | 2015<br>Spring |
|--------------------------------|----------------|---------------|----------------|----------------|---------------|----------------|----------------|---------------|----------------|
| American Indian/Alaskan Native | 76.92%         | 55.88%        | 64.44%         | 72.73%         | 54.55%        | 56.25%         | 66.67%         | 64.71%        | 52.00%         |
| Asian                          | 81.99%         | 76.31%        | 75.41%         | 85.59%         | 76.07%        | 77.49%         | 88.08%         | 77.88%        | 77.84%         |
| Black/African American         | 59.31%         | 56.34%        | 56.65%         | 61.76%         | 56.63%        | 56.32%         | 62.81%         | 54.23%        | 55.39%         |
| Filipino                       | 72.09%         | 68.42%        | 67.36%         | 71.92%         | 75.99%        | 66.60%         | 79.17%         | 72.62%        | 69.36%         |
| Hispanic                       | 70.11%         | 68.15%        | 64.75%         | 70.97%         | 65.24%        | 64.57%         | 69.62%         | 61.88%        | 61.86%         |
| Multiple                       | 66.07%         | 61.52%        | 62.35%         | 69.88%         | 65.47%        | 63.21%         | 70.20%         | 60.43%        | 60.19%         |
| Other Non white                | 50.00%         | 70.97%        | 73.13%         | 90.00%         | 75.76%        | 79.49%         | 85.71%         | 91.67%        | 85.19%         |
| Pacific Islander               | 30.00%         | 70.00%        | 61.86%         | 76.92%         | 50.00%        | 70.97%         | 76.47%         | 66.67%        | 53.85%         |
| Unknown/Non Respondent         | 70.13%         | 69.85%        | 69.68%         | 72.31%         | 68.04%        | 69.02%         | 76.24%         | 66.67%        | 72.22%         |
| White Non Hispanic             | 75.54%         | 74.45%        | 71.47%         | 78.61%         | 70.55%        | 74.41%         | 81.60%         | 73.04%        | 73.25%         |
| <b>Grand Total</b>             | <b>71.85%</b>  | <b>68.08%</b> | <b>66.66%</b>  | <b>74.76%</b>  | <b>67.27%</b> | <b>67.71%</b>  | <b>76.48%</b>  | <b>66.77%</b> | <b>67.50%</b>  |

College course completion standard 67%

Discussion:

The disparities disaggregated by ethnic background is common statewide. However, the department will work to close the achievement gap: through professional development and collaboration, the department will look to improve success of African-American and Latino students while maintaining high standards of rigor. Additionally, the department is interested in looking at Asian students on a disaggregated level; there are large groups of Southeast Asian students enrolled at the college and have performed with less academic success than their East and South Asian (Chinese, Japanese, Korean, Indian) counterparts.

- Describe course completion rates in the department **for Distance Education** courses (100% online) for the past three years. Please list each course separately. How do the department's Distance Education course completion rates compare to the college course completion standard?

| <b>100% DE</b>                  | <b>2012<br/>Summer</b> | <b>2013<br/>Summer</b> | <b>2014<br/>Summer</b> |
|---------------------------------|------------------------|------------------------|------------------------|
| <b>MATH</b>                     | <b>37.02%</b>          | <b>33.33%</b>          | <b>44.44%</b>          |
| MATH 13 - INTRO TO STATISTICS   | 43.75%                 | NA                     | NA                     |
| MATH 201 - ELEMENTARY ALGEBRA   | 13.33%                 | 33.33%                 | 44.44%                 |
| MATH 203 - INTERMEDIATE ALGEBRA | 39.44%                 | NA                     | NA                     |
| <b>Grand Total</b>              | <b>37.02%</b>          | <b>33.33%</b>          | <b>44.44%</b>          |

- Are there differences in the course completion rates when disaggregated by age, gender, ethnicity or special population (current or former foster youth, students with disabilities, low income students, Veterans)? If so, please describe.

