



# Anatomy/Physiology/Microbiology Program Review



# Modesto Junior College

## Instructional Program Review

2017

### Contents

- Executive Summary ..... 2
- Program Overview ..... 3
  - Program Overview ..... 3
  - Response and follow-up to previous program reviews ..... 3
  - The Mission of Modesto Junior College ..... 4
- Student Achievement and Completion ..... 5
  - College Goal for Student Achievement ..... 5
  - Success ..... 5
- Student Learning Outcomes ..... 10
  - Student Learning and Outcomes Assessment ..... 10
- Curriculum and Course Offerings Analysis ..... 14
  - Curriculum Analysis ..... 14
  - Course Time, Location and Modality Analysis ..... 15
- Program Analysis ..... 17
  - Program Personnel ..... 17
  - Faculty Assignments ..... 18
  - Departmental Productivity Measurements ..... 18
- Long Term Planning and Resource Needs ..... 19
  - Long Term Planning ..... 19
  - Resource Request and Action Plan ..... 21
  - Evaluation of Previous Resource Allocations ..... 22
- Appendix ..... 23
  - Optional Questions ..... 23
  - Review Process Feedback ..... 24

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## Executive Summary

Provide an executive summary of the findings of this program review. Your audience will be your Division Program Review Group, the MJC Program Review Workgroup, and the various councils of MJC.

The bulk of our students now and into the foreseeable are in the allied health fields. The current demand for our courses is extremely high, and at present we are unable to meet all of the demand. The number of students we will need to serve in the future is in direct proportion to the opportunities for employment in the allied health field, and there is every indication that this need will continue to grow as our population ages. It is our goal to continue to grow with that need while still maintaining our high-quality instruction. Additionally, we would like to look into developing an allied health program within our Department.

Our biggest challenge in the future will be the changes to our course prerequisites and student contact time that has been mandated by regulatory changes. It is clear that these changes have had a devastating impact on our student success rates, particularly with respect to anatomy and within some ethnic groups such as hispanics. We are actively working to find strategies to improve student success rates given our new reality, but we must be realistic. Student preparedness for our difficult courses is something we have very little control over. We are trying new ways to present the necessary information to our students and concurrently teach students how to learn and study. For example, several of our faculty have gone through training in Reading Apprenticeship and are now using those techniques in the classroom. We are also actively engaged in developing a Guided Pathway for allied health students that we hope will help encourage students to take the courses necessary to be properly prepared for our courses and ultimately be successful in their chosen field.

It is apparent that our courses are in high demand and are generally filled to well over the established capacity, but we are unable to offer additional sections of our courses because we simply do not have enough faculty to meet the demand. All of our full-time faculty are teaching significant overloads, and they have combined laboratory sections into one lecture to increase productivity, so our full-time faculty are already working to the maximum of their ability. We simply need more faculty in our department. At present we only have two (2) adjunct faculty. Despite our best efforts we have only been able to recruit one qualified adjunct faculty member to our area over the last two years. We are in desperate need of qualified adjunct faculty, and we could support the hiring of another full-time faculty member.

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# Program Overview

## Instructions

Supplemental information, links to previous reviews, and dashboards can be accessed from the review, please ensure your pop-up blocker is turned off, or use Ctrl-Click to bypass it.

Please review each question below, following the prompts and links given in the help text. Additional help, and a list of frequently asked questions is available on the [Program Review Instructions](#) page.

## Program Overview

Please list program awards that are under this department according to the college catalog. Next to each program award listed;

- Please denote if it should be included here, or should be listed elsewhere.
- Answer yes or no, if the program has external regulations
- Additional lines, if needed, may be added by typing the tab key while in the last cell
- Any additional notes can be added in the box below the table

[\[addl help\]](#)

Program Awards	Include in Review (yes/no)	External Regulations (yes/no)
N/A		

The Anatomy, Physiology and Microbiology Program offers courses in anatomy, physiology, microbiology, and neuroscience that are directed toward preparing students for entering allied health programs (such as registered nursing, respiratory care, dental hygiene, X-ray technology) for transfer and general education.

## Response and follow-up to previous program reviews

On the [Curricunet website](#), please locate your department and the previous program review. After reviewing, please complete the following questions;

Briefly describe the activities and accomplishments of the department since the last program review.

Besides preparing students for their next academic endeavor by offering high quality classes, we have also developed and offered for the first time four new courses, and they are Problem Solving Skills for Human Anatomy (ANAT-126), Advanced Cadaver Dissection (ANAT-130), Problem Solving Skills for Physiology (PHYSO-102), and Plagues of Human Kind (MICRO-111).

Our faculty have also participated in the development of and implementation of the "College Skills Course for First Year Students," Science Olympiad, and the Science Colloquium as presenters. In addition, our faculty have participated in various Campus Committees such as the Academic Senate, Curriculum Committee, Guided Pathways working group, Outdoor Education Area Development Committee and the Science, Mathematics Awards Committee and the Division Council. Some instructors have continued as reviewers for publishers such as Pearson, McGraw-Hill and University of California Press, and as peer reviewers for the Society for the Study of Reptiles and Amphibians, Herpetologists League and the Society for the Study of Wildlife Forensic Sciences. And two of our faculty have worked as Online Digital Education Faculty Consultants for McGraw-Hill. Instructors have or will attend a variety of conferences such as the American Society for Microbiology, the National Institute of Scholastic Organizational Development, the First Year Experience Conferences, On Course Workshops, the Reading Apprenticeship Program Workshop and Lawrence Livermore National Laboratories 3D Printing for Biological Science Workshops. Finally, we have continued to engage our students in our programs as Faculty Advisors to the Anatomy Club.

## The Mission of Modesto Junior College

MJC is committed to transforming lives through programs and services informed by the latest scholarship of teaching and learning. We provide a dynamic, innovative, undergraduate educational environment for the ever-changing populations and workforce needs of our regional community. We facilitate lifelong learning through the development of intellect, creativity, character, and abilities that shape students into thoughtful, culturally aware, engaged citizens.

Provide a brief overview of the program and how it contributes to accomplishing the Mission of Modesto Junior College. (Overview Suggestions: How consistent is the program with the institutional mission, vision, core values and/or goals? How are aspects of the institutional mission addressed within the program? Is the program critical to the pursuit of the institutional mission?)

We are committed to student success by developing a guided pathway for allied health fields and promoting performance equity among students in our classrooms and laboratories. Our instructors are committed to developing innovative learner-centered teaching strategies to enhance success, equity and retention in preparing our students for allied health majors. Our goal is to produce high performing individuals to help serve our community in the health care professions as well as preparing students for successful transfer to four-year universities.

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# Student Achievement and Completion

## College Goal for Student Achievement

### *Increase Scorecard Completion Rate for Degree and Transfer*

The College has a primary aspirational goal of increasing the Completion rate from 43% to 53% on the **CCCCO Scorecard Completion Rate for Degree and Transfer [\[view\]](#) by 2022**. The completion rates in the Scorecard refers to the percentage of degree, certificate and/or transfer-seeking students tracked for six years who completed a **degree, certificate, or transfer-related outcomes (60 transfer units)**.

As you answer the questions below, please consider how your program is helping the college complete this aspirational goal of increasing the MJC Degree, Certificate, and Transfer Completion rate by 10% on the CCCC Scorecard by 2022.

## Success

The following questions refer to data from the Department Success Rates Dashboard. Use the filters to examine both departmental and course level data. Charts will be included for the record by Research and Planning once the review is submitted.

