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Department Chairs/Program Leads: Please press the edit symbol in the right-hand corner to update. Below, the text in bold corresponds both to the name of the box when editing this page and also to the first-column on the APRU worksheet. If you have questions, please contact: papemary@fhda.edu. ✕

▼ **Dept - (BHES) Medical Laboratory Technician**

2018-19 Annual Program Review Update Submitted By:

APRU Complete for: 2018-19

Program Mission Statement: The mission of the De Anza College Medical Laboratory Technician Program is to provide students with the technical skills, knowledge, and critical thinking skills needed to perform routine clinical laboratory testing in all major areas of the laboratory. In addition, we hope to give students the desire for lifelong learning and to be a vital part of the community.

I.A.1 What is the Primary Focus of Your Program?:

Career/Technical

I.A.2 Choose a Secondary Focus of Your Program?: Transfer

I.B.1 Number Certificates of Achievement Awarded: 7

I.B.2 Number Certif of Achievment-Advanced Awarded: 1

I.B.3 #ADTs (Associate Degrees for Transfer) Awarded:

I.B.4 # AA and/or AS Degrees Awarded: 2

I.B.5 Strategies to Increase Awards : Forms for students to fill out are being handed out for the certificate of achievement award during their last class. Tom Nguyen, biology counselor, is helping with this process.

Certificate of achievement advanced will be part of the exit after completion of the program.

AA degrees are low because most of our students come to us with a degree already.

NEEDED: an administrative assistant to help track the progress of these students and help to confirm that the prerequisites for the certification is met in a timely matter.

I.C.1. CTE Programs: Review of Perkins Core Indicator and SWP

Outcomes Metrics: Perkins Core Indicators:

Most all the core indicators for the MLT are positive and show a



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strong and robust program. The program is above in technical skill attained and high in employment indicating that our students are well prepared for the employer market upon completion. The awards for Core 2 were at 100% and with the continued efforts of the program director to make this paperwork part of the exit interview from the program this trend should remain high. The biology counselor and the assistant (to be hired) for the program will be able to help guide and track the students for these awards. The main issue is with our non-traditional students. The good news is; if they complete then they are find work (8% above the negotiated level); however this is the group with the lowest persistence. We need a mentor for these students and plan to implant an open session for students. This will allow these students additional time and support in the program and a good role model to follow.

1) Trends: The program was able to purchase a molecular instrument and it is currently being used in the clinical microbiology laboratory. So much of the testing in the clinical area is now based on molecular tests; this gives our students the advantages of hands-on experience and mastering the theory of this new technology. The program will need funding to sustain the instrument with reagents for student practice. This is the case for all the instrumentation in the laboratory, a source of funding for the yearly purchase of reagents to run the machines for testing. A permanent position for a laboratory specialist instructor is required to help with all laboratories and to incorporate pre analytical/ analytical/ and post analytical techniques in the laboratory experience. The pre analytic area is an increasingly needed and desirable skill for employers. The program has a few laboratory computer systems to aide with this learning. To incorporate this skill into each lab a knowledgeable assistant that can be the common thread to cross between all labs will help with consistency .

2018-19: The SWI money was put to good use with the purchase of much needed equipment upgrades for several classes. We continue to offer the skills open laboratory all three quarters this year; expanding to include Hematology. The interest for this extra help has increased and with the feedback from the students, the sessions are adjusted to respond to their needs. This is a good

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place to emphasize the needs of the employers. The skills lab has more defined direction and purpose. (Thanks to one of our great instructors, Margaret Yamada). She took the feedback from last year and is trying to focus on the skills most needed by students as defined by the students. New this year, will be a discussion of professionalism and behavior in the workplace. This open concept allows the students to get needed extra help in a non-intimating environment. The students will also be able to get some basic tutoring for the courses.

2) Future plans: The continued limitation to the growth of the program is the lack of clinical sites and the lack of current sites to commit to taking students on a regular bases. This past year 1 new clinical site was added to the program. However, we lost one site that had taken 4 students per year to zero. We have several sites for various reasons (among them lack of personnel) are not training on a regular basis or not at all during the year. It is important for all sites to commit to train at least one MLT per year.

It is a constant struggle to keep clinical sites, and sites to keep their commitment to train.

Recommendation: A partnership with business and the school would be helpful to cement this relationship. The new CTE Dean and the other position to help CTE programs; hopefully, will take an active role in promoting our program AND emphasizing the dire need for training. Without the clinical training a student can not complete the program nor will they be able to sit for the license exam. To add more pressure to this situation; many clinical sites are now centralizing locating their microbiology labs thus further restricting the number of clinical sites. It is important for the administration of DeAnza to actively show their support for the program.