College course completion standard 67%

Discussion:

Data for online only courses is not disaggregated by demographic subgroups. Additionally, only one course has been offered per term over the past 2 summers. With such a low sample size of online only courses, it is hard to make a comparison. However, the course completion rate of online Math 201 is much lower than their face-to-face counterparts during the same summer term, which are generally higher than in the regular semesters. The department will continue to offer online-only courses during the summer session.

- Describe course completion rates in the department **for Hybrid** courses for the past three years. Please list each course separately. How do the department's Hybrid course completion rates compare to the college course completion standard?



| Hybrid                          | 2012 Fall     | 2013 Spring   | 2013 Summer   | 2013 Fall     | 2014 Spring   | 2014 Summer   | 2014 Fall     | 2015 Spring   |
|---------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| <b>MATH</b>                     | <b>58.87%</b> | <b>45.67%</b> | <b>55.90%</b> | <b>39.19%</b> | <b>49.39%</b> | <b>67.35%</b> | <b>54.20%</b> | <b>50.46%</b> |
| MATH 13 - INTRO TO STATISTICS   | 40.85%        | 51.76%        | 61.90%        | 44.00%        | 47.67%        | 70.40%        | 37.70%        | 65.85%        |
| MATH 2 - PRECALCULUS/GEOMETRY   | NA            | NA            | NA            | NA            | NA            | 85.71%        | NA            | NA            |
| MATH 201 - ELEMENTARY ALGEBRA   | 27.03%        | 55.26%        | NA            | 25.00%        | 28.21%        | NA            | 60.00%        | NA            |
| MATH 203 - INTERMEDIATE ALGEBRA | 48.78%        | 35.29%        | 44.64%        | 45.45%        | 74.36%        | 56.14%        | 77.14%        | 41.18%        |
| MATH 3B - CALCULUS II           | 93.90%        | NA            | NA            | NA            | NA            | NA            | NA            | NA            |
| <b>Grand Total</b>              | <b>58.87%</b> | <b>45.67%</b> | <b>55.90%</b> | <b>39.19%</b> | <b>49.39%</b> | <b>67.35%</b> | <b>54.20%</b> | <b>50.46%</b> |

- Are there differences in the course completion rates when disaggregated by age, gender, ethnicity or special population (current or former foster youth, students with disabilities, low income students, Veterans)? If so, please describe.

College course completion standard \_\_\_\_\_67%\_\_\_\_\_

Discussion:

The department will continue to offer hybrid courses as they are accessible to students with complex schedules; this includes Saturday Math 203, Intermediate Algebra, and Math 13, Introduction to Statistics.

- Are there differences in course completion rates between face to face and Distance Education/hybrid courses? If so, how does the discipline, department or program deal with this situation? How do you assess the overall effectiveness of Distance Education/hybrid course?

Generally, students in Math 13 hybrid courses succeed less than their face-to-face counterparts. There is one instance where the converse is true: Spring 2015. Math 203 hybrid courses have higher success rates in the summer and lower success rates in Fall/Spring than face-to-face courses. Math 201 hybrid courses are not as successful as face-to-face courses. The program is looking to improve and expand hybrid offerings by creating videos for students, increasing access for students with complicated schedules; the department measures effectiveness of DE/hybrid courses by the number of students enrolled.

- Describe the discipline, department, or program retention rates (After the first census, the percent of students earning any grade but a “W” in a course or series of courses). for the past three years. How does the discipline, department, or program retention rate compare to the college retention standard?

|            | 2012 Summer | 2012 Fall | 2013 Spring | 2013 Summer | 2013 Fall | 2014 Spring | 2014 Summer | 2014 Fall | 2015 Spring |
|------------|-------------|-----------|-------------|-------------|-----------|-------------|-------------|-----------|-------------|
| Retention% | 82.95%      | 82.98%    | 76.25%      | 86.16%      | 78.77%    | 76.54%      | 83.07%      | 80.17%    | 75.14%      |

- Are there differences in the retention completion rates when disaggregated by age, gender, ethnicity or special population (current or former foster youth, students with disabilities, low income students, Veterans)? If so, please describe.

