Foothill has amazing faculty, staff, administrators, and programs. Program Review is about documenting the discussions and plans you have for sustaining and improving student success in your program. It is also about linking your plans to decisions about resource allocations. Thank you for taking the time to review your program and sharing your findings with the college community!

Program Review Committee Members for 2017-18:

Administrators
- Andrew LaManque
- Paul Starer
- Teresa Ong

Carolyn Holcroft
Bruce Mc Leod
K Allison — Faculty   Meezan;

Classified Staff
- Craig Gawlick
- Jackie Brown
- Melia Arken

Elaine Kuo (Ex Officio)

Let us know how we can help you!
https://foothill.edu/staff/irs/programplans/index.php

BASIC PROGRAM INFORMATION

Department Name: Pharmacy Technology

Division Name: Biological and Health Sciences Division

Please list all team members who participated in this Program Review:

Name	Department	Position
Angela Su	Pharmacy Technology	Program Director/Faculty
Diane DeNagel	Pharmacy Technology	Part Time Faculty
Neelam Jha	Pharmacy Technology	Part Time Faculty
Snehal Mohile	Pharmacy Technology	Part Time Faculty
Shanthini Natarajan	Pharmacy Technology	Part Time Faculty

Number of Full Time Faculty: 1   **Number of Part Time Faculty:** 4

Please list all existing Classified positions: *Example: Administrative Assistant I*

Ms. Christine Mangiamelli: Division Administrative Assistant
Ms. Jenevieve Alvarez: Office Assistant I

List all programs covered by this review and indicate the program type:

Program				
Pharmacy Technology	Certificate	AA / AS	AD-T	Pathway
	Certificate	AA / AS	AD-T	Pathway
	Certificate	AA / AS	AD-T	Pathway
	Certificate	AA / AS	AD-T	Pathway
	Certificate	AA / AS	AD-T	Pathway

Not sure? Check: https://foothill.edu/programs/ and click to sort using the "Areas of study/Divisions" button
Current pathways at Foothill College include: ESLL, NCEL, ENGL pathways (ENGL 209-110-1A; ENGL 209-1A;
ENGL 1S/1T); MATH pathways (NCBS 401A/B; MATH 235-230-220-105; MATH 217-57).

SECTION 1: PROGRAM ENROLLMENT, PRODUCTIVITY, AND COMPLETION

Data for certificates and degrees will be posted on Institutional Research's website for all measures except non-transcriptable completion.

1A. Analysis of Transcriptable Program Completion Data: Please use your data to complete the following table.

Transcriptable Program	Five-year trend in degrees/certificates awarded	Comments
e.g. Associate Degree for Transfer	The number AD-Ts awarded has been steadily increasing each year, up to a high of 39 degrees awarded in 16-17	We are pleased to see this trend and believe it will continue as more students pursue AD-Ts

*according to CCCApply data

1B. Non-Transcriptable Program Data: If your program offers any non-transcriptable programs, please complete the following table. Institutional Research does not track this data; each program is responsible for tracking its own data.

Non-Transcriptable Program	Comments	Five-year trend	Rationale for program
e.g. Certificate of Proficiency in xx	We anticipate that this trend will continue because enrollment in the core classes for this certificate is holding steady	The number of completers has remained steady at around 9 per year	This credential boosts potential for job advancement in the xx industry. We receive positive feedback from employers (link to advisory committee minutes)

Certificate of Completion in Pharmacy Technology	This is an ASHP/ACPE nationally accredited certification program. Enrollment for this program brings value to the Pharmacy Technology profession due to the quality of education it provides students. There are only 13 nationally accredited PHT programs in the entire State of California. While there are many non-accredited programs available for students to choose from, only 3 (out of the 13) accredited programs available within the Bay Area. In addition, our program is the only community college program which provides quality education with reasonable tuition and other benefits compared to the other two private post-secondary for profit institutions that offer the program.	The overall number of completers have decreased over the past 5 years due to general decrease in the number of qualified applicants to the program. This may be due to the increase in overall jobs already available to students and may contribute directly to the decrease the number to students looking to go back to school for training or seeking a new profession. However, the number of program completes over the 5-year trend hovers at 21 students per year.	A credential received from a nationally accredited program increases the potential for job placement and advancement in the pharmacy industry. It also prepares the students to pass the national boards and 100% of Foothill students who take the national boards pass the examination. They earn the "Certified Pharmacy Technician" (CPhT) title which automatically increases their potential for securing a position within the industry and also, allows for a higher starting wage. This is what sets our program apart from other non-accredited programs. In addition, our program has a phenomenal reputation within the pharmacy community and as a result, our graduates are continuously recruited. Our annual Graduate Survey indicates 75% of our graduates have secured either a full or part time pharmacy positions within 6 months of graduation. About 30% are even hired prior to graduation. Employers continuously reach out to the Program Director specifically seeking our graduates. We attribute this to our reputation of delivering a quality program that trains and prepares capable and competent pharmacy technicians. The BLS indicates an increase in the number of pharmacy technician positions in the Bay Area over the next 5 years. This due to the increase in number of community pharmacies opening to

			accommodate the increase in patient volume. Since there is a growth in the job market, we know our students will be able to secure a position upon graduation.

The 2017-18 College Strategic Objectives (E^{2}SG) operationalize the college's 3 EMP goals and include:

> **Equity**– Develop an integrated plan**;** identify goals for alignment with equity, student success, and basic skills; and focus on efforts to integrate with enrollment strategies (access, retention, and persistence) to close equity gaps while increasing enrollments at the same.

> **Enrollment Growth** – Achieve more than 1.5% FTES growth at 500 productivity (+/- 25) with attention to integrating equity efforts related to enrollment, CTE, and Sunnyvale Center.

1C. Course Enrollment: Enrollment is a count of every student who received a final grade (A, B, C, D, F, P, NP, W) in your program's courses. It also serves as an indicator for program viability. Please use your program review data to examine your course enrollment trends and check the appropriate box below.

> The link to the program review data tool can be found on the Employee tab of the portal: myportal.fhda.edu (Program Review Application).

5-year Enrollment Trend: Increase   Steady/No Change   Decrease

Our college goal is to increase enrollment by 1.5% FTES this year. What steps might you take to increase the numbers of students enrolling in your courses? Steps might include cross department collaborations, actions to increase retention, service learning projects, support for student clubs, participation at recruitment events, examination of pre-requisites, review of assessment results, etc.

Since the number of students enrolled in the courses within our PHT Program is solely based on the number of qualified students who are accepted into our cohort, the following proactive steps are being taken to increase the number of students "applying" to our program, which would then therefore, increase course enrollment numbers. In past years, the Outreach and Marketing Department at Foothill played a large role in the recruitment of students. We hope these departments can continue to support our program in this much needed area.

1. **Direct participation at various recruitment events:** Attending college fairs, speaking at various High Schools and Adult School Career events (Andrew Hill High School, Escuela Popular High School, Mountain View Alta Vista High Schools, Mt. View/Los Altos Adult Schools etc.). In addition, beginning March 2018, there will be On-campus, PHT Program Information Sessions scheduled on the Thursday of the second week of every month with hope to target the current Foothill College student population.

   Specific dates have been set for the following PHT outreach sessions.
   - Apollo High School Career Day: 1/26/18
   - Sequoia High School Health Academy Health Career Day: 2/7/18
   - Escuela Popular High School Career Day: 3/2/18
   - Cupertino High School Allied Health Pathway: 3/15/18
   - Andrew Hill High School Medical Magnet Program: 3/16/18
   - Fremont-Cupertino Adult School Medical Information Night: 3/20/18
   - Gunn High School Palo Alto Career Day: 3/28/18
   - Foothill Community Wellness Day: 4/21/18
   - Mt. View Alta Vista High School Career Day: 4/28/18 (Tentative date)
   - Fremont Cupertino Adult Education Medical Information Evenings:
   - Mt. View/Los Altos Adult School: 5/1/18
   - De Anza Flea Market: First Saturday morning of every month: 3/3/18, 4/7/18, 5/5/18, 6/2/18

   Specific dates for On-Campus **PHT Program Information Sessions**: Thursdays 6:00pm to 7:00pm.
   - March 8, 2018
   - April 12, 2018
   - May 10, 2018
   - June 7, 2018

2. **Actions to increase retention:** Attrition directly correlated to academic failure is continuously addressed and evaluated by all program faculty members. Actions to decrease failure in didactic studies includes early identification of academic deficits and focused intervention to assist students in need. It requires additional time and extra work from all faculty members of the department by providing supplemental instruction needed to the students in every course. However, there are limitations to what can be done to increase retention as we are still unable to prevent attrition due to student's personal/family issues, lack of life management skills, college readiness and academic integrity issues.

3. **Actions to increase marketing:** Printing of more brochures, post cards, and posters. Update in Foothill College Pharmacy Technician Website and information. We have also hired assistance to have a representative at the monthly De-Anza Flea Market to table and have information pertaining to the Pharmacy Technology Program. We hope to receive more support from the Foothill College Marketing and Outreach department to assist us with this area.

