Engineering Program Review

Rubric Evaluation	Ram Subrmaniam (Dean)	Alfred Guzman (At-Large Classified Staff)	Ron Painter (Same Division Faculty)	Voltaire Villanueva (At-Large Faculty)
A. Program Information				
How many criteria are met for the Program Mission statement?	Addresses 4 to 7 of the criteria - Needs Some Improvement to Meet the Standard	Exceeds expectations for all 8 criteria - Excellent	Addresses all 8 criteria - Meets the Standard	Addresses fewer than 4 of the criteria - Needs Major Improvement to Meet the Standard
Reader Feedback	Primary function- service or transfer? How is it aligned with college mission?	I think this is a very nice, inspirational, and concise Mission Statement. This statement is written with passion and with the student in mind, well done.	The term "activities in the Foothill community" is vague, but the purpose, function, and objectives are all otherwise clearly stated. I like the inclusion of "all students ... regardless of their prior exposure to engineering". Should an indication that there is an AS degree in engineering be included in the mission statement?	Given the current Foothill College Mission Statement, it is aligned in its statement in producing a well-educated workforce. However, the Engineering Mission Statement can further specify the means, activities or practices by which students can transfer to a baccalaureate degree program or transition into the workforce with the associate degree. It is important to highlight transfer, but also the benefit of the local degree. In addition, given that women are least represented in the program, there is a huge gender gap that exists here and most likely in the profession, reflecting the importance of closing this gap should be stated. fd
How many criteria are met for the Program Learning Outcomes?	Addresses 3 to 4 of the criteria - Needs Some Improvement to Meet the Standard	Exceeds expectations for all 5 criteria - Excellent	Addresses all 5 criteria - Meets the Standard	Addresses 2 or fewer of the criteria - Needs Major Improvement to Meet the Standard
Reader Feedback	Not clear how these will be measured?	Again, I think this is well done. I like this description, hits all criteria, and designed with the student just coming out of high school in mind. I think this PLO speaks to that target audience, simple, direct.	The PLOs were overall clearly stated and comprehensive from a program standpoint. However, I'm not sure how "analyzing team work and communication skills" would be carried out. Also, the statement "valuing the workplace ethical responsibility of engineers" is not clear to me nor is it obvious to me how valuing a particular philosophy could be measured.	The Program Level Student Learning Outcomes starts off well by identifying general knowledge and skills graduates from an associate degree can accomplice. However, Program Level Student Learning Outcomes can further specify in detail a running list of knowledge, skills, attitudes or behavior students should be able to demonstrate upon graduation, i.e design and conduct experiments and the ability to communicate effectively to name a few. Why aren't the PLOs from https://foothill.edu/engineering/programs.html listed here?
B. FTES - Enrollment Trends				

1. What does the FTES data trend indicate?	FTES has decreased over the time span by 10% to 30% - Needs Some Improvement to Meet the Standard	FTES has decreased over the time span by greater than 30% - Needs Major Improvement to Meet the Standard	FTES has decreased over the time span by greater than 30% - Needs Major Improvement to Meet the Standard	FTES has decreased over the time span by greater than 30% - Needs Major Improvement to Meet the Standard
How many criteria are met in the data trend narrative explanation for FTES?	The narrative includes 3 of the criteria - Needs Some Improvement to Meet the Standard	The narrative includes all 4 of the criteria - Meets the Standard	The narrative includes all 4 of the criteria - Meets the Standard	The narrative includes all 4 of the criteria - Meets the Standard
How many criteria are met in the proposed action narrative for FTES?	The narrative includes all 5 of the criteria - Meets the Standard	The narrative includes all 5 of the criteria - Meets the Standard	The narrative includes all 5 of the criteria - Meets the Standard	The narrative includes fewer than 4 of the criteria - Needs Major Improvement to Meet the Standard