Locate your department success rates on the [Success Rate Data Dashboard](#) and consider your department success rates trends over time, especially the last two years. Also, consider the data detailing the variance of success rate of courses across sections. Are these rates what you expected? Are there any large gaps? Is there anything surprising about the data? What do you see in the data?

For the three disciplines in this program, success rates for Fall and Spring increased steadily from 74% in Fall 2012 to 78% in Fall 2016. Starting Fall 2016, the pre-requisite for Anatomy 125 was eliminated by the state, and in addition, all courses in the program underwent a one-unit reduction to comply with state unit caps. Success rates dropped to 70% for all disciplines in the program during Spring 2017. That is a difference of 9.4%. If we disaggregate each of the disciplines in the program, the picture becomes clearer about the immediate impact of these changes on student success for anatomy. In fact, the drop in overall student success can be accounted for by the decline in student success in anatomy. Between Fall 12 and Spring 16 success rates in anatomy averaged just over 69%. By the spring of 2017 the student success rate had fallen to 57%. The percent difference is a whopping 12%. Further, looking at the disaggregated data the success rates of our two largest groups, Hispanics and Caucasians, have dropped 4% and 2% respectively. Our Highest performing large group of students, Asians, showed a 2% increase in student performance, which illustrates that the elimination of the pre-requisite has differentially impacted certain groups of students. It is important to note that some students are still taking the old pre-requisite course for anatomy, so it is reasonable to assume that the drop in student success rates in anatomy may be much more significant than the data shows for students who have not taken the old pre-requisite course. Unfortunately, we cannot examine this issue at this time because we do not have any data that shows which students still took the pre-requisite courses and which did not, and thus we cannot disaggregate the data based on previous courses taken. Antidotal data seems to suggest that the most of the decline in student performance can be attributed to students who have not taken the old pre-requisite course with students who have taken the old pre-requisite course performing as well or better than they have in the past.

Success rates for physiology have also experienced a decline from an average of 94% from Fall 15 through Fall 2016 down to 89% in Spring of 17, which suggests that the old pre-requisite course for anatomy was also helping to improve student success in physiology. Further, since Anatomy 125 is a pre-requisite for physiology, and fewer students in anatomy are succeeding, the fill rates for physiology have been impacted. There was a gradual increase in fill rates from 106% in Spring 2013 to a high of 131% in Spring of 2016. Since then there has been a precipitous decline to a fill rate of 111% in Spring 2017. Of course, it could also be that enrollment this semester was soft across many disciplines, but the timing of the decline is somewhat suspect.

We will have to wait a few more semesters to see if this trend continues, and we will work to see if we can obtain more data that will indicate which students have or have not taken college level biology before attempting our sequence. But, the rather sudden drop in student success rates after reducing course units and especially after eliminating the anatomy pre-requisite is alarming, and especially so given that this appears to have a differential impact on certain groups of students that were already underperforming other groups.

What is your set goal for success? Do your department and individual course rates meet this goal?

Our former goal for student success was 70%, and all but one of our courses were at or above that goal in Spring 2016 and physiology was at a 94% success rate. Our entry level course, AP 50, which has a success rate of 65%, has consistently performed lower than our other courses, but that course is our lowest level course that is often taken by students who are testing the waters to see if they can handle the other more rigorous courses we offer, so 65% success is probably a good rate and only 4% less than the college average. However, since the drop from 5 to 4 units for anatomy and physiology and after the elimination of our pre-requisite for anatomy post Spring 2016, our student success rates for anatomy dropped from 70% to 57%, and those for physiology dropped from 94% to 89%.

If your rates for success are lower than your goals, what are your plans to improve them?

The sudden drop in our student success rates for anatomy and physiology are very disconcerting. We expected there to be some drop in student success rates after we were forced to reduce these courses from 5 to 4 units each and eliminate the anatomy pre-requisite to comply with regulatory changes, but the decline was more dramatic than we anticipated, and we did not predict a differential impact to underperforming student groups.

Several years ago we increased the unit count for these two very challenging courses from 4 to 5 units to increase student contact time and thus student success, which it did. And we created the Human Biology course as a focused pre-requisite for anatomy in an effort to improve student success, and the data clearly shows that it significantly improved student success rates in both anatomy and physiology, so our efforts worked and worked well. Unfortunately, once the units were cut and the pre-requisite was taken away, student success rates dropped.

We are now struggling to come up with ways to improve student success, but as the success of our previous efforts show, the lack of student preparedness for such challenging courses as anatomy and physiology is the biggest detriment to student success. We have very little control over improving student preparedness given the current regulatory restrictions on units and pre-requisite courses. We are continuing to reach out to students and counselors to strongly recommend that students continue to take the old human biology pre-requisite course even though it is not required, and some students do. However, the number of students enrolling in these two courses who have not taken the recommended pre-requisite is increasing as we get farther away from when it was required, and our options for reversing this trend are limited. We are actively trying to come up with new ideas to improve student preparedness such as an outreach programs for new students in the field and outreach to local high schools, but we feel our hands have been tied at this point. We know what works, and we have the data to prove it, but regulatory restrictions have prevented us from continuing those proven measures.

We have added two new one unit companion courses for anatomy and physiology that are an attempt to regain some of the lost time with our students. It is too early to tell if these courses will result in any improvement as this is the first semester they have been offered, but one problem is that not very many students have elected to take these courses thus far, and there is no way to know if the students most at risk are taking these courses, so we will have to wait and see if any improvement can be observed.

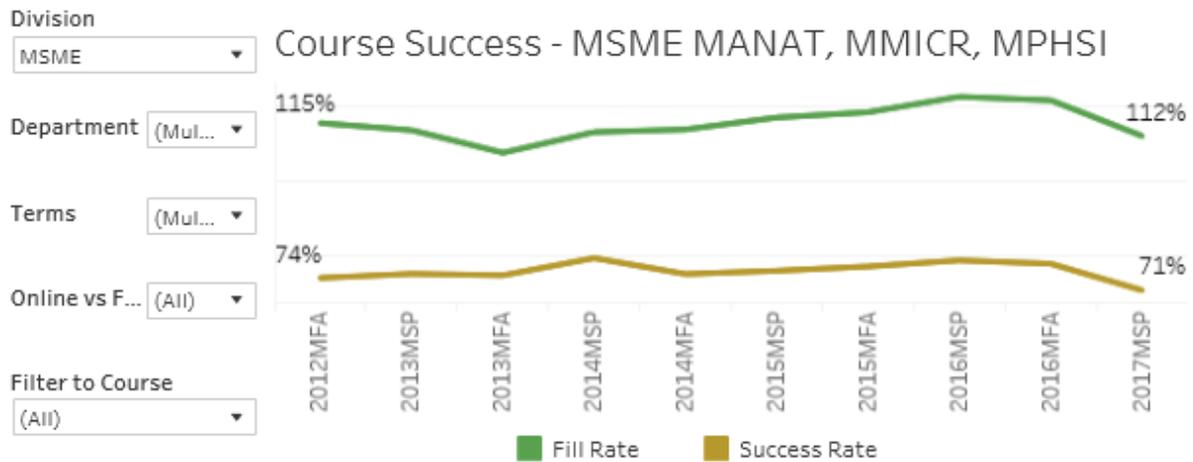
Locate your department equity rates on the [Success Rate Data Dashboard](#) (by pressing on the equity tab). Examine these rates, disaggregated by ethnicity and gender, over the last two years. If there are differences in success across groups, how do you plan on addressing issues of student equity? In other words, how do you plan on closing achievement gaps across student populations?