4. **PHT 200L prerequisite course:** We routinely offer PHT 200L (Pharmacy Technology as a Career) as a

pre-requisite course on the Foothill College Campus during Winter and Spring quarters. However, this past year, we offered it at the Fremont Cupertino Adult School Campus (FACE). This is because we have also identified adult learners as another target group of potentially suitable students to recruit for our program. This 1 unit class was taught by a Foothill instructor and provided community adult education students the opportunity to learn about Pharmacy Technology as a career. Upon completion of the course, they would satisfy the pre-requisite requirements needed to apply to our Pharmacy Technology Program. About 17,000 adult students enroll in various classes at FACE and we hope the creation of this pathway would be an opportunity to capture interested students in the Pharmacy Tech profession and hopefully, increase our application pool numbers. In addition, Fremont-Cupertino Adult School (FACE) offers quarterly "Medical Careers Information Orientation" events to which we currently attend to present our Pharmacy Technician program information to their students. We plan to extend our outreach to additional Adult Education Centers such as Mountain View-Los Altos Adult School, Santa Clara Adult Education Centers, and NOVA Workforce Development Center this year.

5. **Allied Health Dual Enrollment Pathway Program:** The "Allied Health Careers Pathway" Dual Enrollment pilot program began this year at Cupertino High School. The mission is to provide a dual enrollment pathway that would give high school students an opportunity to gain foundational understanding of what is entailed in various Allied Heath Careers and inspire them to pursue their choice of health career in the future. Pharmacy Technology (amongst many others) is one career covered in the curriculum within the pathway. It is with hopes that we will capture the interest of more capable and competent students who may potentially apply to our program in the future. The pathway consists of 3 courses: AHS 51 (Health Careers Exploration) 1 unit, HLTH 21 (Contemporary Health Concerns) 4 units, and PSYCH 30 (Social Psychology) 4 units. Even though none of these courses are directly associated with the PHT program, we were able to contribute directly to an overall increase in enrollment with 30 students registered for 9 units worth of classes in this pathway. It is important to recognize 5 units (AHS 51 and HLTH 21) contribute directly to our enrollment numbers in the BHS Division.

6. **Participation in Foothill College In-reach events:** Ms. Antoinette Chavez is an active member of our PHT Advisory Board. She works closely with our program and continuously promotes our program to potential students interested in any allied health profession. Our program plans to be present at Foothill College New Student Orientations, Community Oral Cancer Walk/Health Events and other future in-reach events on campus.

7. **Outreach to Pharmacy Schools:** Due to the increased numbers of students completing our Pharmacy Technician program for the purpose of pursing Pharmacy School, discussions with California North State School of Pharmacy and UOP Pharmacy School have occurred to examine the possibility of our accredited program being a pathway to pharmacy school. This is still in its preliminary stages of discussion as the minimum educational requirements for pharmacy school is a Bachelor's of Science degree. We are exploring other areas where the completion of an accredited pharmacy technician program may increase the applicant's chances for admission as it would be a tremendous asset for their future success in pharmacy school. Another possibility would be for students (who were either waitlisted or denied admissions), to complete an accredited pharmacy technician program as a conditional component toward their future admission. This would then increase the number of students applying to our program with the desire to then pursue a career as a pharmacist. We plan to continue our discussions with the schools of pharmacy to explore pathway possibilities.

***Please note that the PHT Program enrollment numbers may be inaccurate as it does not include AHS 50A and AHS 50B enrollment numbers. Both of these courses have been incorporated into our program and as a result, directly contribute to the increase of enrollment numbers for the BHS Division.

1D. Productivity: Productivity is a measure of students served per full-time equivalent faculty and is a factor in program viability. Please use your program review data sheet to examine your productivity trends and check the appropriate box below.

5-year Program Productivity Trend: Increase   Steady/No Change   Decrease

The college productivity goal is **500 (+-25)**. There are many factors that affect productivity (i.e. seat count/ facilities/accreditation restrictions, curriculum, etc**.**). Please discuss factors that may be affecting your program's productivity trends and any plans you have for addressing the trends, especially if they are declining.

	2012-13	2013-14	2014-15	2015-16	2016-17	5-yr % inc
Enrollment	387 388	358 308	377	-2.6%		
Productivity						
(College Goal: 500 +/- 25)		341 393	370	269	316 -7.2%	

While our productivity increased by 17% compared to the previous year, the overall productivity over a 5- year span has decreased by 7.2%. There are several facts that affect our program's decrease in productivity.
The primary factor is the historical arbitrary max seat count number of 35 students that was assigned to our program. However, this max seat number has never been reached over the past 7 years and it also does not accurately reflect the number of students our program can actually support. A more realistic max seat count would be 24 students for several reasons.
The facility itself can only safely accommodate up to 24 students for all the laboratory courses. There are four seats to each of the 6 lab benches in our designated classroom (Room 8708). Assigning more students to a lab bench is not an option due to the limited space available to seat students while providing adequate space to perform labs safely. In addition, for conducting sterile compounding and aseptic technique labs, an instructor ratio of 1 to 9 students is required by ASHP/ACPE standards. We currently assign additional instructors during this lab course to ensure adequate coverage for the number of students enrolled in the program. Most importantly, what limits our programs ability to accept more than 24 students each year is limited by the number of hospital experiential learning sites. Currently, there are only 12 hospital inpatient pharmacy externship positions available per rotation schedule. ASHP/ACPE accreditation requires our students to complete 2 separate and unique experiential pharmacy rotations. We are able to rotate 12 students between hospital and retail pharmacy sites per quarter hence having 24 students makes this process ideal. A proposed max seat count change from 35 to 24 students has been requested and is in the process of approval. We know a revised seat count of 24 students would then properly reflect the number of students our program can actually serve.

Another factor that has influenced our productivity is the number students who are committed to the program after they have been offered acceptance letters. Despite accepting a full class of students, we continuously have students who change their minds and decline our offer. For students who inform us early enough of their withdrawal, we are able to send additional acceptance letters to our waitlisted students to fill the open seats in the program. However, if a prospective student fails to notify the program prior to the start of Fall Quarter, it is often too late to notify waitlisted students as many have already resorted to pursuing other programs. This is a continuous obstacle and has prevented our program to starting with a full cohort of committed students who have applied to our program. There has been a noticeable general decrease in the number of applications received over the past four years. This is important as it also affects the number of students who choose to actually pursue the program which effects enrollment. We have attributed this decreasing trend to several possible factors:

PHT 2014-15
PHT 2015-16
PHT 2016-17
PHT 2017-18
# of applications received
31
32
30
33

# of accepted candidates
31
32
30
33
# of students who enrolled in Fall quarter
24
21
25
24
# of students who completed the program   22   18   21   pending

1. Due the economic upturn, there are fewer individuals choosing to make career changes or have the need to re-enter into the workforce as they are content with the stability of their current job.
2. The job market in the Bay Area for "ideal pharmacy technician positions" with a higher starting salary has become quite saturated. These positions offer a much higher starting salary. It has been increasingly difficult to secure a full-time position in these more desirable pharmacies located in Kaiser and other hospitals.
3. While the majority of the available jobs are at plentiful in retail pharmacies, the average starting wage for pharmacy technicians in the retail pharmacy setting is lower. This low wage it less appealing for individuals to want to pursue a career as a pharmacy technician as they can make just as much or even more pursuing non-certified positions that do not require more education.
4. There is a continuous rise in the number of non-accredited Online Pharmacy Technician Programs and Private post-secondary school offering Pharmacy Technician Programs. For many students who prefer distance learning and quicker attainment of certification, these programs may be more desirable than our 9-month program because they are shorter in length and have flexible modules for students to complete at their convenience. Even though these programs are not nationally accredited, a certificate of completion is the minimum needed to secure an entry-level pharmacy tech position.
5. The accreditation of two formally non-accredited private post-secondary school Pharmacy Technician Programs has created some competition as Foothill College used to be the only ASHP Accredited program in the Bay Area. Despite the fact that Foothill's program still more affordable and has an excellent reputation compared to the other programs, students may elect to attend these other programs as they offer rolling admissions and multiple cohorts. Our admissions is once year as we only have one cohort which begins in the month of August.
6. Implementation of the *PHT 200L: Pharmacy Technician as a Career* course as a prerequisite to program has elevated the application qualification requirements. In the past, this course was an optional elective for prospective applicants to apply to our program. However, this resulted in higher numbers of applicants without full knowledge of the rigor and expectations of our program. We felt this course should be a required prerequisite instead of an optional class for potential applicants as it requires the students to closely examine the profession and if the Foothill College program is most suitable for them. It also allows them to truly make an informed decision about pursing the program instead of blindly applying to the program. The Advisory Board was an advocate for this change and ASHP accreditation has approved of the implementation of this class as a pre-requisite to our program classes. It has created a positive outcome of graduating high caliber pharmacy technicians from our program. However, it has also decrease the number of applicants to the program as students must take and pass this course. Enrollment into PHT 200L class has declined over the past 5 years thus directly impacting the number of qualified applicants to the program. We also noticed a trend that some "no show" students enrolled in the course earn an F grade if they do not drop or withdraw from the course

by the college deadline date. This has affected the course's overall success rate. The 5-year average course success rate is at 80%. While it is still above the college's success rate, it correlates directly with the fewer number of qualified candidates applying to our program despite having sufficient student census enrollment numbers.