Reader Feedback	Look forward to working in this direction.	I like the answers given for actions suggested to improve variables and trends, they are bold and aggressive. I know that over the past 10 years in scholarship applications I have read, those that are part of the engineering program seem proud of their accomplishments and what they have achieve. Not only that, they also seem confident that they are well prepared. I know this is anecdotal, but, that is the impression I get. I like the forward thinking planning of working with Colleges and Universities to build specific pathways, and working with counselors and schedulers to fit the needs of the students.	The response to question 2 does not include data within its narrative and does not indicate what specific issues could be corrected (other than that there is not enough enrollment for their program). The department has shown that they recognize the negative enrollment trend and indicated that the issue lies with scheduling reductions with an emphasis on filled sections rather than varied course offerings. While this makes sense at face value, the response to question 2 does not convince me that offering more sections and increasing the variety of their course offerings means those courses/sections would be filled. Looking at the course schedules from this past academic year, most sections of ENGR 6, 7, 10, 11, 35, 37, and 37L in Fall 2019 and Winter 2020 were all moderately filled with 7-10 spots remaining in every section though the three online engineering courses in Spring 2020 had nearly full enrollment. What could the department do to attract students to their program and increase enrollment?	Actions items need to be identified. In working with high schools, what are some possible solutions that might help in providing more full sections. Prerequisites are identified in playing a critical role in student flow into coursework, indications in working with the scheduler and counselors is a good start. If working with high schools, Engineering should also perhaps look at the role of Advanced Placement tests and the credit given to students for a class. Physics C - Mechanics test for example gives the following credit: Score of 3 or 4 -Phys 2A w/Physics Dept approval (proof of lab) 5 quarter units Score of 5 – Phys 4A w/Physics Dept approval (proof of lab). How might this impact course flow?
C. Sections - Enrollment Trends				
How many criteria are met in the data trend narrative explanation for sections?	The narrative includes all 4 of the criteria - Meets the Standard	The narrative includes all 4 of the criteria - Meets the Standard	The narrative includes all 4 of the criteria - Meets the Standard	The narrative includes 3 of the criteria - Needs Some Improvement to Meet the Standard

How many criteria are met in the narrative explaining why the number of sections increased while FTES decreased?	The narrative includes all 3 of the criteria - Meets the Standard	The narrative is not included		The narrative includes fewer than 2 of the criteria - Needs Major Improvement to Meet the Standard
Reader Feedback	N/A	I think this is one of the more confusing parts of this Program Review. In my view, because the Engineering Department is small compared to other departments, it has suffered the greatest shifts due to the economy, budget deficits, decreasing enrollment, online influence and size of personnel. We have two full time instructors, if one goes on sabbatical, which has occurred within the period this review covers, then we have one. This substitute does not get to decide overall, the direction of the department. So, we have deans and administrators deciding when to cancel classes, how many sections to offer, what times those sections are offered, etc. In my general view the explanation given is acceptable.	I agree with the points made in the narrative and am amazed at the drastic reduction in the number of sections offered (from 40 to just 19 sections!!). I don't understand the last statement, however - the only engineering course that has a prerequisite of another engineering course is ENGR 47 (with an ENGR 35 prerequisite). Most of these engineering courses have math and/or physics requirements, all of which are offered every quarter, and those offerings are outside of the control of the engineering department anyway.	Context could have been included in explaining the decrease in sections. The response provided a good explanation for the decrease, however what was left out was that enrollment trended lower, which could have also explained the decrease in sections.