The three largest ethnic groups in our department; Hispanics, Whites and Asians; have 1,458, 1,202 and 270 students enrolled in each group respectively. These three groups have success rates of 66%, 71% and 74% respectively, which means our three largest groups have student success rates within 8% of one another over all. The remaining six ethnic groups have a combined total of 307 students enrolled with the largest group of those, Black AA, having just 84 students enrolled total. Such small groups of students make statistical comparisons difficult and often misleading, but Filipino and undeclared groups had the highest success rates amongst all groups at 80% and 76% respectively. The lowest performing ethnic group was Native Americans at 35%, with just 17 students enrolled. The next lowest success rate was that of the Two or More at 58%, and the remaining groups, Black AA and Pacific Islander, had 62% and 65% success rates respectively. Clearly there are some significant variations between smaller ethnic groups. What is interesting to note is that the success rates of the three largest ethnic groups stay fairly consistent across each course we offer, but as you advance in the core sequence of courses (ANAT-125 < PHSCO-101 < MICRO-101) the student success rates increase at a similar rate. This suggests that once students are successful in the first course in our core sequence, they are generally successful in subsequent courses, which underscores the importance of ensuring students are properly prepared to take our very challenging core courses. The real test of this hypothesis, and the key to student success for all groups, will be to look at the differences in student preparedness for our courses, with the best metric being whether or not students have taken college level biology before taking anatomy. If there are differences between ethnic groups in the preparedness for our course, that could be the key to addressing student equity.

If distance education is offered, consider any gaps between distance education and face-to-face courses. Do these rates differ? If so, how do you plan on closing the achievement gaps between distance education and face-to-face courses?

Because of the laboratory requirements for anatomy and physiology 150, anatomy 125, physiology 101 and microbiology 101, there are no online sections offered for these courses. The anatomy and physiology 50 course had 764 students enrolled with 515 of those students taking the course online. The success rate for the online students was 65.5% whereas the success rate for the 249 students who took the course face to face was 70.3%

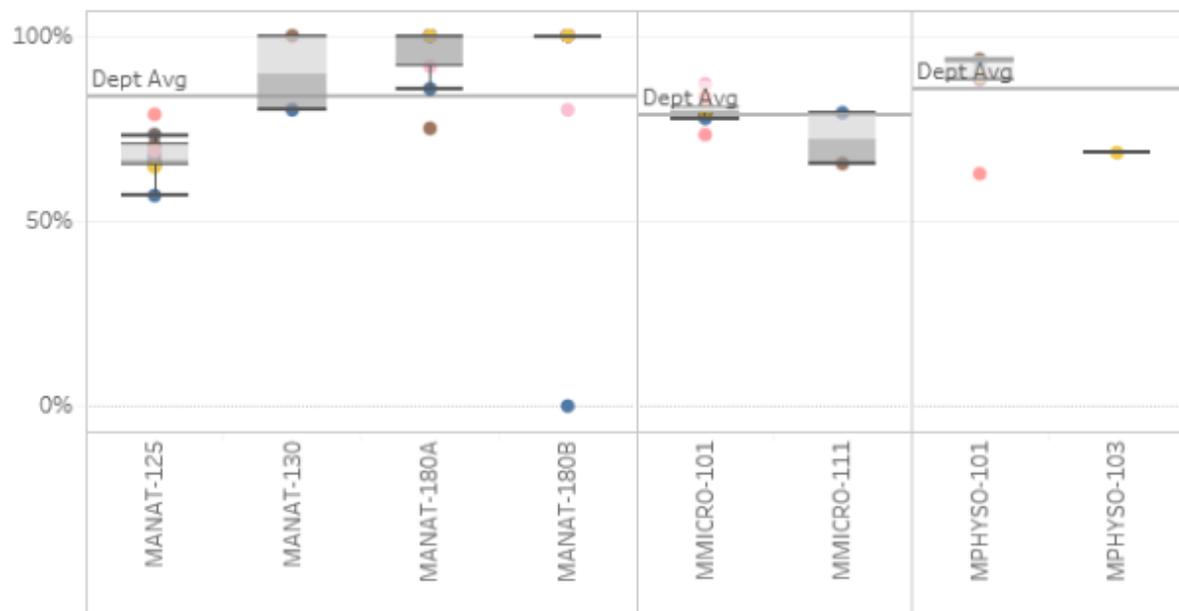
## Course Success



### Course Success and Fill

Season		2012-2013	2013-2014	2014-2015	2015-2016	2016-2017
Census	FALL	656	594	635	722	819
	SPRING	518	570	662	692	827
Capacity	FALL	568	552	558	610	674
	SPRING	456	504	566	565	738
Fill Rate	FALL	115%	108%	114%	118%	122%
	SPRING	114%	113%	117%	122%	112%
Successful	FALL	488	446	479	559	640
	SPRING	391	454	505	547	588
Success Rate	FALL	74%	75%	75%	77%	78%
	SPRING	75%	80%	76%	79%	71%

Course Success Rates for Selected Terms - Dots represent sections, box central distribution

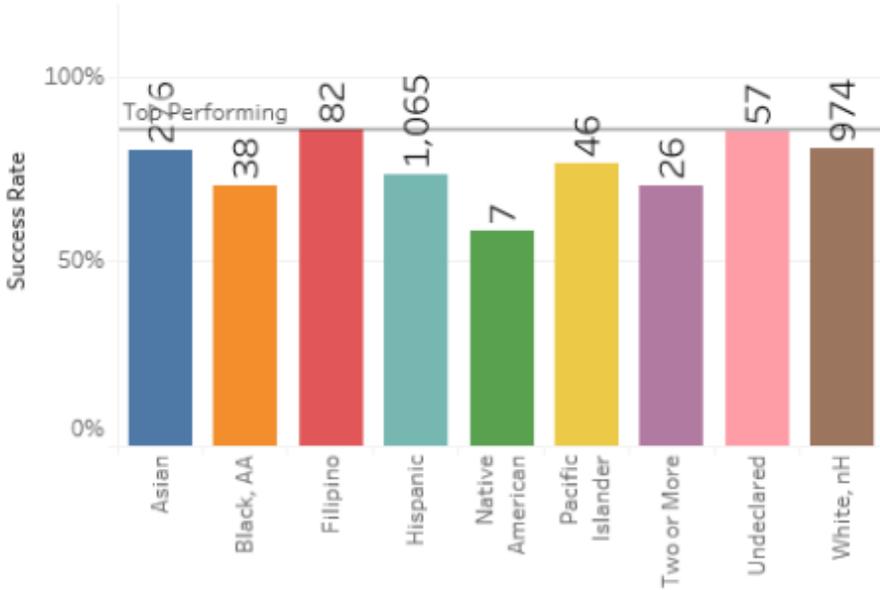


# Course Success Rates by Ethnicity, Gender, and Modality

Divison: MSME  
 Department: (Multiple val...  
 Academic Year: (Multiple values)  
 Term: (All)

Filter to a division and/or department - individual courses can be unselected to view similar courses together. Select chart elements to filter other charts to same, e.g. Pick Asian success bar to see Asian gender and Asian modality. Select again to clear.