The Pharmacy Technician Program productivity may also lower due to some other factors such as the adjustment of course sequencing and units for specific courses, change in load assigned to classes, hiring part time faculty members and attrition. Program curriculum changes have already been made to address this concern. These changes include curriculum pacing and revision, change in the instructor of record, scheduling and sequencing of classes, and entire course series curriculum revision. These changes have also been approved by our Advisory Board and ASHP accreditation.

In addition, we have implemented methods to identify students struggling with courses early in the quarter so we are able to provide them the academic assistance (supplemental instruction) they need to succeed. This early intervention has helped decreased the academic attrition rates. All the instructors are committed to assisting and helping students succeed in their courses. The program has been successful in identifying students during Fall quarter who struggle in various classes and providing supplemental instruction. Although we have been successful in decreasing attrition in Fall quarter directly correlated with academic failure in specific courses, we are still unable to completely prevent attrition associated with; unforeseen student personal issues, financial problems, work-life balance, inadequate college readiness skills and dismissal for academic dishonesty. While there is a decrease in enrollment of students moving on into Winter and Spring quarters (which also effects productivity), the program is particularly proud of the achievements of all its instructors who work closely with students to ensure students are successful with the rigorous workload of the curriculum.

One positive contributor to a slight increase in the number of qualified applicants to our program. Many students elect to earn a Pharmacy Technician Certificate to gain experience and knowledge in order to increase their chances of getting into Pharmacy School. The high competition and the low acceptance rate (around 10%) into pharmacy schools in California has been the primary cause. As a result, there has been a rise in the number of Bachelor's and Advanced Degree students applying to our program with the purpose of eventually continuing with pharmacy school after earning a Pharmacy Technician Certificate. The regional Schools of Pharmacy (UCSF, UOP, California North State and Touro University) actively encourage prospective pharmacy school applicants to consider obtaining a pharmacy technician certificate to help increase their acceptance chance into pharmacy school. They have specifically recommended the Foothill College Pharmacy Technician Program because of our outstanding reputation. From our recent graduate survey data, about 20% of our graduates have a definite plan to go onto Pharmacy School and 35% indicated this option as a possibility in the future. This demonstrates some students utilize the Foothill College Pharmacy Technician program as a stepping-stone into pharmacy school.

Despite all the possible direct and indirect factors that contribute to the program's decrease in productivity, it continues to focus on providing quality educational and learning opportunities to its students. An average program success rate of 95% should be recognized. In addition, during the past 5 years, over 50% of the students completing the program graduated with an AS Degree along with their Certificate of Achievement. The program also maintains a 100% pass rate for the students who choose to take the National Pharmacy Technician Certification Exam (PTCE). Feedback from the pharmacy community and industry partners continue to applaud Foothill in graduating extremely capable and competent Certified Pharmacy Technicians.

SECTION 2: COURSE COMPLETION & STUDENT ACHIEVEMENT

2A. Institutional Standard: This percentage represents the lowest course completion (success) rate deemed acceptable by the College's accrediting body (ACCJC). The institutional standard during the year for which this program review is being written (2016-17) is **57%**.
Please check the appropriate box:

Program Level Course Completion: Above Standard   At Standard   Below Standard

If your program's course completion (success) rates are below the institutional standard (see above), please discuss your program objectives aimed at addressing this.

n/a

2B. Institutional Effectiveness (IEPI) Goal: This percentage represents an aspirational goal for course completion (success) rates; all programs should strive to reach/surpass this goal. The IEPI goal for which this program review is being written (2016-17) is **77%**.
Please check the appropriate box:

Program Level Course Completion: Above Goal   At Goal   Below Goal

If your program's course completion (success) rate is **ABOVE** the IEPI goal, please share your thoughts about why/how this is so (we hope to learn from your effective practices!).

The Pharmacy Technician Program surpasses the IEPI goal as our program's course completion rate for 2016-17 is at **93%**. This value is significantly higher than that of the college's. In addition, the overall 5-year average of our program's success rate is at 95% demonstrating that our program continuously surpasses the IEPI goal of 77%.

These high success rates are attributed to several factors:

1. Students are closely monitored and supported by program director and faculty. Referral to psychological services and other support resources on campus have assisted students to have successful outcomes.
2. Students are continuously provided with supplemental instruction, increased direct instructor contact time during extended and additional office hours and tutoring if necessary. The program continues to identify students who struggle academically early in the quarter so they can be provided with the assistance they need to succeed. The encouragement and extra time spent with supplemental instruction has played a major role in our high success rates.
3. Students are enrolled in a career program tend to be more focused to complete a certificate of achievement, which will enable them to get a job immediately upon graduation.
4. Students are utilizing this program as a foundation to pursue other careers in the allied health profession or stepping stone for pharmacy school. They are extremely motivated to complete the program quickly.
5. Students participate in Inter-professional Education activities and are more prepared to work in a health care team environment.
6. Committed faculty members mentor all the students and dedicate their personal time to ensure students are supported not only academically, but also mentally and emotionally.

2C. Course Success Demographics: Please examine the **"**Disproportionate Impact data by year**"** shared with your department and discuss actions you are taking, or plan to take, to address any achievement disparities identified in your program. If you are uncertain about actions faculty can take, please take a look at Appendix A.

https://foothill.edu/staff/irs/programplans/docs/appendix-a.pdf

	2014-2015		2015-2016		2016-2017		3-year Average	
Targeted Groups	**PHT Program**	Foothill College	**PHT Program**	Foothill College	**PHT Program**	Foothill College	**PHT program**	**Foothill College**
Success %	**95%**	72%	**100%**	73%	**92%**	74%	**96%**	**73%**
Non-success %	**5%**	16%	**0%**	15%	**4%**	14%	**3%**	**15%**
Withdrew	**0%**	12%	**0%**	12%	**3%**	11%	**3%**	**9.3%**

The Pharmacy Technician Program is comprised of an extremely diverse cohort of students and we consistently have a high overall course success rate with no disparity when compared to Targeted Groups. Our 3-year average course success rate is **95%** and our average "targeted group" course success rate is **96%.** Both these values are higher compared to the college's 3-year average of 73%.

There is slight decline in success over the past 3 years. This is not associated with "non-success", but rather, the increase in students withdrawing from the program for either personal reasons or due to their lack of college readiness skills.

Ethnicity	PHT Program 2014-15 Success	PHT Program 2015-16 Success	PHT Program 2016-17 Success	PHT Program 3-yr Average Success	College 3-yr Average Success
African American	N/A	N/A	N/A	**N/A**	67%
Asian	100%	92%	90%	**94%**	82%
Decline to state	100%	100%	N/A	**100%**	85%
Filipino	100%	100%	100%	**100%**	78%
Latino/a	89%	100%	86%	**91%**	73%
Pacific Islander	N/A	N/A	100%	**100%**	68%
White	N/A	94%	100%	**97%**	83%
Total Average	**98%**	**95%**	**93%**	**97%**	**74%**

There is also only a minor difference between the success rates of individual ethnicities. Our success rate for each ethnicity significantly exceeds the college's rate. Our 3-year average success rate is at 97% compared to the 3-year average college success rate of 74%.

Gender	PHT Program 2014-15 Success	PHT Program 2015-16 Success	PHT Program 2016-17 Success	PHT Program 3-yr Average Success	College 3-yr Average Success
Female	97%	100%	92%	**96%**	80%
Male	100%	90%	95%	**95%**	79%
Total Average	98%	95%	**93%**	**95%**	**79%**

Examining the disproportionate impact data by year for **gender** also reveals that our program students are successful regardless of gender. There is also very little disparity between the success of male and female students. Their success is still significantly higher (95%) when compared to the college's average success of 79%. Once again, this indicates there is no achievement gap with gender.

Age	PHT Program 2014-15 Success	PHT Program 2015-16 Success	PHT Program 2016-17 Success	PHT Program 3-yr Average Success	College 3-yr Average Success
19 or less	100%	100%	84%	**94%**	80%
20-24	95%	99%	89%	**94%**	77%
25-39	99%	92%	93%	**95%**	83%
40 plus	100%	96%	100%	**99%**	84%
All	**98%**	**95%**	**93%**	**96%**	**81%**

Finally, the disproportionate impact data by year for **age** is also the similar to the data for ethnicity and gender. The 3-year average success rate for our program is 96% while the college's 3-year average success rate is 81%. Even though the success rate of each age group is still above the 90th percentile, the data reveals a trend that indicates our older students are more successful compared to our younger students. This could be attributed them being more experienced and having a better grasp of work, school, and life balance. In addition, they often already possess college readiness skills and are extremely motivated to complete the program. Their ability to handle the rigors of the program can exceed that of our younger student population.

After examining the disproportionate impact data by year across all areas, there is very difference among the success rates of individual ethnic groups, gender, and age as our student's achievement is demonstrated by the high success rates which are all above the 90th percentile. This is because we continuously strive to teach and support our students by implementing a variety of methods to foster a positive learning environment. The faculty also maintains open and continuous communication regarding the performance of every student and routinely discusses how to cultivate the growth mindset in our students. This includes the use of learner centered syllabi to help create a classroom environment which engages students with instruction and activities. In addition, we continuously address stereotype threat and utilize various methods of authentic assessment so our students can demonstrate their understanding and mastery of the course content in a multitude of ways. Our philosophy is to identify and focus on implementing strategies that directly influence student success and is the reason why our program has no achievement gap.