D. Productivity - Enrollment Trends				
1. What does the data indicate about the productivity trend?	The program productivity trend has increased - Excellent	The program productivity trend has increased - Excellent	The program productivity trend has increased - Excellent	The program productivity trend has increased - Excellent
How many criteria are met in the data trend narrative explanation for productivity?	The narrative includes all 3 of the criteria - Meets the Standard	The narrative includes all 3 of the criteria - Meets the Standard	The narrative includes all 3 of the criteria - Meets the Standard	The narrative includes all 3 of the criteria - Meets the Standard
How many criteria are met in the proposed action narrative for productivity?	The narrative includes all 5 of the criteria - Meets the Standard	The narrative includes all 5 of the criteria - Meets the Standard	The narrative includes all 5 of the criteria - Meets the Standard	The narrative includes fewer than 4 of the criteria - Needs Major Improvement to Meet the Standard

Reader Feedback	N/A	I think that the positive plans the authors have for improving productivity are worth considering. One aspect for improvement is the focus on Guided Pathways. To be truly successful, this approach will take coordination from all sections of the college. One angle can come from the recent 898 million bond measure which included: "Instructional Equipment for...STEM laboratories, and transfer courses"; "Renovate and expand tutoring and STEM centers"; "Renovate and expand instruction and student support areas". These objectives I see as a way to leverage the attractiveness of the Engineering program. Marketing, Outreach, Counseling, Financial Aid etc can all be brought into the discussion of how best to utilize the funds for improving the best pathways for Engineering students since it meets the goals given for Measure G.	A productivity increase from 314 to 368 to 431 in just two years is a substantial increase even though it doesn't reach the target value for college-wide productivity. It is clear that the reduction in the number of sections improved productivity, possibly at the expense of overall program enrollment. Having online courses does seem to be one way to increase enrollment by targeting a more varied student population. I like the variety of aspects addressed within this narrative. I still don't understand the prerequisite discussion though - students have to take calculus and physics before they can take engineering, so what can the engineering department do to "streamline their success in the courses that become roadblocks"? It seems to be out of the engineering department's hands.	Offering a guided pathway can offer a good opportunity to stabilize and/or increase the productivity number, however it must be a collaborative effort with departments that offer the prerequisites for the program. These departments need to be identified, i.e Math, Physics, and/or counseling and program learning outcomes need to be clearly defined to be actionable.
E. Enrollment by Student Demographics				
2. Does your program differ in the percentage of males to females, in this most recent year, compared to the College? (College 2018-19 = 52% Female, 48% Male)	The difference between the gender/sex is between 11% to 20% - Meets the Standard	The difference between the gender/sex is greater than 30% - Needs Major Improvement to Meet the Standard	The difference between the gender/sex is greater than 30% - Needs Major Improvement to Meet the Standard	The difference between the gender/sex is greater than 30% - Needs Major Improvement to Meet the Standard
How many criteria are met in the data trend narrative explanation for enrollment by gender?	The narrative includes all 3 of the criteria - Meets the Standard	The narrative includes all 3 of the criteria - Meets the Standard	The narrative includes all 3 of the criteria - Meets the Standard	The narrative includes fewer than 2 of the criteria - Needs Major Improvement to Meet the Standard
How many criteria are met in the proposed action narrative for enrollment by gender?	The narrative includes all 5 of the criteria - Meets the Standard	The narrative includes all 5 of the criteria - Meets the Standard	The narrative includes all 5 of the criteria - Meets the Standard	The narrative includes fewer than 4 of the criteria - Needs Major Improvement to Meet the Standard

Data Table for Enrollment by Gender of Declared Majors https://foothill.edu//programreview/prg-rev-docs/fh-programreview2019_20enroll-by-gender-and-declared-major.pdf (https://foothill.edu//programreview/prg-rev-docs/fh-programreview2019_20enroll-by-gender-and-declared-major.pdf)				
3. What does the data trend indicate about enrollment (headcount) by gender of declared majors in the program?	The Gender gap by declared major is greater than 30% - Needs Major Improvement to Meet the Standard	The Gender gap by declared major is greater than 30% - Needs Major Improvement to Meet the Standard	The Gender gap by declared major is greater than 30% - Needs Major Improvement to Meet the Standard	The Gender gap by declared major is greater than 30% - Needs Major Improvement to Meet the Standard
Reader Feedback	Good ideas.	The authors of this Program Review acknowledge that a lot of work has to be done in this area. Again, I see this as not just the responsibility of the Engineering Department, but, of the college as a whole. I agree with the authors "Guided Pathways could remove some logistical barriers".	I agree that the variation in enrollment by gender across the last five years is not significant and appears to be flat at ~80% male and ~20% female except for the most recent academic year (which could be an outlier). However, all of the reasons cited are not within the department's control except perhaps Women in STEM. It is also not clear to me whether the gender gap is tied to retention of students through the program, or to the recruitment of students into the program in the first place. The action items discussed in the narrative seem to be focused on retention of women in engineering courses rather than on encouraging more women to enroll in engineering courses in general. The gender gap in engineering majors has steadily decreased from 61% to 49% over five years, which is a very encouraging trend in a traditionally male-dominated discipline. While there is still a ways to go to achieve gender parity within the engineering program, the efforts of the engineering department to narrow the gender gap thus far should most definitely not be discounted by saying that "it needs major improvement to meet the standard."	In the narrative explaining the change in male/female enrollment, the response appears to be speculative and not substantiated. The response to gender parity is more cogent, but still lacks details that are actionable.