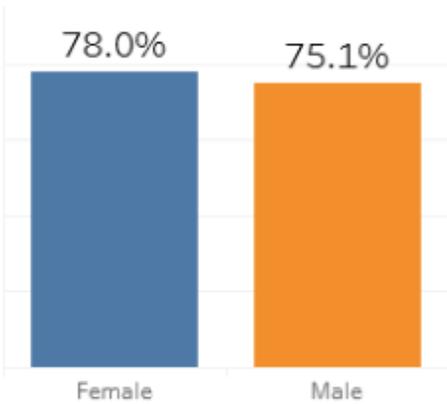
## Ethnicity for 2015-2016 & 2016-2017 MSME MANAT, MMICRO, MPHYSO



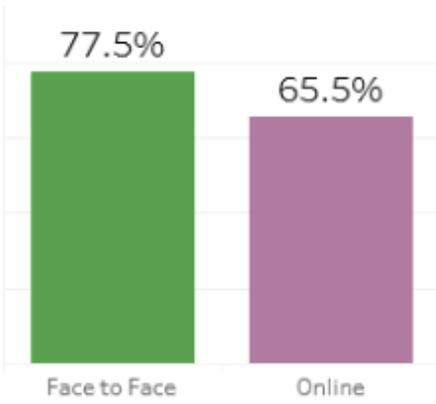
Course Name

- (All)
- MANAT-125
- MANAT-130
- MANAT-180A
- MANAT-180B
- MANAT-199A
- MANAT-199B
- MMICRO-101
- MMICRO-111
- MPHYSO-101
- MPHYSO-103
- MPHYSO-199A

### Gender



### Modality



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# Student Learning Outcomes

## Instructions

This section of the Program Review measures student learning.

PLO / GELO / ILO Outcomes

To ease in analysis, trending charts have been created by Research and Planning on the [Learning Outcomes Dashboard](#) website. Using these charts, you can identify your current success rates in student achievement towards the outcomes. Considering your current outcome success rates, and previous semester, set a department aspirational goal, and examine what your outcome success rates are currently. Later you will be asked to outline a plan to achieve this threshold, but for now, simply supply the Goal % and Current % for each level.

Note: If the dashboards do not show your Learning Outcomes, please ensure that they have been mapped in eLumen. Each course will need to be mapped to each applicable PLO, GELO, and ILO. The Outcome Assessment Workgroup has created a web page detailing the work already done -> [PLO, ILO, and GELO Assessment grids](#). For additional assistance, review [the Course Learning Outcome Assessment](#) web pages, or contact Nita Gopal at [gopaln@mjc.edu](mailto:gopaln@mjc.edu).

## Student Learning and Outcomes Assessment

Please review your Learning Outcomes data located on the [MJC Student Learning Outcomes Assessment](#) website and below, in regards to any applicable Program, Institutional, and General Education Learning Outcomes.

For each ILO that your course learning outcomes inform, you will find your overall rate. On the MJC Student Learning Outcomes Assessment website, you will also see that overall rate disaggregated across student populations; you can use this information to understand how different student populations are learning in your courses.

After you have examined your rates and disaggregated data, reflect on the data you encountered. Please address the program outcomes (PLO), general education outcomes GELO (if any), and institutional outcomes (ILO) in your analysis.

### Program Learning Outcomes (PLO)

What is your set goal for PLO success? Do your overall rates meet this goal?

N/A

### General Education Learning Outcomes (GELO)

If your program has General Education outcomes, what is your set goal for GELO success? Do your overall rates meet this goal?

N/A

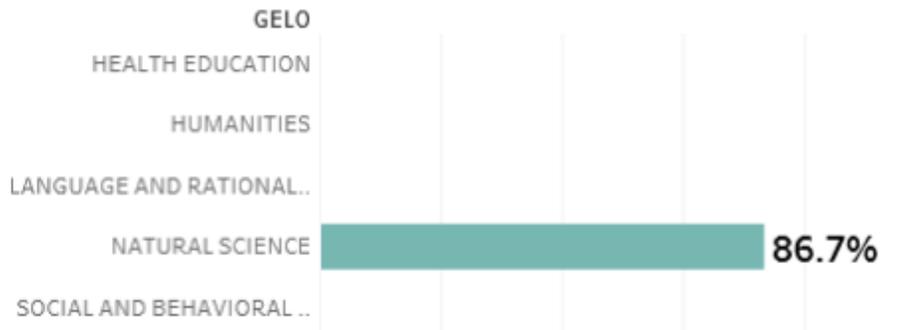
# General Education Learning Outcomes

Use drop down boxes to focus on divisions, or departments.  
 Hover over chart elements for details.

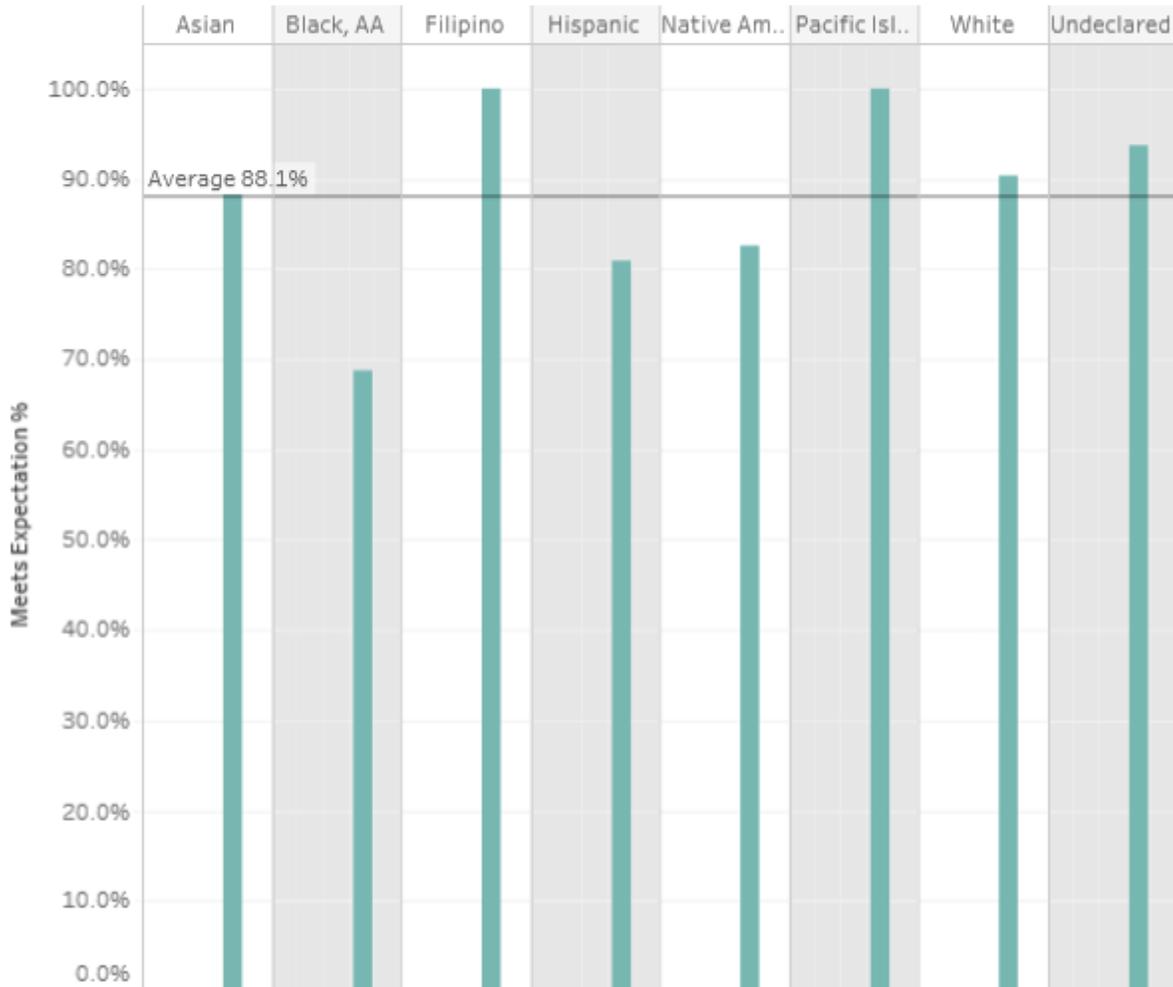
## Overall Outcome Results for MSME, MANAT, MMICR, MPHYS (Select GELO to filter to ethnicity)

1) Division

2) Department



## Overall Outcome Results by Ethnicity for MSME, MANAT, MMICR, MPHYS



## Institutional Learning Outcomes (ILO)

What is your set goal for ILO success? Do your overall rates meet this goal?