Be sure to include the resources you need to implement or sustain your action plans in Section 3.

2D. Faculty Discussion: Course-Level Outcomes: Please share examples of how assessment and reflection of course-level Student Learning Outcomes (CL-SLOs) has led to changes in curriculum or teaching.

All course level SLOs are appropriately defined so students can demonstrate mastery of the subject matter covered in each class. They all are aimed at meeting the Program Level Outcomes and providing the knowledge necessary for students to pass the National Pharmacy Technician Exam. In addition, the CL-SLOs must reflect the established 45 program specific goals mandated by ASHP/ACPE and must be attained by the student upon completion of the program. These goals are imbedded throughout the program in each of the individual courses. The program utilizes quarterly class surveys, instructor evaluations, graduate surveys and accreditation findings to continually assess and determine if the courses meet the accreditation standards and CL-SLOs. Program faculty members meet at both the beginning and end of every quarter to review the CL-SLO's and other outcome assessments as part of the curriculum management plan. In addition, as mandated by ASHP, all curriculum changes including CL-SLOs, must be reviewed and approved by the Advisory Board before it can be implemented. Curriculum review is continuous and changes to specific courses have been made in order to provide the knowledge the students are required to demonstrate competency in. Below are some examples of recent curricular and pedagogical changes implemented as a result of our course level SLO assessments. The outcomes have been overwhelmingly successful and we know these changes will continue to benefit our students.

PHT 53-Ambulatory Pharmacy Practice:
We recently acquired a new prescription software system (Cypress Software) to provide our students the experience of processing and generating labels seen in the retail pharmacy sector. The students are exposed to current industry technology and benefit from having a realistic prescription processing system to practice on. The increased number of lab activities using this software has improved the computer prescription processing experience for the students. This has always been difficult to achieve as many systems are proprietary and not available for educational use. Cypress Software also has additional features that enhance the student's mastery of pharmacy practice; electronic records, third party, pictures ID of dosage forms and the scanning capability of handwritten prescriptions. We have also added lab activities pertaining to third party processing and electronic record. Implementing this technology has provided students the necessary training and they are now more prepared before completing their retail pharmacy externship rotation.

PHT 52A-Inpatient Dispensing:
A new lab activity pertaining to the preparation of crash carts was added to the curriculum. A patient cassette system was also purchased so the Inpatient Manual Pick lab activity could mimic a true inpatient hospital pharmacy drug delivery system. Students can now practice inpatient drug distribution using information from patient profiles and pick lists to fill unit dose cassettes with a variety of simulated medications. We also purchased the Medi-dose Software system that has a unique unit dose-packaging/labeling system. This software also generates bar-code labels for unit dose packaging and students are now able to make simulated unit dose medication products seen in the hospital setting. The use of this technology in the lab activities have provided our students with more exposure and training currently used within the inpatient pharmacy environment. With the CTE grant funds, the program purchased the Pyxis Med Station and Kirby Lester Tablet Counters to bring more automation and technology into our curriculum. Utilizing this equipment in our lab provides students hands on experience that matches industry standards. We look forward to the continued use of this equipment as we incorporate more labs that involve their use.

PHT 51- Basic Pharmaceutics
Electronic health records and vaccinations were 2 unit topics added to the curriculum. We felt it was

necessary to cover these important topics as the use of technology in record keeping has increased and EHR knowledge for our students is a required ASHP/ACPE program objective. The lab component of EHR is covered in PHT 53 (mentioned above). In addition, vaccinations are a category of pharmaceutics that was only briefly covered in PHT 55B and focuses mostly on the pharmacology aspect. The vaccination unit in PHT 51 focuses more on formulation and pharmacodynamics. The unit load for this class was also decreased from 4 units to 3 units to appropriately reflect the amount of content covered lecture and required course work. This unit reduction did cause a slight decrease in productivity.

PHT 54A and PHT 54B-Dosage Calculations A/ B
Although Math 220 is the prerequisite for this course, some students still have very poor foundational arithmetic skills. They struggle with Dosage Calculations as their success relies heavily on their efforts to "re-learn" basic math skills. Many students are unable to simultaneously learn new course material while trying to overcome their deficiencies and this has been primary cause of attrition for this course.
Since competency in pharmacy math is critical for a Pharmacy Technician, we strive to support our students to ensure they learn the required concepts by using more suitable course materials, modifying the method of instruction and providing consistent supplemental instruction. After reviewing quarterly student/instructor evaluations, student performance assessments, and the curriculum itself, we changed the textbook to Pharmacy Calculations for Pharmacy Technicians as it not only covers the content in our COR, it also contains ancillary support material to reinforce basic arithmetic concepts. Pedagogical modifications have helped promote the application and practice of knowledge the students learned during lecture. The instructor has incorporated collaborative math activities, Challenge of the Week (COW) problem sets, and weekly group homework review sessions. A pre-test is also given at the beginning of the quarter to determine the base-line knowledge of the students. This valuable assessment information identifies which students are deficient in basic arithmetic skills and allows for early intervention. These students are strongly encouraged to attend supplemental instruction sessions. However, if the student has a 70% or lower grade in the course after the first midterm, they are required to attend these sessions. These sessions provide an extra 4-5 hour of additional instruction per week and has been a contributing factor to decreasing attrition correlated with academic failure. The instructor makes herself available during weekdays, weekends, and even holidays for the students. Most of the supplemental instruction sessions have occurred during the **weekends** as many students are unwilling to stay after a long day of classes. The instructor's sacrifice of personal time to meet the needs of the students demonstrates her immense dedication and commitment to them and to the program. All these changes have contributed to remarkable improvement with student success in this course.

PHT 55A, 55B and 55C-Pharmacology A, B, and C
Pharmacology is now taught in a three-course sequence at 3 units each in Fall, Winter, and Spring Quarters (it used to be 2 courses, PHT 55A and PHT 55B at 6 units each). The decrease in unit load, revision of the COR, and addition of third course has improved overall student success. However, Pharmacology is still identified by our students to be the most difficult due to the breadth and depth of the material. It is a particularly difficult subject as many of the concepts do not rely on rote memorization and require comprehension and thorough understand of the concepts. This is a challenge for most students but can be even more difficult for non-native English speakers. For these reasons, the instructor has actively incorporated the flipped classroom approach in order help the students learn the important concepts. The method of content delivery includes engaging lectures, interactive class activities, QOM (question of the month), PCP case studies, research report assignments and collaborative team projects and presentations. These pedagogical changes were initially difficult for the students to receive as they were unaccustomed to the style of teaching as it was a stark contrast from their other courses. However,

now, the students understand the expectations for the class and appreciate how these methods help them master the content. The instructor has also implemented weekly "help sessions" to provide additional supplemental instruction for students who continue to struggle with the content. The changes to these Pharmacology courses has increased student success.

PHT 52B-Aseptic Technique and IV Preparation

The adoption of a new textbook/lab manual Sterile Compounding and Aseptic Technique written by Lisa McCartney has allowed us to improve the way we train our students in Aseptic Technique and IV preparation. This text also provides many helpful ancillaries such as videos and worksheets that has helped instructors teach the appropriate technique. However, in order to ensure the instructors are aligned with the acceptable technique for sterile compounding, our part-time instructors completed a rigorous Sterile Compounding Aseptic Technique Training Program in Dallas, TX during Summer 2017. The instructors earned their SCAT Certification and their current knowledge base and skills will directly facilitate student success in this course.

AHS 50A & AHS 50B-Introduction to Allied Health Programs & Interdisciplinary Patient Competencies

These courses were added to our PHT Program for the purpose of providing Inter-professional Education (IPE) to our students. The need to promote IPE is critical for the success of students entering any health profession. Student are also required to complete additional Pharmacy Technology related modules to strengthen profession specific competencies. The integration of these courses has provided more opportunities for pharmacy technician students to interact with other allied health program students to learn and apply inter-professional education. These courses have been invaluable as it has also allowed our program students to demonstrate their ability to function effectively as a health care team member outside of their own profession.

PHT 60 and PHT 62 Retail and Hospital Clinical Externship

PHT 60 Clinical Retail Externship and PHT 62 Clinical Hospital Externship are now reduced to 3 units each instead of the previous 4 units. This is because California State Board of Pharmacy has limited the hours an extern may work at one particular site to not exceed 120 hours. The externship rotations are currently scheduled on Thursday and Fridays for 10 weeks each spanning Winter and Spring quarters. It has served the program well as scheduling externship in parallel with didactic classes has allowed students to immediately apply what they learn in the classroom to their externship experience. The feedback for this current model from our preceptors have been positive.