2. Does your program differ in enrollment distribution among ethnic groups, in this most recent year, compared to the College enrollment by ethnic group?				
(2018-19 College enrollment distribution by ethnicity: 5% African American, 30% Asian, 5% Filipinx, 26% Latinx, 0% Native American, 1% Pacific Islander, 29% White, 4% Decline to State)	The enrollment does not mirror the college's ethnic distribution - Needs Some Improvement to Meet the Standard	The enrollment does not mirror the college's ethnic distribution - Needs Some Improvement to Meet the Standard	The enrollment does not mirror the college's ethnic distribution - Needs Some Improvement to Meet the Standard	The enrollment does not mirror the college's ethnic distribution - Needs Some Improvement to Meet the Standard
How many criteria are met in the data trend narrative explanation for enrollment by ethnicity?	The narrative includes all 3 of the criteria - Meets the Standard	The narrative includes all 3 of the criteria - Meets the Standard	The narrative includes fewer than 2 of the criteria - Needs Major Improvement to Meet the Standard	The narrative includes fewer than 2 of the criteria - Needs Major Improvement to Meet the Standard
How many criteria are met in the proposed action narrative for enrollment by ethnicity?	The narrative includes all 5 of the criteria - Meets the Standard	The narrative includes all 5 of the criteria - Meets the Standard	The narrative exceeds expectations - the narrative could be used as an exemplar - Excellent	The narrative includes fewer than 4 of the criteria - Needs Major Improvement to Meet the Standard
Reader Feedback	Lots of good ideas.	Again, I see this as not just the responsibility of the Engineering Department, but, of the college as a whole. I like the specific suggestions of reaching out to Umoja, Puente, and Pacific Islanders to increase the opportunity in these underrepresented populations. Guided Pathways I think would be most successful if the college as a whole pursued this objective. Again, the leverage gained from Measure G can help consider how to best build our career technical programs, which includes Engineering. How to be best consider how to design our STEM area to attract underrepresented communities. How to use monies to improve the path to transfer courses would be best attained if the entire college is involved.	The response to question 2 just describes the changes in population for each ethnic group without explaining why, for instance, the Latinx population has increased from 13% to 19%. I like the focus on recruiting students from different ethnic groups into the engineering program in addition to curriculum changes to improve retention of these students in engineering courses. Both types of changes/actions are also quite important also for increasing the overall engineering program student population.	Written narratives provide some data and some insight on action items, but falls short on outcomes that make it measurable. What is described as actionable falls shy on meaningful change that would benefit changes to enrollment by ethnicity.