# Institutional Learning Outcomes

Use drop down boxes to focus on divisions, or departments.  
Hover over chart elements for details.

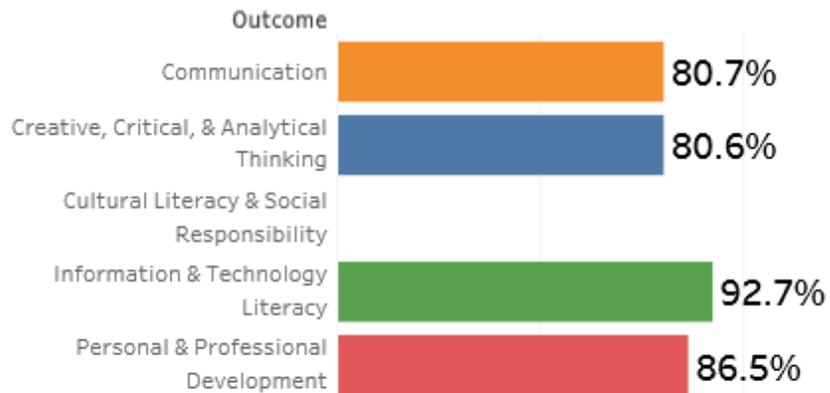
1) Division

MSME

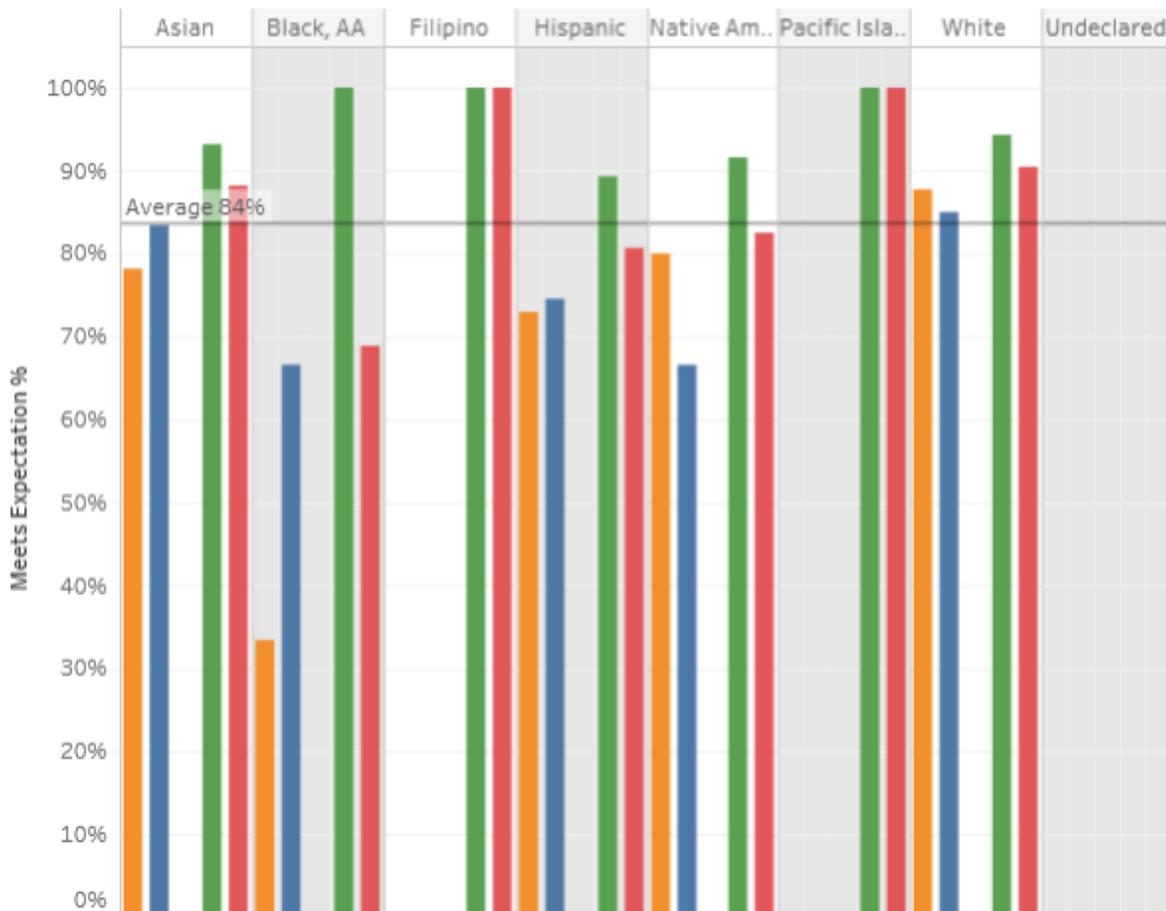
2) Department

(Multiple values)

### Overall Outcome Results for MSME, MANAT, MMICR, MPHYS (Select outcome to filter to ethnicity)



### ILO by Ethnicity, MSME, MANAT, MMICR, MPHYS



**Continuous Quality Improvement**

If your rates for success for any PLOs, GELOs, and ILOs are lower than your goals, what are your plans to improve them?

**Equity and Success**

Do your rates for your PLOs, GELOs, and ILOs vary across student populations? How do you plan on addressing issues of equity? In other words, how do you plan on closing the learning gaps across student populations?

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# Curriculum and Course Offerings Analysis

## Curriculum Analysis

Courses that have not been reviewed, or not scheduled to be reviewed, are listed on the Curriculum Committee web pages. To aid in use, please [view this filtered spreadsheet](#), using the drop down menus along the field headings, to view just your department. On opening the spreadsheet, click the Enable Editing and Enable content buttons that should appear across the top menu bar.

Considering those courses that have not been reviewed within the last five years, please address these below.

Provide your plans to bring courses into compliance with the 5-year cycle of review. If your department is compliant, please state that.

We are deactivating AP 150 because of low enrollment and because the programs that formerly required this course have changed their course requirements making AP 150 obsolete.

Anatomy 180AB has been a very successful course. It allows students who have successfully completed anatomy to learn how to tutor fellow students in anatomy. The students in the anatomy course greatly benefitted from the increased assistance and knowledge base in the classroom, the 180 students reinforced their own anatomical knowledge by explaining anatomical structures to other students, and the professors were better able to effectively instruct larger class sizes with the extra help in the laboratory. Unfortunately, the administration has decided to restrict all tutoring to the library, and thus the anatomy 180 course was deactivated.