Although this schedule has been effective, we feel it would benefit the program more by changing externship rotation schedule to 3 days a week (Wednesday, Thursdays and Fridays) for 12 weeks (1 quarter). PHT 60 and PHT 62 would each be 6 weeks in length and scheduled during Spring Quarter only. This would improve the student experience in two major ways. Since a 2-day time frame is very short and can hinder the student's ability to demonstrate complete mastery of a skill set, having 3 consecutive days of practice time would greatly increase the students opportunity to apply their knowledge and skills. This longer stent could also reinforce application of newly acquired skills learned onsite. Secondly, this would allow the students also to gain more didactic knowledge prior to their externship. It would provide them with more confidence as many students have shared that they often "feel" underprepared at their first externship site during Winter Quarter and feel more prepared during their Spring quarter externship. We consulted our industry partners, preceptors, and the Advisory Board regarding this proposed change. The majority agreed that having three days consecutive days at the externship would provide better continuity of onsite learning while still preserving the parallel scheduling of classes during Spring quarter. The Advisory Board has approved of this change and beginning Spring quarter of 2019, both PHT 60 and

PHT 62 will be courses that are scheduled 3 days a week, over a period of 6 weeks each, spanning one quarter.

2E. Faculty Discussion: Program-Level Outcomes: Please provide examples of what is being done at the program-level to assist students in achieving your Program-Level Learning Outcomes, degree/certificate completion, and/or transferring to a four-year institution (e.g. review of progress through the program, "career days"/open houses, mentoring, education pathways (clear, structured academic program maps (suggested courses for each term) for all academic programs), etc.). If your program has other program-level outcomes assessments (beyond SLOs and labor market data), discuss how that information has been used to make program changes and/or improvements.

Program Level Objectives for Pharmacy Technology:
PLO #1: Upon completion of the Pharmacy Technician Program, students will demonstrate pharmaceutical knowledge, clinical skills and values necessary to practice as a competent pharmacy technician in both retail and hospital pharmacy settings.
PLO #2: Upon completion of the Pharmacy Technology Program, graduates will demonstrate competency with entry-level clinical skills in accordance with ASHP Accreditation requirements

The Pharmacy Technology PLO's are targeted to address the workforce mission of the college. Our objectives and outcomes must meet ASHP/ACPE Accreditation standards, the California State Board of Pharmacy regulations, as well as the "practice of pharmacy" in various pharmacy settings. These high standards require our program to continually assess the curriculum and make necessary improvements. More importantly, the entire accreditation process itself holds the program accountable to all aspects necessary for student success. Improvement of the program is a continuous and constant process as Pharmacy Technology is a rapidly evolving field. Students must be equipped to not only demonstrate mastery of the subject matter, but also, utilize their degree/certificate to secure a job in the workforce. The following are examples of what is being done at the program level to assist students in achieving our program level outcomes:

1. Ensuring students complete Pre-requisites for courses in the Pharmacy Technology Program.
It was important to establish the appropriate pre-requisite classes for the individual courses in the program to ensure students success. While we recognize implementing these pre-requisites may decrease the number of applicants to the program, it ensures students who apply to the program meet the minimum competency required to be successful in the program.
> PHT 200L is the prerequisite to PHT 50
> Math 220 is the prerequisite to PHT 54A Dosage Calculations
> Biology 14 is the prerequisite to PHT 55A Pharmacology A
> *English Advisory for PHT 200L

*The program is considering the requirement of an English prerequisite as communication and comprehension is critical in the health care profession. An English Advisory is the current requirement and may not be adequate to ensure students are successful in the program. We consistently have students who struggle with several of the didactic courses due to the language barrier and inability to comprehend the subject matter. We hope an English pre-requisite will help improve student learning outcomes and decrease attrition rates caused by this obstacle.

2. The development of a specific training plan for students including all required educational goals of the program. The educational goals and objectives will be carried through enrollment, all phases of evaluation, and the didactic, lab, and externship experiences. Individual student quarterly meetings will occur to monitor student success.
A training plan has been developed which includes all educational goals and objectives and will be carried through all phases of evaluation, didactic, lab, and externship experiences**.** The program director reviews each student's performance to ensure they have completed and successfully achieved all educational goals and objectives of the Pharmacy Technician Program. The program director also conducts quarterly conference meetings with every student to monitor their progress with achieving educational goals and objectives of the program. These meetings are extremely helpful as they provide students an opportunity to disclose and discuss matters that may be hindering their success in the program. We are able to guide and counsel them, or refer the student to an appropriate specialist for further assistance. This close monitoring of student success resulted in a consistent high, 5-year 95%

program success rate with students earning not only their Certificate of Achievement, but also over 50% of them simultaneously earning an AS degree in Pharmacy Technology.

3. Ensuring ASHP Accreditation 45 Goals are achieved and aligned with CL-SLO with a "tracking" form. The implementation of a "tracking" form has been a useful tool to record the goals and objectives the students have achieved as they progress through the program. By the completion of the program, this document serves as a record of student competencies. During each quarterly student meeting, the director completes the "check- list" while she reviews each objective/goal with the student. It also helps determine how the student is performing in the program and what areas of extra support they may need. In addition to the current Student Learning Outcomes, we also added specific ASHP/ACPE educational goals to ensure the program curriculum sufficiently addresses every goal set by the accrediting body. The graduate surveys indicate students like this form because it is a simple way to track and show their own progression while identifying other areas/skills they still needed to master during the program.

4. Fostering and providing contact with other health care team members so students are able to demonstrate the ability to function effectively as a member of the health care team.
AHS 50A-Introduction to Allied Health Programs and AHS 50B-Interprofessional Student Competencies are two courses added to our Pharmacy Technician program for the purpose elevating the PLOs. These courses were developed through the collaborative efforts of 6 Allied Health Program Directors in order to address the important concepts and topics shared by all Allied Health professions. The incorporation of the courses has provided additional opportunities for pharmacy technician students to interact with other allied health program students to learn about inter-professional education. These courses have been an invaluable as it has also allowed our program students to demonstrate their ability to function effectively as a health care team member outside of their own profession.

5. Program Faculty Support and Communication: The program director and faculty meet regularly to review and discuss curriculum, course content and student progress. These meetings occur several times during the year at both the beginning and end of each quarter. The first meeting is prior to Fall quarter to review the SLO's and other outcome assessments as part of the curriculum management plan. This also includes textbooks/resources used in each course in the program. Assessment of SLOs and making reflections helps the program develop a solid and current curriculum in each of its courses. The program director also assists the faculty with SLO's and monitors the reflections in TracDat. The team discusses Title V updates to all Course Outlines on the required schedule. In addition, as mandated by ASHP/ACPE, all curriculum changes must be discussed and approved by the Advisory Board before it can be implemented. As a result, these issues are always thoroughly discussed during the Bi-Annual Pharmacy Technician Advisory Board meetings. The information and data gathered from student evaluations, graduate surveys, employer surveys, accreditation mandates, and Advisory Board suggestions helps the team with refining all areas of the program to improve program learning outcomes to ensure student success.

Please attach Course and Program-Level Outcomes (Four Column Report from TracDat).
Contact the Office of Instruction if you need help.

If your department has a Workforce/CTE program, please complete Section 2F.
If your department does not have a Workforce/CTE program, please skip to Section 3.

2F. Workforce/CTE Programs: Refer to the program review website for labor market data.

What is the regional five-year projected occupational growth for your program?

3.93%

What is being done at the program-level to meet/adjust to the projected labor market changes?

The Bureau of Labor Statistics expects the total number of positions to increase by 3.93% over the next 5 years and projects at least 250 annual openings a year. The majority of these available positions are at "retail pharmacies". While the labor market numbers indicate this profession has a steady growth, the limiting factor for many students to pursue the Pharmacy Technician profession is the low starting wage and limited number of "hospital pharmacy" positions.

Despite the reported median salary of $21.31 in our region, the **actual starting** wage can start as low as $15.00 per hour (retail site) and up to $21.00 (hospital site). While there are plenty of positions available for graduates, what may be preventing the number of students choosing to enter the occupation may be the low "starting" average hourly wage compared to other allied health professions. In addition, many students aspire to be "hospital pharmacy technicians" as the starting wage is usually higher and the position is perceived as more prestigious than being a retail pharmacy technician. Unfortunately, there are significantly fewer hospital pharmacy technician positions available and often times, can be a challenge to secure due to the high number of applicants for a single opening. As a result, many graduates secure their first job in the retail sector while simultaneously seeking another position in a hospital pharmacy. Some graduates may wait months for a hospital pharmacy position and forgo working in the pharmacy retail sector as the starting wage is too low. They would even prefer to secure another job outside of the profession with a higher wage.

While there are many online and private post-secondary Pharmacy Technician Programs available for students to choose from, Foothill College is 1 of 3 accredited programs in the region. Not only are we a the most affordable program, our program has an outstanding reputation in the pharmacy community. For this reason, most regional employers will select our graduates to fill open positions over graduates from other programs. Our long-standing legacy of providing quality education to our students is how our program will continue to meet the labor market demand in our community. Since our focus has shifted to recruit higher numbers of qualified applicants for our program, we will increase our efforts on both outreach and in-reach. Many students have shared that they are not aware that Foothill College offers an accredited Pharmacy Technician Program until they do online research. While word of mouth continues to be one way to capture new students, we hope with more outreach to high schools, adult school and tabling at career fairs, we will be able to increase enrollment numbers of qualified students.

What is being done at the program-level to assist students with job placement and workforce preparedness?