F. Student Course Success				
1. What does the data trend indicate about overall course success?	Course success has decreased over the time span by more than 4 percentage points - Needs Major Improvement to Meet the Standard	Course success has decreased over the time span by more than 4 percentage points - Needs Major Improvement to Meet the Standard	Course success has decreased over the time span by more than 4 percentage points - Needs Major Improvement to Meet the Standard	Course success has decreased over the time span by more than 4 percentage points - Needs Major Improvement to Meet the Standard

How many criteria are met in the data trend narrative explanation for student course success?	The narrative includes all 3 of the criteria - Meets the Standard	The narrative includes all 3 of the criteria - Meets the Standard	The narrative includes all 3 of the criteria - Meets the Standard	The narrative includes 2 of the criteria - Needs Some Improvement to Meet the Standard
How many criteria are met in the proposed action narrative for student course success?	The narrative includes 4 of the criteria - Needs Some Improvement to Meet the Standard	The narrative includes all 5 of the criteria - Meets the Standard	The narrative includes all 5 of the criteria - Meets the Standard	The narrative includes 4 of the criteria - Needs Some Improvement to Meet the Standard
Reader Feedback	Need to analyze the data more closely.	The authors choose to focus on improving the percentages of one of their worst performing areas - online courses in Engineering. I think this is especially commendable, especially during this time of pandemic uncertainty, which is now the focus currently facing us. I think their suggestions of student surveys and "...asking online learning experts about additional strategies for supporting student success." is worth pursuing. As I understand it, Measure G will allow Foothill to commission studies in this regard, and consider funding efforts to collect data, purchase commercial approaches, and invest in enterprise programs to address this need. All this and also work on ways to make online tutoring and online learning more robust.	I like how the response to question 1 discussed different elements that caused the decrease in student success rates. The comment on full-time vs part-time instructors is surprising, as over the past two academic years, only ENGR 6 (one section/quarter, not offered all quarters) was taught by a part-time instructor. I do not agree that part-time faculty are to blame for this decrease in success rates. I agree with the narrative for question 2 - an improvement in the online course success rate would probably lead to an overall increase in the student success rate for the program, and might make online engineering courses in general more attractive for students to take. I'm skeptical that online courses are the main cause of the decrease in course success rates, as only four courses were taught online from Fall 2018 to Winter 2020. Tutoring services could help, but is outside of departmental control. Has the department tried different pedagogical strategies for in-person courses outside of traditional lecturing? A previous response hinted at increasing group work and offering more (?) course projects but it wasn't clear if this was a current method of instruction or is planned to be implemented for future courses.	It was suggested earlier in the document that by adding online courses, there might be an increase in the department's productivity. When considering this as an action item, a discussion on how it might impact vulnerable students must also be considered. Although it was identified in the program review that strategies need to be developed, the narrative should have highlighted such initiatives in the documents so that they can be measured.
3. Is there a course success gap between African-American, Latinx, Filipinx student groups and Asian, Native American, Pacific Islander, White, Decline to State student groups?	The gap between the two groups has decreased over the time span - Meets the Standard	There is no gap between the two groups - Excellent	The gap between the two groups has decreased over the time span - Meets the Standard	The gap between the two groups has decreased over the time span - Meets the Standard

How many criteria are met in the data trend narrative explanation for course success by student groups?	The narrative includes all 3 of the criteria - Meets the Standard	The narrative includes all 3 of the criteria - Meets the Standard	The narrative includes all 3 of the criteria - Meets the Standard	
How many criteria are met in the proposed action narrative for course success by student groups?	The narrative includes 4 of the criteria - Needs Some Improvement to Meet the Standard	The narrative includes 4 of the criteria - Needs Some Improvement to Meet the Standard	The narrative includes all 5 of the criteria - Meets the Standard	The narrative includes 4 of the criteria - Needs Some Improvement to Meet the Standard
Reader Feedback	N/A	I find it to be almost ironic, where almost all areas underrepresented populations do not generally fair as well vs non-underrepresented populations, except online. Amazing. The authors state: "...online courses can potentially alleviate some of the stereotype threat that underrepresented students experience in face to face classes." This is definitely one area where this trend should be commended and continued. Also, I agree with the writers of this program review that steps should still be taken to "...improve student success" and "...fostering a sense of community..." are important goals.	The decrease in the student success gap from 11% to 1% should be commended, but I find it quite surprising that the program chose to attribute this to a lower success gap to online courses even if stereotype threat might have been mitigated on an online platform! There is no mention of anything else that the department did to reduce the success gap over the past five years. All of the action items proposed in the response to question 4 sound great - hopefully the student success gap will remain small for years to come!	The narrative provides a few good opportunities for action. Identifying stereotype threat as a cause for the disparities is a good start. Hiring tutors is certainly a means to help close the gap and can help foster a sense of community, especially if those who are hired are reflective of the student demographics or what the department aspires to be.
