BASIC PROGRAM INFORMATION

Program Review is a self-study of your discipline. It is about documenting the plans you have for improving student success in your program and sharing that information with the college community. Through the review of and reflection on key program elements, program review and planning identifies program strengths as well as strategies necessary to improve the academic discipline, program, or service to support student success. With that in mind, please answer the following questions:

Discipline Name: Physics

Department Name: Physics & Engineering

Division Name: Math and Natural Health Sciences

Please list all participants in this Program Review :

Name	Position
Takashi Nakajima	Chair/Professor
Art Gerwig	Professor

Number of Full Time Faculty: _____ **Number of Part Time Faculty:** _____

Please list the Classified positions (and their FTE) that support this discipline:

One 20% Academic Department Assistance and One 50% Lab Technician

What additional hourly staff support this discipline and/or department:

None

Discipline mission statement: **Link to "How to Build a Mission Statement"**

The mission of Engineering Program is to prepare students for transfer in various Physics and related fields of study at four-year-universities by educating them in fundamental concepts, knowledge, critical thinking, and hands-on skills using university and industry standard equipment and laboratory techniques and skills of physics.

List any new degrees and certificates offered within this discipline since your last comprehensive review:

Discipline Level Data: https://sharepoint2.palomar.edu/sites/IRPA/SitePages/PRP%20Summary%20Source.aspx

SECTION 1: PROGRAM REFLECTION

1A. Program Analysis: Reflect upon and provide an analysis of your summary data.

The success rate of physics is the same as our division's success rate for the last five years (fall 2010 - fall 2015).

1B. Standards: ACCJC requires that colleges establish institutional and program level standards in the area of course success rates. These standards represent the lowest success rate (% A, B, C, or Credit) deemed acceptable by the College. In other words, if you were to notice a drop below the rate, you would seek further information to examine why the drop occurred and strategies to address the rate.

Discipline Level Course Success Rate:

A. The College's institutional standard for course success rate is **70%**.

B. Review your discipline's course success rates over the past five years.

C. Identify the minimum acceptable course success rate for your discipline. When setting this rate, consider the level of curriculum (e.g., basic skills, AA, Transfer) and other factors that influence success rates within your area. If you set your discipline standard below the College's standard, please explain why.

Standard for Discipline Course Success Rate: 70

Why?

1C. Program Update: Describe your proudest moments or achievements related to student success and outcome.

1. Engineering success rate is constantly over 80% and this is due to our high standard physics education for physics and engineering majors.

2. Our former students come back and tell us how well they are doing in their transferred schools all the time. However, those are their testimonies although we believe they are telling us truths. To confirm this, we would like to copy an email we received recently. His email confirms the importance of keeping our education level as it is and we should not lower our standards even administration tries to meddle with our program.

Hi Takashi and Art,

It's been many years since I've been at Palomar -- I stopped by once a few years back to see both of you after I finished my B.S., but unfortunately you were in Texas for a convention. I took your physics classes in 2007-2008 (I failed physics 230 the first time -- miserably) during the transition from the old physics building to the new one, and transferred to SDSU in 2008 for a degree in civil engineering. I think you were at a semester count of "21 to go" until retirement when I left, Takashi, so I imagine you must be getting very close!

I thought you'd both like to know I just defended my PhD in Structural Engineering under a joint program at UCSD/SDSU, and will be graduating in a few weeks. It has been a long journey, and I have been teaching solid mechanics for several years now at SDSU. You'll be pleased to hear that I have had many of your students in my classes, and every one has been a top-notch student that has sung the praises of Palomar's physics and engineering programs in preparing them for the difficult engineering courses ahead. The dedication and rigor of your program is very rare, and breeds an exceptionalism in its students that you should be enormously proud of.

To this day, I still tell stories of my time in your physics classes, and how your insistence that I fail in Physics 230 led to personal and professional growth that has been instrumental in my success as an engineer. I can say with 100% certainty that, were it not for the two of you, I would not be where I am at today. Thank you so much for your insistence on challenging students and maintaining the absolute highest educational standards at Palomar, and for having a willingness to expose students to failure in a healthy and productive way.

If things work out correctly, I'm hoping to make it up to San Marcos to see both of you sometime in the next few weeks. I've been applying for faculty positions at several universities, and may not be in San Diego too much longer. If the opportunity does not arise, I wish you both the best -- you may not have been around to see all the results, but thank you for all you've done for me.

Sincerely,

Tim Johnson

1D. Program Improvement: What areas or activities are you working on this year to improve your program? Please respond to new data as well as feedback from last year's program review.

A new set of equipment (home made Atwood Machines) is working well in Physics 230 lab. GLX systems used in Physics 231 (Discharging RC-circuit) still has some problems and we are working on to make the date collection better. The new activity added in this year is to introduce IO lab (computer data acquisition system) in Conceptual Physics level.

1E. Unanticipated Factors: Have there been any unanticipated factors that have affected the progress of your previous plan?

1F. SLOACs: Describe your course and program SLO activities this past year. How have you used the results of your assessments to improve your courses and programs? **Refer to the SLO/PRP report – https://outcomes.palomar.edu:8443/tracdat/**

Physics 231 assessment test is done, but it has not been put in SLOAC. The goal is to put the data in SLOAC.

SECTION 2: PROGRAM GOALS

2A. Progress on Previous Year's Goals: Please list discipline goals from the previous year's reviews and provide an update by checking the appropriate status box .

Goal	Completed	Ongoing	No Longer a Goal
Increase the number of offerings in 230 (Physics & Engineering Majc	○	◉	○
Continue to introduce/update more labs/equipment/demos which	○	◉	○
Reclaim priority scheduling right of NS-259 - The claim was totally ig	○	○	◉
We need lecture rooms to hold 48 students to parallel with the 24 st	○	◉	○
Restructure the 120/200/121/201 curriculum to maintain transferral	○	◉	○

2B. New Discipline Goals: Please list all discipline goals for this three-year planning cycle (including those continued from previous planning cycle):

GOAL #1	
Program or discipline goal	Improve Physics 232 Lab curriculum by adding State Physics Labs.
Strategies for implementation	Ask for resource
Timeline for Implementation	
Outcome(s) expected (qualitative/quantitative)	
GOAL #2	
Program or discipline goal	Keep SI/LA program
Strategies for implementation	Ask for resource.
Timeline for Implementation	
Outcome(s) expected (qualitative/quantitative)	Bring physics success rate from 62% (current) to 70% (target).
GOAL #3	
Program or discipline goal	
Strategies for implementation	
Timeline for Implementation	
Outcome(s) expected (qualitative/quantitative)	

Department Chair/ Designee Signature: Takashi Nakajima Digitally signed by Takashi Nakajima DN: cn=Takashi Nakajima, o=Palomar College, ou=Physics & Engineering Department, email=tnakajima@palomar.edu, c=US Date: 2017.04.03 15:56:14 -07'00' **Date:** 04/03/2017

Division Dean Signature: Kathryn Kailikole Digitally signed by Kathryn Kailikole DN: cn=Kathryn Kailikole, o=Palomar College, ou=Mathematics and the Natural and Health Sciences, email=kkailikole@palomar.edu, c=US Date: 2017.04.09 20:38:22 -07'00' **Date:**

Vice President Signature: **Date:**