The Foothill College Pharmacy Technology Program has an outstanding reputation in the pharmacy community. Our curriculum also focuses on ensuring our students master the didactic knowledge required to pass the national boards. We have a 100% pass rate for the students who take the National Pharmacy Technician Examination. This is another reason why our graduates are so desirable as they are "Certified Pharmacy Technicians", CPhT. For these reasons, many regional employers continuously and actively recruit our graduates for positions over graduates from other programs. We also receive feedback from employers and preceptors praising our students and sometimes even hiring them prior to graduation. They would prefer Foothill College graduates as they are always more capable and competent compared to other students from other Pharmacy Technician programs in the region.

In addition, our program emphasizes inter-professional education so students continuously develop and refine necessary soft-skills required for effective communication and team work in the health care field. As a result, our students are highly prepared and ready to enter the work force upon graduation. Finally, since students must complete 2, 10-week externship rotations at different pharmacy sites, this is another opportunity we provide our students so they can make a positive impression with a potential future employer. Our long-standing legacy of delivering quality education to our students is how our program will continue to meet the labor market demand in our community.

Numerous job opportunities continuously come our way as employers, preceptors, and even alumni working at in pharmacies have reached out specifically to the Program Director and Externship Coordinator seeking our graduates. Whenever there is an available position, the Program Director informs graduates via email notifying them of the opportunity. We routinely receive emails and phone calls requesting us to refer our graduates as well. Various retail pharmacies also come to campus toward the end of Spring Quarter to provide onsite interviews and Q & A sessions to increase their recruitment or our students. We attribute industry's desire recruit directly from our graduating class due to the quality of our students who complete the program.

The steady 3.93% increase in positions in the Bay Area is a direct result of the increase in number of pharmacies opening in the Bay area to accommodate the increase in patient volume. Our 2016-17 graduate survey indicate 75% of our graduates have secured either a part-time or full-time positions within 6 months. The Cal-PASS Plus data reports 95% of our graduates in 2014-15 have secured jobs 2-4 quarters after graduation. This data demonstrates our students are securing positions upon graduation. The program will continue to support students in the manner it has been to ensure students are prepared to not only enter the workforce, but also are informed of available job opportunities.

Be sure to include the resources you need to implement or sustain your action plans in Section 3.

SECTION 3: SUMMARY OF PROGRAM OBJECTIVES & RESOURCE REQUESTS

3A. Past Program Objectives: Please list program objectives (not resource requests) from past program reviews and provide an update by checking the appropriate status box.

1.Keep program up to date with current pharmacy technology industry standards.	Year: 2016	Completed	Ongoing	No Longer a Goal

2. Increase enrollment of committed program students once students confirm to program acceptance	Year: 2016	Completed	Ongoing	No Longer a Goal
3. Maintain program accreditation approval status of "accredited" without reporting requirement status.	Year: 2016	Completed	Ongoing	No Longer a Goal
4. Maintain supplemental instruction support for students struggling with coursework.	Year: 2016	Completed	Ongoing	No Longer a Goal
5. Maintain qualified faculty and maintain faculty improvement	Year: 2016	Completed	Ongoing	No Longer a Goal
6. Establish consistent network of outpatient/retail and inpatient pharmacy externship sites	Year: 2016	Completed	Ongoing	No Longer a Goal
7. Maintain targeted counseling support for students.	Year: 2016	Completed	Ongoing	No Longer a Goal
8. Develop CTE pathways for high school and Adult Education programs.	Year: 2016	Completed	Ongoing	No Longer a Goal

Please comment on any challenges or obstacles with ongoing past objectives.

Inadequate staff/faculty, support, and time for outreach: Increasing enrollment is a constant challenge as there is inadequate staff and faculty to focus more on outreach to increase the number of qualified candidates. While we hoped Foothill's marketing department would be able to assist with outreach needs, they have not been able to provide direct support due to changes within the college and department. This has been an obstacle for over a year. The program director has had to spend her personal time to participate in presentations, career fairs, and other outreach events. However, there is limited allocation of release time for her to focus more time on outreach efforts. Our PHT program needs direct support from the college to recruit students for the program. Funding is also necessary to purchase necessary marketing items to help facilitate recruitment.

Securing inpatient hospital pharmacy externship sites: Many hospitals can only accommodate one pharmacy extern per rotation. While some sites may accommodate two, there are fewer inpatient hospital pharmacy sites available because some hospitals have decided to discontinue contracts or are just unable to host an extern for various reasons. We continuously seek out externship opportunities at hospitals and hope they are willing to sign our contract. An obstacle has been the hospital's unwillingness to sign our contract due to the double indemnification clause within the contract. Without a contract, we are unable to send a student to the site. Hospital contracts are difficult to approve and therefore limits the number of hospital inpatient externships available to our students.

Counseling Support for program students and prospective students: While we have Ms. Jeneieve Alvarez as our current Allied Health Program Coordinator, her role requires her to support 7 allied health programs. She is only able to allocate 14% of her time to specifically support our PHT program needs. It is very difficult to adequautely support all 7 programs and meet the needs of every program. With the number of duties Ms. Alvarez has to complete, students would benefit with every Foothill College counselor having a thorough understanding of our health programs. We hope to share the specific needs of our program with counseling so they would be better able to serve all students; prospective students who are unaware of our program, students already in the program needing guidance with graduation requirements and students pursuing higher education. This collaboration with counseling can improve student success and also serve to be another form of outreach to increase in enrollment into our programs.

Please provide rationale behind any objectives that are no longer a priority for the program.

> none

3B. Current Program Objectives and Resource Requests: Please list all new and ongoing program objectives based on discussion in Sections 1 and 2, including your objectives to eliminate any achievement disparities in course success for student subgroups (**S**ection 2A). If additional resources are needed, indicate them in the table below. Refer to the Operations Planning Committee (OPC) website for rubrics and resource allocation information.

Resource Request	Program Objective	Implementation Timeline	Progress Measures	Resource Type Requested*	Estimated cost

	Example: Offer 2 New Courses to Meet Demand	*Winter 2016 Term*	*Course Enrollment*		
• Misc Pharmacy Education Supplies (lottery) • Misc Consumable Lab Supplies (lottery • Trajecsys Student Tracking System • Anatomage (shared with other programs • Software and Annual License renewals • Advisory Board and Open House (Food/beverages) • 50% Director release time	1.Keep program up to date with current pharmacy technology industry standards.	Ongoing	Positive feedback from student and preceptor surveys. "Accredited" program status with ACPE/ASHP	Ongoing B-budget Augmentation Facilities and Equipment	$2500 $1500 $4800 Purchased together with other programs $4500 $400 ? $
• 50% Director release time	2. Increase enrollment of committed program students once students confirm to program acceptance	Ongoing	Program Review Data Sheets: Increase in Enrollment percentage.		? $

• Misc Pharmacy Education Supplies (lottery) • Misc Consumable Lab Supplies (lottery • Trajecsys Student Tracking System • Anatomage (shared with other programs • Software and Annual License renewals • Advisory Board and Open House (Food/beverages) • Faculty Professional development and supplies (Perkins) • 50% Director release time	3. Maintain program accreditation approval status of "accredited" without reporting requirement status.	Ongoing	Receive "Accredited" No reporting status required.	Ongoing B-budget Augmentation Facilities and Equipment	$2500 $1500 $4800 Purchased with other programs $4500 $400 $7000 ?$
• Software and Annual License renewals • 50% Director release time • Non-instructional support (Perkins)	4. Maintain supplemental instruction support for students struggling with coursework.	Ongoing	Have zero attrition caused by direct academic failure of course work leading to dismissal from program.	Facilities and Equipment	$4500 ? $ $2000
• Faculty Professional development and supplies (Perkins) • 50% Director release time	5. Maintain qualified faculty and maintain faculty improvement	Ongoing	Hire qualified PT faculty members with participation in conferences and workshops.		$7000 ? $

• 50% Director release time	6. Establish consistent network of outpatient/retail and inpatient pharmacy externship sites	Ongoing	Successful placement of students in positive externship pharmacy sites.		? $
• 50% Director release time • Educating Counselors with Pharmacy Tech Program. • Non-instructional support (Perkins)	7. Maintain targeted counseling support for students.	Ongoing	Annual Program Review Data Sheet.	Full-time faculty staff position	? $? $ $2000
• Faculty Professional development and supplies (Perkins) • 50% Director release time	8. Develop CTE pathways for high school and Adult Education programs.	Ongoing	Successful student completion of course and articulation into Foothill PHT Program.		$7000 ? $

*Resource type should indicate one of the following: One-time B-budget; Ongoing B-budget augmentation; Facilities/Equipment; New faculty/staff.

3C. Faculty/Staff Position Requests: Please describe the rationale for any new faculty or staff positions your program is requesting:

none at this time

3D. Unbudgeted Reassigned Time: Please list and provide rationale for requested reassign time.

The Pharmacy Technology Director theoretically receives only 25% reassigned time to conduct all the administrative and day-to-day duties to ensure the success of the program. However, due to the recognition of inadequate director release time by the Dean, the BHS Division has supplemented an increase of release time to 33% since September 2014. The request for a **permanent** director release time increase to at least 50% is necessary as the current director release time **still does not** accurately reflect the workload required to lead and manage the program. In 2016, the director release time has been increased to 50% with the use of the "work force grant" funds. While this has helped, additional work/duties were assigned to justify the use of work force grant money; this is in addition to the directorship duties.