G. Student Course Success by Demographics				
1. What does the data indicate about course success?				
Female	Course success has decreased over the time span by no more than 4 percentage points - Needs Some Improvement to Meet the Standard	Course success has decreased over the time span by more than 4 percentage points - Needs Major Improvement to Meet the Standard	Course success has decreased over the time span by more than 4 percentage points - Needs Major Improvement to Meet the Standard	Course success has decreased over the time span by more than 4 percentage points - Needs Major Improvement to Meet the Standard
Male	Course success has decreased over the time span by no more than 4 percentage points - Needs Some Improvement to Meet the Standard	Course success has decreased over the time span by more than 4 percentage points - Needs Major Improvement to Meet the Standard	Course success has decreased over the time span by more than 4 percentage points - Needs Major Improvement to Meet the Standard	Course success has decreased over the time span by more than 4 percentage points - Needs Major Improvement to Meet the Standard
How many criteria are met in the data trend narrative explanation for course success by gender?	The narrative includes all 3 of the criteria - Meets the Standard	The narrative includes all 3 of the criteria - Meets the Standard	The narrative includes fewer than 2 of the criteria - Needs Major Improvement to Meet the Standard	The narrative includes fewer than 2 of the criteria - Needs Major Improvement to Meet the Standard
How many criteria are met in the proposed action narrative for course success by gender?	The narrative includes 4 of the criteria - Needs Some Improvement to Meet the Standard	The narrative includes 4 of the criteria - Needs Some Improvement to Meet the Standard	The narrative includes all 5 of the criteria - Meets the Standard	The narrative includes fewer than 4 of the criteria - Needs Major Improvement to Meet the Standard

Reader Feedback	N/A	I like the forward thinking objective of considering that success rates should be higher. Always aiming toward improvement, especially in the online world. All three elements for improvement: fostering community online, more online team-based assignments, and including alumni success stories are good goals to pursue or attain. Again, I think, studies, strategies and programs can be funded with Measure G to attain these goals.	The response to question 1 only described the trends without identifying any reasons behind the decreasing success rate across both genders. The action items listed in question 2 are focused on online course success rates though these approaches could ostensibly also be applied to in-person courses.	The narrative identifies that there is a downward trend in success rate by gender, however addressing actionable items is less detailed. Assigning more team-based assignments online can certainly help and align if written in the PLOs, but providing success stories on the website might be superficial. Identifying other variables affecting this trend might help in creating other action items that might hit the root of the problem.
1. What does the data trend indicate about program student course success by ethnicity?				
African Americans	Course success has decreased over the time span by no more than 4 percentage points - Needs Some Improvement to Meet the Standard	Course success has improved over the time span - Excellent	Course success has been flat or decreased over the time span by no more than 2 percentage point - Meets the Standard	Course success has improved over the time span - Excellent
Asian	Course success has decreased over the time span by no more than 4 percentage points - Needs Some Improvement to Meet the Standard	Course success has decreased over the time span by more than 4 percentage points - Needs Major Improvement to Meet the Standard	Course success has decreased over the time span by more than 4 percentage points - Needs Major Improvement to Meet the Standard	Course success has decreased over the time span by more than 4 percentage points - Needs Major Improvement to Meet the Standard
Filipinx	Course success has decreased over the time span by no more than 4 percentage points - Needs Some Improvement to Meet the Standard	Course success has decreased over the time span by more than 4 percentage points - Needs Major Improvement to Meet the Standard	Course success has been flat or decreased over the time span by no more than 2 percentage point - Meets the Standard	Course success has decreased over the time span by more than 4 percentage points - Needs Major Improvement to Meet the Standard
Latinx	Course success has decreased over the time span by no more than 4 percentage points - Needs Some Improvement to Meet the Standard	Course success has decreased over the time span by more than 4 percentage points - Needs Major Improvement to Meet the Standard	Course success has been flat or decreased over the time span by no more than 2 percentage point - Meets the Standard	Course success has been flat or decreased over the time span by no more than 2 percentage point - Meets the Standard