College retention standard \_\_\_\_\_N/A\_\_\_\_\_

Discussion:

- Which has the discipline, department, or program done to improve course completion and retention rates? What is planned for the next three years?

Professional development for faculty, assess student learning outcomes, accelerated pathways towards statistics.

- Which has the discipline, department, or program done to improve the number of degrees and certificates awarded? Include the number of degrees and certificates awarded by year, for the past three years. What is planned for the next three years?

| Program  | 2012-2013 | 2013-2014 | 2014-2015 | Total     |
|--|-----------|-----------|-----------|-----------|
| <b>Mathematics</b>                                     | <b>7</b>  | <b>5</b>  | <b>14</b> | <b>26</b> |
| Associate in Science in Mathematics for Transfer (AST) | 1         | 2         | 7         | 10        |
| Mathematics (AS)                                       | 6         | 3         | 7         | 16        |

The department now offers the full spectrum of Mathematics beyond calculus. This includes alternating differential equations and linear algebra offerings between the Fall and Spring terms. Thus, more students can complete the Associate’s degree in mathematics.

**7. Human, Technological, and Physical Resources (including equipment and facilities):**

- Describe your current level of staff, including full-time and part-time faculty, classified staff, and other categories of employment.

Full-time faculty headcount \_\_\_\_\_4\_\_\_\_\_

Part-time faculty headcount \_\_\_\_\_12\_\_\_\_\_

Total FTEF faculty for the discipline, department, or program \_\_\_\_\_9.53\_\_\_\_\_

Full-time/part-time faculty ratio \_\_\_\_\_1:3\_\_\_\_\_

Classified staff headcount \_\_\_\_\_0\_\_\_\_\_

- Describe your current utilization of facilities and equipment.

The department uses a combination of projectors and document cameras to display work. In addition, the department uses graphing calculators in many of its transferable courses.

- What are your key staffing needs for the next three years? Why? Please provide evidence to support your request such as assessment data, student success data, enrollment data, and/or other factors.

Need more full-time faculty: the department had 6 full-time faculty previously and have given temporary overload to 4 part-time faculty in the past 3 semesters.

- What are your key technological needs for the next three years? Why? Please provide evidence to support your request such as assessment data, student success data, enrollment data, and/or other factors.

6 Smart Pens with Web Hosting access, 3 Macbook Pro's 15", 3 copies of final Cut Pro X and HD video camera with tripod, boom microphone, memory cards, and portable hard drive for expansion of hybrid courses

1 class set of 50 TI-89's and 1 copy of MatLab for new regular offerings 3E and 3F

- What are your key facilities needs for the next three years? Why? Please provide evidence to support your request such as assessment data, student success data, enrollment data, and/or other factors.

A dedicated Math lab for the department is requested. All Math 201/203 courses are moving to the use of online homework through My Math Lab. Additionally, all Math 13 use technology as a form of learning, as required by the course outline of record. Otherwise, priority access to computer labs are requested for course offerings as by a per-teacher basis.

- Please complete the Comprehensive Instructional Program Review Prioritized Resource Requests Template included in Appendix A.

## **8. Community, Institutional, and Professional Engagement and Partnerships:**

- Discuss how faculty and staff have engaged in institutional efforts such as committees, presentations, and departmental activities. Please list the committees that full-time faculty participate in.

Career Pathways Trust (CPT), Brotherhood, multiple measures/improved placement initiative, Early Alert pilot, Peralta Scholars Program, district and college SSSP, Faculty Diversity Internship Program (FDIP) advisory, Mathematics Engineer Science Achievement (MESA).

- Discuss how faculty and staff have engaged in community activities, partnerships and/or collaborations.

High School/Community College conversations: CPT, high school teacher collaboration

- Discuss how adjunct faculty members are included in departmental training, discussions, and decision-making.

Included in SLO process

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## 9. Professional Development:

- Please describe the professional development needs of your discipline or department. Include specifics such as training in the use of classroom technology, use of online resources, instructional methods, cultural sensitivity, faculty mentoring, etc.