If there is a grant fund writer that could help us secure money for the student training, I think this would be helpful. Many diagnostic companies in the area benefit from trained and licensed laboratory personnel and yet can not train because their scope of testing is limited. Perhaps it is time to inquire about financial support from these companies to off set the cost of training by the clinical sites.

NEEDED: A dedicated person to promote the program and meet with both businesses and clinical sites. An individual has been identified that would be a good representative. The more committed clinical training sites the more students we would be able to take per year.

I.C.2 CTE Programs: Labor Market Demand and Industry

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Trends :: EDD still has a strong positive growth outlook for this field of MLTs. EDD website shows continued growth for MLT in San Francisco, East Bay and the Bay region. Overall there is an expected 20% increase in demand for these jobs over the next 5 years. An estimated 510 openings for the entire Bay area region.

Overall in the state of California, the outlook for clinical laboratory jobs per year is over 1100 jobs. The program has received many calls and emails looking for our graduates to fulfill positions from local clinical sites. The average starting salary for this field in this area is about \$30 to 35/hours. Some of the highest job posting are with Stanford Health Care and Sutter Health followed by over 48 companies from clinical hospitals to diagnostic firms all looking for laboratory personnel. De Anza College's MLT program relies on feedback from the Advisory Committee to ensure that our training program meets the needs of the community employers. The Advisory Committee recognized the severe shortage of clinical laboratory professionals in the Bay Area and throughout the state. They praised De Anza College's MLT program for its innovation, and curriculum which is adequately preparing students to pass the national certification examination for entry level positions in the clinical laboratory. San Jose State and San Francisco state CLS programs continue to recommend the DeAnza program to students that are needing prerequisites for their courses.

The advisory meeting is coming up for spring quarter, the goal is to try and reach the maximum number of committee members. Our first attempt at a conference call last year, ran into some technical difficulties, however we had a good response from the clinical sites. This year with a bit of experience, the hope is to have a much smoother meeting and more participation. A focus this year will be "how can we help you train our students".

Jan 1st of this year (2019) saw the implementation of new regulations, increasing the scope of practice for the MLT. The change has affected three areas of the laboratory; ABO-RH typing with moderately complex instrumentation, Urine microscopy and hematological smears review after an instrumentation reading on a moderately complex instrument. These changes increase the value of MLTs to the clinical workforce and increases their presence in the clinical laboratory.

We are set to get another donation of chemistry equipment. One issue is space. The program has outgrown the current room. Not

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only is there not enough space for the current equipment the electrical system in the class room is lacking. We have a commercial refrigerator that needs a dedicated line so will not over the line and shut the refrigerator off.

Many of our students come to us with a 4 year degree and because of this no longer qualify for financial aid. With a very generous donation from an individual (Barbara Harrelson) that believed in and supported the MLT program; we have awarded our first scholarship to a deserving MLT extern student. Along with this original gift, Debbie Wagner received out to our graduates for a donation to the program and to date we have received about \$2000 to add to our scholarship fund.

With an increase in funding for instrumentation replacement, we are able to provide students with the skills they need for entry level jobs. This includes specimen entry with use of the LabDaq system purchased by Measure C money is now a staple of the chem lab. With SWI funds we will be able to purchase several pieces of equipment that needed replacement for the UA, Coagulation and Chemistry laboratories. This coming year the focus will be on Immunology and Immunohematology labs to upgrade their equipment. This is very helpful but only replaces dead or unsupported, outdated equipment. A budget that incorporates a continuous replacement plan for equipment is needed. Funding for new technological equipment must also be a consideration. We are hopeful that funding will continue at this pace so we will be able to evaluate the equipment needs on a yearly bases knowing that the need to replace dead, unsupported or new technologies has a permanent solution.

Obtaining a certificate and/or degrees from the college continues to be low. Most students come into the program with a degree and therefore only are qualified for a certificate. The numbers for the Certificate of Achievement will increase as the paperwork is now handed out in the class room. The state license is the needed certification for employment and as such the students are not motivated to return to campus to complete all the necessary paperwork for the Certificate of Achievement-Advanced. There currently are too many barriers to obtain a certificate at the college. One specific barrier is the English language requirement; it is unclear what specifically is needed. This is very important to our program because many of our students have English as a second language. Employers want a student with "clear communication skills in English). It is unclear, how this can be accomplished.

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Many students are unaware or not able to negotiate the degreeworks website, many have completed requirements, but lack of good communication between the department, student and records department as to the needed requirements to fulfill or complete the certification. The biology counselor, CTE dedicated person and the counselors are in place and a viable way to maximize use of all these tools is a goal. Again, an administrative position or a dedicated coordinator, is needed. Finding the optimum time has been an issue because the MLT students do not qualify until their externship is completed (6 months later and they are away from campus at clinical training site). I am planning to implement a process where they can fill out the paperwork as part of their completion of externship package.