Finally, the physiology 103 course, introduction to neuroscience, was formerly taught by a now retired instructor. Fortunately, one of our new faculty has the knowledge and desire to teach this course. She is presently working on a course revision that will be submitted to the Curriculum Committee later this semester.

Provide your plans to either inactivate or teach each course not taught in the last two years.

Physiology 103, introduction to neuroscience, was formerly taught by a now retired instructor. Fortunately, one of our new faculty has the knowledge and desire to teach this course. She is presently working on a course revision that will be submitted to the Curriculum Committee later this semester.

Does the College Catalog accurately display the descriptions and requirements of all the courses and educational awards (degrees/certificates) overseen by this program? If not, please describe your plans to correct.

Yes

Are there plans for new courses or educational awards (degrees/certificates) in this program? If so, please describe the new course(s) or award(s) you intend to create.

Our department is currently participating in the development of a guided pathway for allied health students, and as part of this process we are examining the possibility of developing a program of study for students that want to enter one of the allied health professions.

What needs or rationale support this action, and when do you expect to submit these items to the Curriculum Committee?

We are still in the early stages of developing the guided pathway for allied health students and allied health directed program of study, and it requires the input of several other Departments and Divisions, but we hope to have made significant progress toward approval by the end of this academic year.

## Course Time, Location and Modality Analysis

Please follow this link and review the [Course Attributes](#) in regards to when, where, and in which method the courses in this program are taught. Use the filters to focus the report on your department. Then answer the following questions.

### **Location/Times/Modality Trend Analysis:**

Consider and analyze your location, time, and modality trends. Discuss any program plans that address more efficient and beneficial location, modality and/or time of day trends.

All of our courses, particularly the laboratory courses, are necessarily located in the Science Community Center on West Campus, so we have no courses offered on East Campus and no ability to do so.

With the exception of AP 50, which is mostly offered online, all of our courses require a laboratory, so we are generally unable to offer distance education or entirely online courses, but we do offer and average of 25% of our courses as hybrid courses where all but the laboratories are online. Further, several of our hybrid courses have laboratories offered on Saturdays to accommodate working students.

Because of the relatively long laboratory periods associated with our courses and the combining of several laboratory sections into one lecture time for efficiency of instruction and faculty productivity, our start times tend to be skewed toward the day classification. And while we do offer evening courses, our evening course offerings have decreased somewhat. This decrease is a product of the difficulty we have been having attracting qualified adjunct instructors. Our full-time faculty have responded to student needs by taking on more overload, which means they are less willing to teach night classes after having completed a full day of teaching, but two of our full-time faculty have shifted their schedules to include evening courses as well as day courses. If we had more well-qualified faculty, we would be able to offer additional evening courses, which are in high demand by working students.

# Course Distribution and Fill Rates

Division: 
 Department: 
 Season: 
 Academic Year: 
 Component:

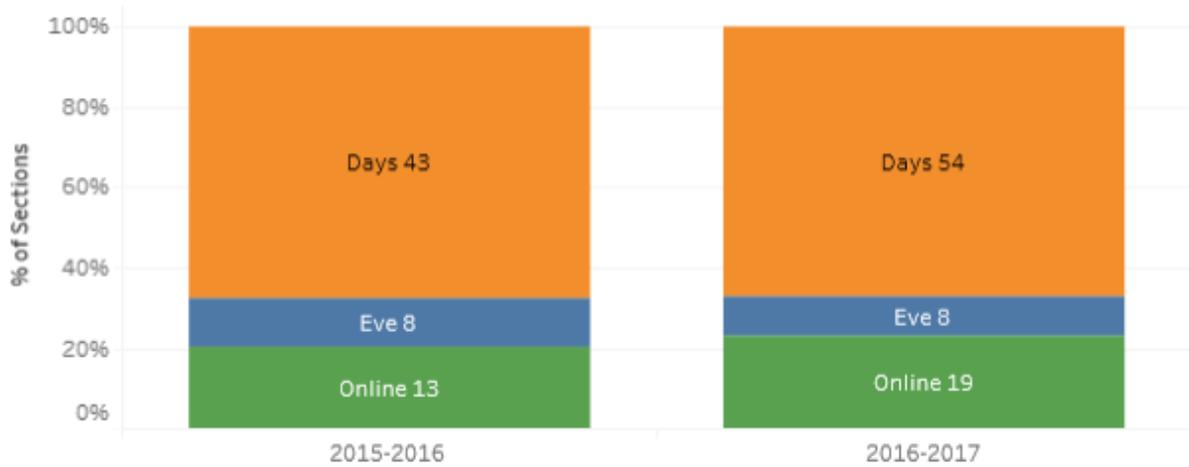
## Section Distribution

Academic ..	Season	Days	Eve	Online
2015-2016	FALL	68%	14%	18%
	SPRING	69%	15%	15%
	SUMMER	60%		40%
2016-2017	FALL	75%	13%	13%
	SPRING	65%	12%	24%
	SUMMER	53%		47%

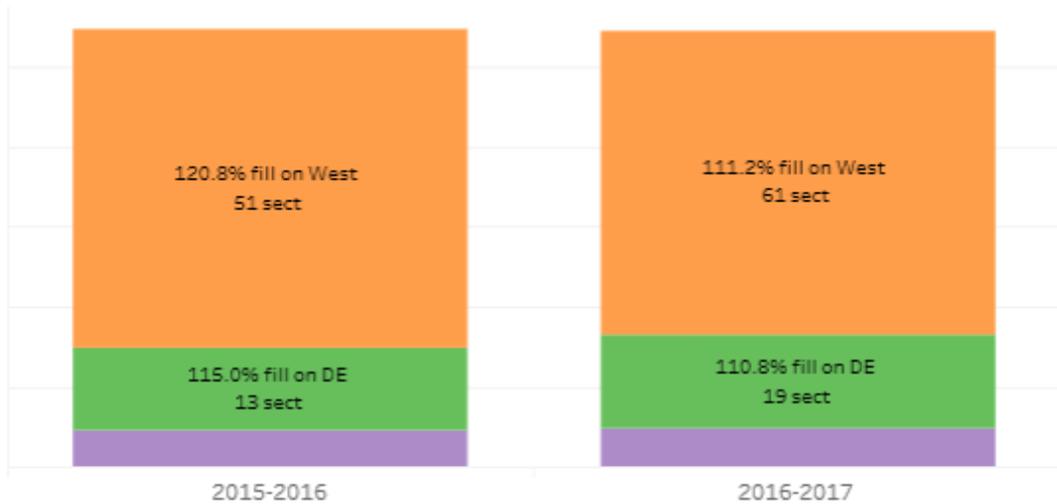
## Fill Rate Distribution

Academic ..	Season	<80%	80-89%	90-99..	>100%
2015-2016	FALL			7.1%	92.9%
	SPRING	3.8%	3.8%		92.3%
	SUMMER	20.0%	10.0%		70.0%
2016-2017	FALL	6.3%	3.1%		90.6%
	SPRING	5.9%		5.9%	88.2%
	SUMMER	6.7%		20.0%	73.3%

## Sections Offered by Time of Day



## Sections by Location (Dual listed multiple)



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# Program Analysis

## Program Personnel

Please refer to the [Department Faculty and Sections Dashboard](#) to supply the names of faculty and adjuncts for the periods requested. Use the dashboard filters to focus on your individual department. Due to the complexity of payroll accounts and assignments, those listed may not match known individuals, please note any discrepancies.