Native American	Course success has decreased over the time span by no more than 4 percentage points - Needs Some Improvement to Meet the Standard	Course success has been flat or decreased over the time span by no more than 2 percentage point - Meets the Standard	Course success has been flat or decreased over the time span by no more than 2 percentage point - Meets the Standard	Course success has been flat or decreased over the time span by no more than 2 percentage point - Meets the Standard
Pacific Islander	Course success has decreased over the time span by no more than 4 percentage points - Needs Some Improvement to Meet the Standard	Course success has been flat or decreased over the time span by no more than 2 percentage point - Meets the Standard	Course success has decreased over the time span by more than 4 percentage points - Needs Major Improvement to Meet the Standard	Course success has decreased over the time span by more than 4 percentage points - Needs Major Improvement to Meet the Standard
White student	Course success has decreased over the time span by no more than 4 percentage points - Needs Some Improvement to Meet the Standard	Course success has decreased over the time span by no more than 4 percentage points - Needs Some Improvement to Meet the Standard	Course success has decreased over the time span by no more than 4 percentage points - Needs Some Improvement to Meet the Standard	Course success has been flat or decreased over the time span by no more than 2 percentage point - Meets the Standard

Decline to State	Course success has decreased over the time span by no more than 4 percentage points - Needs Some Improvement to Meet the Standard	Course success has decreased over the time span by more than 4 percentage points - Needs Major Improvement to Meet the Standard	Course success has decreased over the time span by more than 4 percentage points - Needs Major Improvement to Meet the Standard	Course success has been flat or decreased over the time span by no more than 2 percentage point - Meets the Standard
How many criteria are met in the data trend narrative explaining why the percentage decreased for the student ethnic group(s)?	The narrative includes 2 of the criteria - Needs Some Improvement to Meet the Standard	The narrative includes all 3 of the criteria - Meets the Standard	The narrative includes all 3 of the criteria - Meets the Standard	The narrative includes fewer than 2 of the criteria - Needs Major Improvement to Meet the Standard
How many criteria are met in the data trend narrative explaining reasons for the gap in course success?	The narrative includes 2 of the criteria - Needs Some Improvement to Meet the Standard	The narrative includes all 3 of the criteria - Meets the Standard	The narrative includes all 3 of the criteria - Meets the Standard	The narrative includes fewer than 2 of the criteria - Needs Major Improvement to Meet the Standard
How many criteria are met in the proposed action narrative for student course success by ethnicity?	The narrative includes 4 of the criteria - Needs Some Improvement to Meet the Standard	The narrative includes all 5 of the criteria - Meets the Standar	The narrative includes all 5 of the criteria - Meets the Standar	The narrative includes fewer than 4 of the criteria - Needs Major Improvement to Meet the Standard
Reader Feedback	N/A	Success rates by ethnic groups did fluctuate wildly from year to year and hard to pinpoint a specific reason or reasons. One solution proposed by the authors is to ask the students, I think this approach is on target and deserves investment. Other solutions, like hiring engineering tutors, is doable. In fact, currently has specific online tutors for Computer Science, Networking, Physics, Chemistry, Math, Biology, Economics and English, but none for Engineering. I think it would behoove the college to not only work to attain at least one tutor in Engineering, but also find techniques and strategies to make use of the tutoring component Foothill Online Tutoring can work with the Engineering department to determine the focus of study in classes and what to support. Also, both can work do determine the areas where group study can be utilized and specific projects with objectives can be planned. Both can work to support under-served populations to attract and support a sense of community.	I agree with the department's assessment that success rates appear to have decreased by 10-20% from 2017/18 to 2018/19 possibly due to online course offerings, and fluctuate dramatically for ethnic groups with < 20 students. The department's proposed reasons in question 2 are quite general, but are sufficiently addressed in the response to question 3.	The narrative in this section reiterates the challenges faced by the engineering program that is written throughout the document and some of the actionable support efforts to increase success. Explanations for the gaps in course success can be more specific by identifying the discussion on the national level in industry, academia and from published studies to give added context to the reader and identify quality actionable items.