We hope the college can recognize the need for a permanent increase of 50% release time for the director to effectively complete the duties (listed below) required to lead an accredited program without have to acquire additional duties/work. What is important to note is during the last ASHP/ACPE Accreditation site-visit, the program received a "partial compliance" citation regarding this issue of inadequate release time. The next accreditation site visit is scheduled for 2018-19 and we hope that our program will have "full compliance" in this area.

[Item I-C-2] There is not a sufficient complement of pharmacists, certified pharmacy technicians, and pharmacy technicians who have completed an ASHP-accredited pharmacy technician training program to assist the program director in performing the responsibilities of the program.

The written consultative recommendations by accreditation were:
"Members of the college's administration should work with the program director to add appropriate support to the director so the director has more time to perform the required duties of the position."

The orally communicated consultative recommendations by the Surveyors at the briefing session to the Dean and program faculty suggested that the Program Director position should actually be at 100% release time. However, if this was not a possibility, the Director should work closely with the college administrators to obtain "adequate" release time needed to perform the required duties in accordance to accreditation standards. Release time of 50% would be ideal.

In order to demonstrate to ASHP/ACPE accreditation that there is active progress taken to address this "partial compliance" citation, the most recent (October 2016) submitted progress report states:
    "Active efforts have been made this year to initiate the request for a permanent 50% increase in
     director release time. This recommendation will be forwarded to college committees and the
     College president for review. A favorable outcome is anticipated."

The permanent increase to 50% release time will truly provide the Director adequate time required and necessary to lead, manage, and maintain the quality of the program. This will also enable a portion of her teaching assignment load to be shared among the part-time faculty in order for the Director to use the allocated time to fulfill all that is required to be completed during "standard working" hours. The scope of duties would include, but not be limited to the following; continuous assessment of program developmental needs, externship outreach, externship coordination and placement, securing clinical contracts, writing college Annual Program Reviews (Comprehensive Program Reviews every 3 years), writing ASHP/ACPE accreditation self-survey and progress reports, managing budgets (keeping track of budgets from several accounts, ordering and submitting payment for supplies and equipment, requesting one-time lottery, Perkins,) organizing and conducting Advisory Board Meetings, maintaining program

compliance with accreditation standards, overseeing and entering TracDat information, reviewing and writing course curriculum, hazmat compliance, hazmat disposal, oversee incoming students and managing required paperwork, student counseling (conferences, warnings, probation and dismissal), meeting individually with every program student at least once a quarter to mentor, monitor, and track their progress and success, scheduling of part-time faculty with quarterly course offerings, faculty evaluations, organizing guest speakers for student seminars, coordinating website postings, coordinating Pharmacy Technician License Applications and verifying graduation, coordinating graduation for students with certificates, organizing and distributing quarterly, graduate and post-graduate surveys, organizing and distributing accreditation survey to students for required by the ASHP/ACPE, maintaining equipment, maintaining faculty credentialing binder, maintaining outcomes assessment binder for accreditation, requesting new resources, processing student licensure documentation, making externship and licensure folders with pertinent documents for students, conduct regular staff meetings attend Director's and Division Meetings, collaborating with other Allied Health Program Directors to enhance Inter-professional curriculum, participating and serving in additional college wide committees, strategizing and implementing methods to further elevate the program toward outreach and the creation of CTE pathways from high school and onward to pharmacy school while focusing on equity, community, and sustainability within the college's educational plan. Finally, having time to meet with the counseling department to inform them of our programs needs we could collaboratively work together to serve our students. All of these duties, and more, are required of a Director to successfully lead and manage an accredited program.

Our current program's achievements are only as a result of significant personal time sacrificed by the program director to ensure she maintains its impressive record of student achievement, accreditation with ASHP/ACPE and WASC standards. We have demonstrated the success of our program and hope the college can recognize the need for the permanent release time of 50%. It is truly necessary for the program director to sustain her role in meeting the needs of the students, the program, the college and ultimately, to ensure the program is in continual compliance with high accreditation standards.

3E. Please review any resource requests granted over the last five years and whether it facilitated student success.

We are grateful for the CTE Grant and One Time Lottery Funding in 2015 -16 that has provided our program with the new Pyxis Med-machine and Kirby Lester Pill Counters. We are utilizing this equipment throughout multiple courses and have added additional labs and course work to allow more student contact time with the machines. In 2015 Fall quarter, six laptops and 6 thermal label printers were also purchased and has helped with implementing current technology into prescription processing labs activities. It has directly improved student exposure and training to meet current industry standards. The program also purchased 10 simulated IV hoods to help facilitate sterile compounding training in our classroom. This significantly improved the teaching and lab aspects of our PHT 52A (Aseptic Technique & Sterile Compounding) course as it allowed for every student to participate and practice in their own hood instead of waiting for a turn to practice in the one of the 3 hoods we had in our facility. Not only did this maximize the use of lab/class time, it mimicked the setting that students would need to demonstrate mastery of their skills for every lab assessment. As a result, they were more prepared and confident so they could demonstrate their competency during testing.

In 2016-17, the program utilized funds to purchase mock medications, mock unit-dose medications and various sterile and non-sterile compounding supplies. All of the materials aided our ability to simulate what is seen in the real world of pharmacy. This provided the students with a more realistic experience; we no longer had to resort to just using "beans" and "candy" for medications.

In Summer of 2017, we purchased a new prescription processing software (Cypress Software) and six external computer monitors in order train our students to use software current to prescriptions processing seen in industry.

The resource request used to support all software maintenance is an annual expenditure as our program utilizes the Medi-dose unit dose system, Cypress Rx Software, and the Pyxis machine to train our students. These systems have directly facilitated student success as it allows students to be exposed and trained with actual industry pharmacy equipment and prescription processing technology prior to starting their externships.

In order to maintain qualified instructors, resource requests have also been used for part time and full-time faculty to attend conferences and take courses for continuing education over the past 5 years. This allows the instructors to meet California Board of Pharmacy requirements for licensing as well as accreditation standards.

The program also utilized funds to support two part-time instructors to complete a Sterile Compounding Certification Training Program (SCAT). With them completing this rigorous training program, their certification in this area will directly facilitate student success with Sterile Compounding training as they teach the course within our program. The PHT 52B Aseptic Technique & Sterile Compounding course will have instructors who are not only certified, but also have the most current knowledge and skills to teach the course.

Fall 2017: The purchase of the shared *Anatomage* table amongst the Allied Health Programs will allow for each program to utilize this equipment to teach students anatomy and physiology. This tool will improve PHT student success as they will be able to visualize 3D images of the anatomy and apply their understanding of pharmacology to bodily systems.
Trajecsys is a cloud based clinical record keeping system used to manage our pharmacy externships. This will allow clinical preceptors, the externship coordinator and program director to have online access to

the student's progress and performance. Time records, activity reports, check off forms will not be needed as this will be a more efficient way for all parties to maintain paperwork. It is with hope this system will streamline the externship coordination of students at various sites.

Most importantly, resource request for supplemental instruction and non-instructional assignments have allowed our faculty the ability to provide academic support to our students to ensure they are successful within the program.

The program will continue to request for Lottery, Perkins, and other funding sources to cover costs of expendable materials, renewal of software subscriptions, equipment, and teaching materials in order to facilitate student success.

SECTION 4: PROGRAM SUMMARY

4A. Prior Feedback: Address the concerns or recommendations made in prior program review cycles, including any feedback from the Dean/VP, Program Review Committee (PRC), etc.

Concern/Recommendation	Comments
The Pharmacy Technology program has consistently struggled with student attrition. This is in large part because the prerequisites of this program are basically high school graduation. Therefore, many students are accepted into the program with limited life skills, lack of college-readiness and a lack of understanding of professional behavior required to enter the workforce. The Pharmacy Technology faculty do an excellent job of meeting students "where they are" but often the types of issues the students bring to the classroom do not lend themselves to easy solutions.	The Pharmacy Technology Program has a team of highly dedicated, experienced, and collaborative faculty members who continuously strive to provide outstanding and quality education to our students. They have gone above and beyond to ensure students are given the support they need to be successful not only in the program, but also in life. There are very few programs with such a committed team of faculty members who truly care about the success of **every** student in the program. In order to meet the needs of the students, they have even sacrificed their weekends and holidays to provide mentoring and supplemental instruction. Their efforts are not only recognized by students within the program, but also, by industry members and college administrators. There are only 125 accredited programs in the United States, with 13 programs in California. The Foothill College Pharmacy Technology Program is honored to be one of them. We pride ourselves in the quality education we provide our students and will continue to uphold not only the mission of the program, but also, the mission of the college.