Lack of clinical sites for externship is an issue and efforts are in progress to increase the number of sites. This is an ongoing problem (across the country), however, a good partnership with business would go a long way to help provide funding to the clinical sites to help cover their costs to train personnel. Grant writers welcome. County hospitals, in general, are willing to train but lack funding to train personnel. A dedicated person to interact with both business and clinical sites is needed. (See 1.C.1)

I.D.1 Academic Services & Learning Resources: #Faculty served:

I.D.2 Academic Services & Learning Resources: #Students served:

I.D.3 Academic Services & Learning Resources: #Staff Served:

I.E.1 Full time faculty (FTEF): 1.9

I.E.2 #Student Employees:

I.E.3 Ratio % of Full -time Faculty Compared to % Part-time Faculty Teaching: Ratio is 1. One class added for a PT instructor and 1 class dropped for FT. Only one full time faculty and 10 part time faculty teach all courses. The overload percent increased due to an added section taught by the one full time person.

I.E.4 # Staff Employees: None: need an assistant for the program director

I.E.4 #Staff Employees:

I.E.5 Changes in Employees/Resources: Next year the program will be without a full time person/instructor. None. All instructors and the program coordinator will be part time employees. This is a



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tremendous amount of work for the program coordinator to take on. For one year of transition from the current coordinator to the next; it is possible to keep the program afloat with the additional support of an administrative / laboratory aide.

The program is in need of a permanent part time staff position for aid in the class room laboratory for the safety of the student. This person needs to have the background and skills to aid the students in performing skills for the safety of all in the laboratory. This individual can also support students as a tutor for concepts and skills. The lack of a position was significantly noted by the students. In order for the program to grow and maintain a good reputation the safety and quality in the lab is a must. These are added steps to help retain the nontraditional students.

2017-18: With SWI funds the program has hired a person to help pilot the skills laboratory. The skills lab has been well received and was liked by the accreditation visitors. The students like the hands on and report that the practical exams are "easier" and less stressful. The externship students often comment on much confidence and well prepared they feel for clinical training.

For safety and continuity in the lab, we could use a permanent lab aide, mentor, skills lab instructor. Currently, Perkins funds are used to hire a temporary person for the TEA positions. Perkins funds for this position will be ending as this was a temporary measure. As noted above, the students notice a significance difference in the courses without the laboratory Allied Health Specialist. All three of these positions are guided to help the students develop needed laboratory skills, additional academic help and some counseling.

SWI funding allowed us to hire a PT instructor for the skills lab and teaching the additional Immunohematology skills. Continued financial support is needed to be able to offer these skills to our students and meet our NAACLS accreditation. These students are getting additional skills help to make them better suited for the working world.

Paid peer tutors would help those students that are having trouble with basic concepts in class. Many of our students do not qualify for financial aide because they already possess a 4 year degree.

This small amount of money could help them defray the cost of the education as well benefit other students.

II.A Enrollment Trends: There continues to be very high interest in the program. There are far more applications then spots available.

The MLT program is operating beyond maximum capacity in

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relationship to its funding, space and especially staffing. The total enrollment for the program over the last year is up 28%. The enrollment has been fairly steady over the last 3 years. We are still an impacted program and students are waiting a year or more to enter the program. A unprecedented third section of hematology lab was offered the Fall of 2017 and was easily filled. We are able to fill other seats with students that need these courses as prerequisites for other laboratory programs which can help off-set what would look like low productivity in externship courses. Overall, the demographics of students hasn't changed much over the last 5 years. The largest increase is seen in gender with an increase in males.

The college has shown an increased commitment to support this program in terms of faculty and funding.

II.B Overall Success Rate: The overall success rate for all students was up slightly from the previous year for both targeted and non-targeted groups. The students that are able to complete the course are successful. The withdraw rate over the last year for the targeted group has increased, however the percent of students in the non success category has fallen. One reason for the increase in the withdrawal rate may be due to a better understanding of the system and what the "W" means for the student. Intervention early with the skills lab and peer tutoring can identify areas of struggles for these students and aid in their success so there would be less need to withdraw from the course. Also noted, the students that completed the course are successful. Our pass rate on the national exam continues to be 100%.

II.C Changes Imposed by Internal/External Regulations: De Anza's MLT program is nationally accredited by the National Accreditation Agency for Clinical Laboratory Science (NAACLS) and the State of California. Therefore, our curriculum teaches to the national standards, which are more comprehensive than the state regulations. Legislation was recently passed (effective Jan 1 2019) to increase the scope of practice for the CA MLT in three key areas:
 microscopic urine analysis
 ABO/Rh blood typing
 review of hematology results

Because De Anza's MLT program is already teaching an expanded curriculum, our graduates will be equipped for this change and not be required to return for further education.

The need is high for these well trained licensed professional and the DeAnza program is well set to teach to the standards of

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NAACLS and to the needs of local employers.