There is a general need on improving instruction, learning best practices and innovations in teaching Mathematics. There are conferences such as California Mathematics Council of Community Colleges (CMC<sup>3</sup>), Creating Balance in an Unjust World (CBUW), Teachers for Social Justice (T4SJ) which are local and can help teachers. Funding is required for participation in these conferences. Structured faculty mentoring for new faculty does not currently exist, but would be very useful.

- How do you train new instructors in the use of Distance Education platforms? Is this sufficient?

Online courses are shared with new faculty to revise and individualize. Informal follow up one-on-one conversations are held to address minor changes.

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## 10. Discipline, Department or Program Goals and Activities:

- Briefly describe and discuss the discipline, department or program goals and activities for the next three years, including the rationale for setting these goals. NOTE: Progress in attaining these goals will be assessed in subsequent years through annual program updates (APUs).

Math 206 (Algebra for Statistics), Math jam: a preparation course before the semester begins for both courses during the semester and the assessment test, Supplemental instruction, co-requisite models for Math 13 (Intro to Statistics), Accelerated pathway to STEM (combined 201/203) in a 6 unit course.

- Then fill out the goal setting template included in Appendix B. which aligns your discipline, department or program goals to the college mission statement and goals and the PCCD strategic goals and institutional objectives.

- **Goal 1. Curriculum:**

Activities and Rationale:

- Introduce Math 206 for class offerings; the UC's and CSU's have given blessing to having the class as pre-requisite for Math 13.
- Activate and offer Math 1 in lieu of Math 2. Math 3A has pre-requisite of Math 2 or Math 1 & 50. Currently, Math 2 has a pre-requisite of Math 50. On the other hand, Math 1 can taken concurrently with Math 50. The department plans on offering both Math 1 and Math 50 in the same term to accelerate students to Math 3A.

- **Goal 2. Assessment:**

Activities and Rationale:

Assess all courses and increase participation of faculty. The reason is to improve instruction through the process.

- **Goal 3. Instruction:**

Activities and Rationale:

Attend professional development activities to address low success rates in African-American and Latino students. Improve hybrid course offerings with appropriate hardware and software.

- **Goal 4. Student Success and Student Equity:**

Activities and Rationale:

Math Jam is a 1 or 2 week intensive that helps students with both improved scores on assessment of placement into initial math course or, more commonly, to build math skills leading into a semester to mitigate mathematical rust from time off. Regarding the latter, there will be an emphasis on non-transferable courses, but trigonometric assistance will be provided for calculus students. Supplemental instruction (SI) is a separate section of Learning Resources (LRNRE) that is linked with a math course that offers support for students in the form of soft skills and general assistance with concepts. These SI courses will be linked with non-transferable math classes.

- **Goal 5. Professional Development, Community, Institutional and Professional Engagement and Partnerships:**

Activities and Rationale:

Attend, participate and present at local conferences about teaching and teaching mathematics. Develop relationships with high school teachers to learn about common core curriculum and brainstorm other innovative programs. Have representation on campus committees: Senate, Curriculum, PRIEC, Technology, SSSP

- Please complete the Comprehensive Instructional Program Review Integrated Goal Setting Template included in Appendix B.