Additional comments or narrative can be added below.

Faculty Name	Full-Time or Part-Time (adjunct)	Hire Date (optional)
Robert Droual	Full-Time	1998
Stacie Hoffman	Part-Time (adjunct)	2017
Erynn Lucas	Full-Time	2009
Derek Madden	Full-Time (BIO)	1990
David Martin	Full-Time	2012-2014(PT) 2014(FT)
Deborah Martin	Full-Time	2010-2016(PT) 2016(FT)
Ronald Megee	Full-Time	2010-2017(PT) 2017(FT)
Michele Monlux	Full-Time (Retired 5/16)	2000(PT) 2001(FT)-2016
Holly Nash-Rule	Full-Time	2014(PT) 2015(FT)
Jennifer Richmond	Full-Time (BIO)	2014-2017(PT-MICRO) 2017(FT-BIO)
Sandra Uyeshiro	Part-Time (adjunct)	1981-2011(FT) 2012(PT)
David Ward	Full-Time (Retired 5/17)	1990-1993(PT) 1993(FT)-2017
Joe Zermeno	Full-Time (BIO-Resigned 10/16)	2009-2016

At present our faculty includes five (5) Full-time faculty that teach anatomy and/or physiology with two of those faculty being replacements for the two faculty who retired over the last two years, and we have one (1) Full-time faculty member who teaches microbiology. We have two (2) Full-time Biology faculty who teach one course section each in our area. One teaches anatomy, and the other microbiology. At present we only have two (2) adjunct faculty. One teaches two sections of physiology or one section of anatomy at a time and the other teaches an online AP 50 course with 150 students in it. Over the last year we have had three (3) of our adjunct faculty moved into Full-time Tenure-Track positions, two in APM and one into Bio, and besides Dr. Hoffman, we have been unable to recruit qualified adjunct faculty to our area. We are in desperate need of adjunct faculty, and we could support the hiring of another Full-time faculty member.

## Faculty Assignments

Please refer to the [Department Faculty and Sections Dashboard](#) to supply the number of faculty and adjuncts for the past two years of regular terms. Use the dashboard filters to focus on your individual department. Due to the complexity of payroll accounts and assignments, those listed may not match known individuals, please note any discrepancies. Please note that summer positions are all shown as adjunct due to payroll categories.

Enter figures for each term, to add additional rows, click in last cell on right and push tab on the keyboard.

Additional comments or narrative can be added below.

Term	# Sections Offered / Term	# Taught by FT Faculty	# Taught by Other Faculty	Program Fill Rate %
2015MFA	27	22	5	104%
2016MSP	26	21	5	105%
2016MSU	12	0	12	94%
2016MSFA	29	25	4	115%
2017MSP	32	28	4	103%

It is apparent our courses are in high demand and are generally filled to well over the established capacity, but we are unable to offer additional sections of our courses because we simply do not have enough faculty to meet the demand. All of our full-time faculty are teaching significant overloads, and they have combined laboratory sections into one lecture to increase productivity, so our full-time faculty are already working to the maximum of their ability. We simply need more faculty in our department. At present we only have two (2) adjunct faculty. Despite our best efforts we have only been able to recruit one qualified adjunct faculty member to our area over the last two years. We are in desperate need of qualified adjunct faculty, and we could support the hiring of another full-time faculty member.

## Departmental Productivity Measurements

If not pre-filled, please complete for **two years** the following table of indicators, as listed on top of the [Productivity Dashboard](#). A picture of this dashboard will be supplied by Research and Planning. Please enter one term per line; to add an additional line, click in last cell and use the Tab key.

The space below is available for comments and narratives.

Term	FTEF	FTES	FTES/FTEF	WSCH/FTEF
2015MFA	10.10	209.97	20.78	623.47
2016MSP	9.50	205.28	21.60	648.02
2016MSU	3.88	73.38	18.90	566.94
2016MFA	8.98	202.31	22.54	676.15
2017MSP	10.45	216.63	20.74	622.12
2017MSU	5.56	99.70	17.93	537.94

Our results were higher than the college overall. We notice that we offer a cost effective program and still maintain a high level of excellence. Further, since our last program review, we have greatly increased our productivity trends, which is impressive considering we went from a classroom size of 30 lab stations in the old building to 24 laboratory stations in the new building.

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# Long Term Planning and Resource Needs

## Long Term Planning

Provide any additional information that hasn't been addressed elsewhere in this program review, such as environmental scans for opportunities or threats to your program, or an analysis of important subgroups of the college population you serve.

Our programs continue to be in high demand. Due to the aging of our nation's population the demand for health care professionals will continue to be high, and thus the student demand for our courses will continue to be high. We plan to continue to offer high quality faculty, up-to-date equipment and appropriate class sizes to meet this need.

We are actively trying to recruit adjunct faculty to help meet the student demand, but we have found it difficult to recruit high quality adjunct faculty in the central valley, so the focus of our recruiting efforts this past year was for high-quality tenure-track faculty to replace our retirements. We were able to replace our retired faculty with qualified individuals, but they were all our former adjunct faculty, so we are now in even more desperate need of recruiting qualified faculty.

Our largest overriding concern results from the mandated reduction from 5 to 4 units for most of our courses in order to meet the 60 unit transfer model. We increased our courses from 4 units to 5 units to improve student retention and success rates, and the assessment data shows that the increase in faculty-student contact time was effective. Additionally, because of the requirement of the nursing program to maintain a 65 unit transfer model, we were required to eliminate the Human Biology, Bio 116, or General Biology, Bio 111, prerequisite for Human Anatomy. This prerequisite was put into place to help improve student retention and success rates, and the assessment data shows that student success rates in Human Anatomy did improve significantly after these changes were made. We are concerned about the obvious impacts to our program and student retention and success rates now that our courses have dropped to 4 units and at the same time had the prerequisite for anatomy eliminated. Additionally, the demand, which has been high, for Bio 116 and 111, has declined. The long-term impact of these changes is difficult to predict, but we have been collecting data on student retention and success rates for a number of years, so it will be relatively easy to track any changes to these rates over time. The data we have collected thus far has shown a drastic reduction in student retention and success rates, and we have observed a differential impact on some ethnic groups, most notably our largest group, Hispanics.

View the [Program Review Instructions](#) page for reference and inspiration.

Taking into account the trends within this program and the college, describe what you realistically believe your program will look like in three to five years, including such things as staffing, facilities, enrollments, breadth and locations of offerings, etc.

The bulk of our students now and into the foreseeable future are in the allied health fields. At present the demand for our courses is extremely high, and at present we are unable to meet all of the demand. The number of students we will need to serve in the future is in direct proportion to the opportunities for employment in the allied health field, and there is every indication this need will continue to grow as our population ages. It is our goal to continue to grow with that need while still maintaining our high-quality programs. Additionally, we would like to look into developing an allied health program within our department.

Now that we have moved into the new Science Community Center and deployed all of our new models, microscopes and equipment, our Department is, without a doubt, a high quality program. At the same time, we have made efforts to make our program more cost effective. For example, we have combined more laboratory sections into larger lecture halls to accommodate more students for less faculty time. Further, we are in the process of transferring our cadaver loan source from UCSD Willard Body Program to the UCSF Willard Body Program, which will save our budget over one thousand dollars per cadaver, and which will allow us to keep the cadavers for a much longer period of time, thus greatly reducing the cost of teaching our courses immediately and well into the future.