Given the high attrition with the current high school population, the program director is encouraged to expand her outreach to adult schools in the area and to continue efforts in developing a career pathway for Pharmacy Technology. Ideally, the career pathway will provide high school students with better training and preparedness for the rigors of college.	The program director was successful in developing a CTE pathway with Fremont-Cupertino Adult Education located in Sunnyvale. During Spring quarter 2016, the PHT 200L (Orientation to Pharmacy Technician as a Career) was offered at the FACE campus in Sunnyvale. In addition, "Orientation/Informational sessions" were delivered to students from various backgrounds interested in health care careers. This was an opportunity for the students to become knowledgeable about the Pharmacy Technician Program at Foothill College. Increasing the outreach to additional Adult Ed Program and other viable high school programs are top priority. Please see the previous **Section 1C #4, #5, #6, and #7** for current plans with dual enrollment pathways and recruitment at high schools/adult education to increase outreach. The goal is to expand the pool of qualified applicants for the Foothill Pharmacy Technology Program and to provide a pathway for students so they would more likely succeed in any community college. Not only will these pathways benefit the college from the apportionment collected, it will ultimately benefit the student as they will more prepared for success within the program. Due to the increased numbers of students entering our Pharmacy Technician program for the purpose of pursing Pharmacy School, discussions with California North-state School of Pharmacy and UOP Pharmacy School have occurred to explore the possibility of our accredited program becoming a direct pathway to pharmacy school. This is still in its preliminary stages as the minimum educational requirements for pharmacy school is a Bachelor's of Science degree. We are also exploring other areas where the completion of an accredited pharmacy technician program may increase the applicant's chances for admission, as it would be a tremendous asset for their future success in pharmacy school. Another option would be for students (who were either waitlisted or denied admissions), to complete an accredited pharmacy technician program as a conditional component toward their future admission. We plan to continue our discussions with the schools of pharmacy to explore pathway possibilities.

4B. Summary: What else would you like to highlight about your program (e.g. innovative initiatives, collaborations, community service/outreach projects, etc.)?

In August 2016, our program was required to submit a 3-year accreditation *Progress Report* for continued accreditation with ASHP/ACPE. The comprehensive progress report was submitted on October 7, 2016 for review. It addressed all areas of partial compliance and consultative recommendations cited during the previous 2013 re-accreditation site visit. We are pleased to report ASHP/ACPE has granted us continued accreditation until 2019. This demonstrates our program continues to meet the high standards established by the national accrediting body for pharmacy technician education.

The program director has dedicated the past 3 years developing dual enrollment pathways for both area high schools and Adult Schools. A 9-month dual enrollment Pharmacy Careers program was developed for Metro-Ed SVCTE students with the goal of establishing a pathway for underserved students to enter the Foothill program. This was a dual enrollment program designed to prepare high school students with the fundamentals of Pharmacy Technology while simultaneously providing them an opportunity to earn both high school and college credit. The initial pilot cohort received 3 college units based on the credit given for current course work completed for AHS 50A, AHS 50B and PHT 200L. However, in order to truly reflect the course content taught in the 15 hour/week time block, the program director wrote three new courses at 5 units each. PHT 101, 102 and 103 contained curriculum designed to provide students with foundational knowledge necessary to be successful in the Foothill Pharmacy Technician Program. The goal was to offer these courses the following year to future high school students at Metro Ed. The courses were also approved by the college curriculum committee and were sent to the State for approval as well.

Foothill College did successfully collect apportionment for the 3 college units granted to the students for the 2015-16 cohort. Our team of dedicated instructors taught the pilot program to 21 students. Although only 13 students completed the program successfully, we were able to inspire 6 students to continue their education by entering into our Foothill College Pharmacy Technician Program. Of the 6 students, 1 student chose to defer to 2017-18 school year *(this student is currently in the program now)* and the remaining 5 students proceeded to enter the 2016-17 Foothill College Pharmacy Technology Program. While four students did not successfully pass Fall quarter courses due to the deficiencies in college readiness skills and adequate academic competency, 1 student did graduate from our program and is working as a pharmacy technician.

Due to unforeseen circumstances and the lack of support from Metro-Ed SVCTE administrators to focus on implementing policies to increase student success, we unfortunately had to discontinue this program at their site. This was a huge disappointment to our team as hundreds of hours were spent not only with developing the pathway and teaching/mentoring the students, but also, in trying to collaborate effectively with Metro-Ed SVCTE. Even though this was a failed attempt at establishing a program specific pathway, we utilized it as a learning experience. It provided us insight to many issues that can affect student success and areas we should focus on to ensure pathways are successful. We do celebrate in the success of one student completing our program and look forward to the second student, who is currently to follow suit. While the overall program can be seen as a failure due to the poor yield to effort ratio, we see this as a success because we were successful in inspiring the underserved student population to pursue higher education. More importantly, we recognize the life of one student have been forever changed as she is now working as a pharmacy technician and has plans to continue her education to become a pharmacist.

The program director has taken her experience with Metro-Ed SVCTE and spent 2016-17 developing another dual enrollment program for high school students interested in Allied Health Professions instead. As explained earlier in Section 1C #5, The "Allied Health Careers Pathway" Dual Enrollment pilot program

began during Summer of 2017 at Cupertino High School. The mission, similar to the SVCTE program, is to provide a dual enrollment pathway that would give high school students an opportunity to gain foundational understanding of what is entailed in various Allied Heath Careers and to inspire them to pursue a health care career. Pharmacy Technology (amongst many others) is one career covered in the curriculum within the pathway. We hope to capture the interest of more capable and competent students who may potentially apply to our program and other Foothill College Allied Health Programs in the future.

The pathway consists of 3 courses: AHS 51 (Health Careers Exploration) 1 unit, HLTH 21 (Contemporary Health Concerns) 4 units, and PSYCH 30 (Social Psychology) 4 units. Even though none of these courses are directly associated with the PHT program, we were able to contribute directly to an overall increase in enrollment with 31 students registered for 9 units of classes in this pathway. It is important to note 5 units (AHS 51 and HLTH 21) contribute directly to our BHS Division enrollment.

In order to deliver a program that emphasizes key concepts essential to prepare students for any health profession, collaboration between the instructors has been an important factor of ensuring continuity across the three courses. Not only was the program director directly involved in developing ensuring the pathway program was successful, she also attended high school assemblies to recruit students for the program and even taught the AHS 51 course during summer quarter.

The feedback from students and the district has been overwhelmingly positive. This partnership with Fremont Cupertino School District has been successful and they are extremely excited about this pathway. Fremont Cupertino School District has decided to offer this pathway program permanently to their students at Cupertino High School. While we are uncertain how many students will actually continue specifically into the Foothill Pharmacy Technician Program, we know this pathway program will increase overall student enrollment at our college. This dual enrollment Allied Health Program can be considered a tremendous success with outreach, increasing enrollment, and more importantly, inspiring students to pursue higher education within the health professions.

SECTION 5: FEEDBACK AND FOLLOW-UP

This section is for the <u>Dean/Supervising Administrator</u> to provide feedback.

5A. Strengths and successes of the program as evidenced by the data and analysis:

The Pharmacy Technology Program has minimal prerequisites, allowing high school graduates to prepare to enter the health care work force in less than nine months. The program is the only community college accredited program in the Bay area and students can complete the program for approximately $2000. Two "for profit" schools in the Bay area with accredited programs charge fees of over $20,000. Therefore, our program is highly cost effective.

The program is highly diverse with no achievement gaps. Student success for target populations is greater than 95% thereby far exceeding the overall college rates.

Students enjoy 100% pass rates on their licensure exams and often secure job offerings prior to completing their coursework. Reputation of our Pharmacy Technology graduates is well known in the local retail and hospital pharmacy community.

The Program Director is doing an extraordinary job at outreach for this program. As outlined in the PR, the Program Director has attended 12 recruitment efforts at local high school and adult schools and has 4 informational program nights planned this year.

The Program Director has also been the key point of contact for our dual enrollment efforts in the dcvelopment of the health pathway.

5B. Areas of concern, if any:

There are two related concerns for the Pharm Tech program. One is the low number of qualified applicants that apply each year. The second is the low number of students that the program can accept. The program director explains the rationale for low cohort size in detail in the program review.

The accrediting agency, facility size and number of faculty limitations restrict the cohort size to 24 which results in low productivity.

Lack of college level expertise in marketing this dynamic program is a huge issue. Neither the program director or the dean have expertise in this area. The college has funding through SWP and Perkins for marketing, but lack of overarching vision in marketing for the allied health programs is a constant problem.

5C. Recommendations for improvement:

The program director is encouraged to continue to do dual enrollment at local high schools. She has successfully connected with multiple high schools to offer the PHT200L course to high schools students with medical or health academies. This is critical as it is excellent advertisement for the program in general, but also provides a link from the HS to the college which will increase the size of the program applicant pool.

The program director is encouraged to work with SEIU to develop methods of offering PHT61 to currently employed pharmacy techologists. This will help increase productivity and enrollment in her department.

Continued discussions with the dean is warranted to ensure that all available strategies to increase productivity and enrollment are pursued.

5D. Recommended Next Steps:
　　　Proceed as Planned on Program Review Schedule
　　　Further Review / Out-of-Cycle In-Depth Review

This section is for the <u>Vice President/President</u> to provide feedback.

5E. Strengths and successes of the program as evidenced by the data and analysis:

5F. Areas of concern, if any:

5G. Recommendations for improvement:

5H. Recommended Next Steps:
Proceed as Planned on Program Review Schedule
Further Review / Out-of-Cycle In-Depth Review

Upon completion of <u>Section 6</u>, the Program Review document should be returned to department faculty/staff for review, then submitted to the Office of Instruction and Institutional Research for public posting. Please refer to the Program Review timeline.