## Appendices

# Appendix A

## Comprehensive Instructional Program Review Prioritized Resource Requests Summary for Additional (New) Resources

College: Alameda

Discipline, Department or Program: Mathematics

Contact Person: Vanson Nguyen

Date: 11/14/15

| Resource Category                | Description  | Priority Ranking (1 – 5, etc.) | Estimated Cost  | Justification (page # in the program review narrative report) |
|----------------------------------|--|--------------------------------|---|---|
| Human Resources: Faculty         | Hire 2 new full-time faculty   | 1                              |   |   |
| Human Resources: Classified      |  |                                |   |   |
| Human Resources: Student Workers |  |                                |   |   |
| Technology                       | 1 Copy of Matlab<br>3 Copies of final cut pro x  | 5                              | \$100<br>\$300  |   |
| Equipment                        | 6 Smartpens with Web hosting access<br>3 Macbook Pro's<br>1 class set of TI-89 (50)<br>HD Video Camera + Memory cards<br>Tripod + Boom Microphone<br>Portable Hard Drive | 4                              | \$200/pen +<br>\$100/year hosting<br>\$2,500 each<br>\$150/calculator |   |
| Supplies                         |  |                                |   |   |
| Facilities                       | Dedicated mathematics computer lab   | 3                              |   |   |
| Professional Development         | Local conferences on teaching and math education   | 2                              |   |   |
| Other (specify)                  |  |                                |   |   |

# Appendix B

## PCCD Program Review Alignment of Goals Template

College: Alameda

Discipline, Department or Program: Mathematics

Contact Person: Vanson Nguyen

Date: 11/13/15

| <b>Discipline, Department or Program Goal</b>   | <b>College Goal</b> | <b>PCCD Goal and Institutional Objective</b> |
|---|---------------------|--|
| 1. Hire 2 full-time faculty   | ILO 1,2             | A.1, A.3, A.4, B.2, D.1                      |
| 2. Offer Math 206, accelerated pathway to statistics  | ILO 1,2             | A.1, A.3, C.2, D.1                           |
| 3. Create Math Jam, preparation course for students before the semester begins and/or prepare for the assessment test | ILO 1,2             | A.2, C.2, D.1                                |
| 4. Introduce Supplemental instruction to basic skills courses   | ILO 1,2             | A.4, C.2                                     |
| 5. Activate and offer Math 1, Pre-Calculus, to accelerate students to Calculus  | ILO 1,2             | A.4, C.2                                     |
| 6. Improve hybrid offerings with technology   | ILO 1,2             | A.1, A.4, C.2                                |
| 7. Offer accelerated 6 unit Algebra course as pathway to calculus for STEM majors.                                    | ILO 1,2             | A.1, A.4, C.2                                |



# Appendix C

## Program Review Validation Form and Signature Page

College: Alameda

Discipline, Department or Program: Mathematics

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### Part I. Overall Assessment of the Program Review Report

| Review Criteria  | Comments:<br>Explanation if the box is not checked |
|--|--|
| <p><input type="checkbox"/></p> <p>1. The narrative information is complete and all elements of the program review are addressed.</p> <p><input type="checkbox"/></p> <p>2. The analysis of data is thorough.</p> <p><input type="checkbox"/></p> <p>3. Conclusions and recommendations are well-substantiated and relate to the analysis of the data.</p> <p><input type="checkbox"/></p> <p>4. Discipline, department or program planning goals are articulated in the report. The goals address noted areas of concern.</p> <p><input type="checkbox"/></p> <p>5. The resource requests are connected to the discipline, department or program planning goals and are aligned to the college goals.</p> |  |

**Part II. Choose one of the Ratings Below and Follow the Instructions.**

| Rating   | Instructions  |
|--|---|
| <input type="checkbox"/><br>1. Accepted.               | 1. Complete the signatures below and submit to the Vice President of Instruction.   |
| <input type="checkbox"/><br>2. Conditionally Accepted. | 2. Provide commentary that indicates areas in the report that require improvement and return the report to the discipline, department or program chair with a timeline for resubmission to the validation chair.  |
| <input type="checkbox"/><br>3. Not Accepted.           | 3. Provide commentary that indicates areas in the report that require improvement and return the report to the discipline, department or program chair with instructions to revise. Notify the Dean and Vice President of Instruction of the non-accepted status. |

**Part III. Signatures**

**Validation Team Chair**

\_\_\_\_\_ Signature \_\_\_\_\_ Date \_\_\_\_\_

**Discipline, Department or Program Chair**

\_\_\_\_\_ Signature \_\_\_\_\_ Date \_\_\_\_\_

**Received by Vice President of Instruction**

\_\_\_\_\_ Signature \_\_\_\_\_ Date \_\_\_\_\_