Our biggest challenge in the future will be the changes to our course prerequisites and student contact time mandated by regulatory changes. It is clear that these changes have had a devastating impact on our student success rates, particularly with respect to anatomy and within some ethnic groups. We are actively working to find strategies to improve student success rates given our new reality, but we must be realistic. Student preparedness for our difficult courses is something we have very little control over. We are trying new ways to present the necessary information to students while at the same time teaching students how to learn and study. For example, several of our faculty have gone through training in Reading Apprenticeship and are now using those techniques in the classroom. We are also actively engaged in developing a Guided Pathway for allied health students that we hope will help to encourage students to take the courses necessary to be properly prepared for our courses.

We are also experiencing some growing pains resulting from changes in our faculty. One of our senior faculty members retired three years ago, another retired a year ago, and another retired last spring. We have now replaced all three retired faculty members with new tenure-track faculty. Further, four years ago the Department hired a new tenure-track faculty member for an expansion position. The infusion of all of these new faculty has resulted in a lot of new energy being injected into the Department, but this means that of the six faculty in our Department, four are relatively new, and one of the two remaining senior faculty members is retiring in the next two to three years. This represents a 67% turn-over in Department faculty over the last 4 years. This represents a huge loss of experience, especially with respect to the administrative tasks that must be accomplished, but our new faculty are stepping up to the plate and getting tasks done.

An ongoing problem we have had is recruiting qualified faculty to our Department. We managed to fill all of our openings with qualified faculty, but they all came from our pool of adjunct faculty, so our adjunct faculty pool is depleted. We must actively recruit new qualified adjunct faculty in order to be able to expand our course offerings, and serve the large number of students drawn to allied health.

## Resource Request and Action Plan

Priority	Name	Resource Type	Estimated Cost	Objective
<b>Mission Critical</b>	Damaged Anatomical Model Replacements	Equipment (not computers)	\$13,000 One-time	These are replacement models that are critical for teaching that are beyond repair
<b>Mission Critical</b>	Service Contract for Microscopes	Outside Services	\$10,000 Annual	Our microscopes have suffered under student use and require maintenance to keep them in proper working order.
<b>Mission Critical</b>	Dependable Audio-Visual Equipment	Technology-Hardware	\$unknown One-time	We are losing valuable classroom instruction time because of the constant problems with our audio visual system. Further, the low resolution we are getting from this equipment does not meet the needs of our instructional requirements.
<b>Essential</b>	Microbiology supplies	Equipment (not computers)	\$11,000 Annual	We have ongoing supply needs list available upon request
<b>Essential</b>	Anatomy and Physiology Lab supplies	Equipment (not computers)	\$4,000 Annual	We have ongoing supply needs list available upon request
<b>Essential</b>	Two Cadaver Specimens	Other	\$8,000 Annual	Our cadavers have a limited lifespan, and must be continually replaced on a rotating schedule
<b>Essential</b>	Microscope Slides	Other	\$2,000 Annual	We have an ongoing need to replace broken or missing microscope slides
<b>Essential</b>	Models Needed to complete Lab Sets	Equipment (not computers)	\$46,000 One-time	These are models that are needed to complete the model sets in all three labs and replace models that are near the end of their functional life
<b>Desired</b>	Models Needed to Improve Lab Functionality	Equipment (not computers)	\$14,000 One-time	This set of models will increase the number of high demand models in the lab, thereby increasing student contact time with the models
<b>Desired</b>	Models Needed to Expand into a Fourth Lab	Equipment (not computers)	\$55,000 One-time	We would like to expand into our fourth lab that will be used
<b>Grant Funded</b>	Two Cadaver Dissection Lights	Equipment (not computers)	\$16,000 One-time	Better lighting while dissecting the cadavers will make dissection safer

## Evaluation of Previous Resource Allocations

Below is a list of resource allocations received in previous Program Reviews. Please evaluate the effectiveness of the resources utilized for your program. How did these resources help student success and completion?

<https://www.mjc.edu/governance/rac/documents/ielmallocationsummary20142015.pdf>

The Evaluation / Measured Effectiveness can be typed in another program and pasted here, or typed directly in to the box below. The box will expand with additional text, and paragraphs (hard returns) can be added by using Ctrl+Enter.

Resource Allocated	PR Year	Evaluation / Measured Effectiveness
5 High-resolution classroom projectors	2015	While we were granted money to purchase high-resolution projectors, we were unable to improve the resolution of our classroom projectors. On closer examination we discovered that the projectors we have are capable of much higher resolution than we are currently getting from them. It appears that the screen resolution on the classroom audio visual system is set very low, and we have been told that we cannot improve the resolution with the current equipment and infrastructure. We still have a very big problem, but the solution to this problem will require the IT staff to reconfigure and/or replace our classroom audio visual equipment.

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# Appendix

## Optional Questions

Please consider providing answers to the following questions. While these are optional, they provide crucial information about your equity efforts, training, classified professional support, and recruitment.

What strategies do you use to recruit, support and retain students from disproportionately impacted groups?

At present, we have more students than we can accommodate, so we are not actively recruiting students.

Does your division (or program) provide any training/mentoring for faculty to support the success of students at risk of academic failure?

There are some efforts underway, but we have not seen the benefit of these efforts yet.

Is there a need for more classified professional support in your area, please describe this need. Indicate how it would support the college mission and college goals for success, and completion.

The classified professional support in our area is sufficient for our current needs when they are present. Unfortunately, because our anatomy/physiology technician is a ten month employee, she has to fairly regularly take entire weeks off so as not to exceed her work contract. This creates some difficulties with having all of the labs ready to go and having staff available to help when supplies runout or equipment breaks. There is always something to be done, so it would be good to have our ten month anatomy/physiology technician increased to a twelve month employee. We would have no problem keeping her busy.

What factors serve as barriers to recruiting active faculty to your program(s)?

We are actively trying to recruit adjunct and full-time faculty to help meet the high student demand for our courses, but we have found it difficult to recruit high-quality adjunct faculty in the central valley. We were able to successfully replace our full-time faculty retirements with high-quality instructors, but they came from our adjunct faculty pool, which has now been reduced from a high of six to just two. As a result of this difficulty, our full-time faculty have increased their overload teaching. This trend is not sustainable and will become much more challenging as demand for our courses continues to increase. We desperately need to hire some more adjunct faculty to help fill this gap, but we have only been able to recruit one qualified adjunct faculty member. It is our belief that it would be easier to recruit high-quality, full-time, tenure-track faculty to our institution than we can recruit high-quality, adjunct faculty.

## Review Process Feedback

Please share any recommendations for improvements in the Program Review process, analysis, and questions. Your comments will become part of the permanent review record.

The data dashboard is somewhat clunky to use, and we were never able to copy graphs from the data dashboard to our program review. Also, we found that our physiology classes were classified as either MPHYSO or MPHYSI in data dashboard, which resulted in our having to rewrite several answers once we realized we were analyzing the wrong data. It took about a half day to correct this problem in our analysis. Our department is experiencing a problem with student preparedness, and the data dashboard is not currently able to give us the information we need to analyze changes in student preparedness for our courses. Put another way, we need to be able to see how many students in each ethnic group have taken a certain set of former pre-requisite courses. This data is especially important because the lack of student preparedness for our courses appears to be a differential impediment to student success for some ethnic groups. One really big benefit is the ability to cut and paste and store the document offline, which made it easier for several faculty to contribute to the process.