III.A.1 Growth and Decline of Targeted Student Populations:

2017-18 Enrollment: The percent enrollment for the following groups reflex the % enrollment at the college:
 African Americans 3% Filipinx 8% and white 17%. The AA and white have had steady % of enrollment over the past several years. Filipinx have had a steady decline but the overall % represents the same as the school population. This program has a higher % (59%) compared to the school population of Asian students (38%). On the other side; this program has far fewer Latinx students (12%) compared to the school population of 25%.

The program will continue to reach out to the community to capture these groups.

De Anza’s MLT Program has provided career opportunities to a diverse group of students since its inception in 2004. The class makeup has shifted over the past several years to include many of the targeted groups. Outreach to specified target populations has been accomplished through aggressive marketing and student recruitment of our MLT program throughout the community and clinical laboratories. The program is present for the DeAnza Opening Days and we had a representative on the STEM board 2 years ago. Many of our students hear about the program through word-of-mouth and our program is recommended by two of the state universities in the area. The reputation of the program reaches far beyond Santa Clara County. We have students that travel from the central valley and have moved from southern CA to attend the program at DeAnza.

III.A.2 Targeted Student Populations: Growth and Decline: The program has seen a steady decline in the number of Filipinx students. However, compared to last year the success rate was up 9% and the withdraw rate was down 22%.

More troubling are the Latinx population with a decrease in success rate of 10% and an increase in the withdraw rate of 9%.

III.B.1 Closing the Student Equity Gap: Success Rates: 2017-18

- Success rates:
- African Americans 88%
 - Latinx 73%
 - Filipinx 79%
 - Asian 89%

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White 90%

The MLT program faculty is committed to student success of all enrolled students. The success of both groups is the same this year. The withdraw rate is slightly higher for the targeted group, but of those that persist are successful. The focus and goal will be to decrease the withdrawal rate. A skills laboratory will intervene early in the schooling so that all students will have the needed technical skills to move forward and be successful in the program.

To sustain this balance the program must keep the faculty support, counseling help, mentors, peer tutors and lab skills at the level that is required by the accreditation and the expectations of the community employers.

III.B.2 Closing the Student Equity Gap: Withdrawal Rates: The withdraw rates

- African American 0%
- Latinx 20%
- Filipinx 5%
- Asian 7%
- White 7%

III.B.3 Closing the Student Equity Gap: 2017-18 Gap: The gap for the following years

Targeted 13-14 (71) 14-15 (79) 15-16 (86) 16-17 (75) 17-18 (77%)
 Non-targeted 13-14 (82) 14-15 (84) 15-16 (86) 16-17 (85) 17-18 (89%)

III.C Action Plan for Targeted Group(s): 1) There is a need to aid

students in navigating the academic system to obtain degrees, certificates and evaluation of transcripts for meeting prerequisites. Now with a dedicated counselor for the science division this should help increase the certificates the program awards and make it easier for the students to know if and when they have met prerequisites. Encouraging and demonstrating degreeworks can help the student monitor their progress and help keep them on track. More communication and co ordination of services is needed to increase the number of students obtaining certificates. A strategy to reduce roadblocks will be to make filling out the certification form part of the completion of the externship process. The other strategies are to help capture those students that take

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many of courses but may not complete the externship. Actively engaging all the instructors to reach out to the students to make them aware of the available certificates is a goal.

2) Allied Health specialist to aide in the classroom are a must. Not only are these individuals able to help the instructors with set up of the laboratory but also were tutors for the students during class reducing the student/instructor ratio from 1/20 to 1/10. An important difference with class TEA was noticed by the students in student evaluations compared to courses without TEAs. The student/instructor ratio is very much a safety concern for the instructors. The recent site visit accreditation team says the recommendation ratio 1/15 and with the limited space in the room a reduced number should be accepted by the school. The instructional help from the health specialist for the students aid in their success during classes as well as mentoring them for success in their externships. With the increase funding from the Strong Workforce Initiative, this position will, hopefully, be filled on a permanent basis.

Using SWI funds, a mentor could be hired to have on campus time to help these students navigate the academics and prepare them for the externship.

3) SWI and other equipment/supply support allows us to purchase enough materials for each to perform testing which is extremely valuable hands on experience. "Seeing and doing" are two very important components of learning and having functioning equipment and material for testing are required. With continued funding, the program, will be able to advance the technology. This adds to the skills lists for students and makes them successful candidates for employment.

III.D Departmental Equity Planning and Progress: Professional Development:

Crucial for our instructors as most of our instructors are professionals in their which brings a unique knowledge of the subject matter; however many were not trained in education.

CLEC conference has been invaluable for our instructors to learn new ways teach, new apps and other techniques to use in the classroom and behaviors of the millenniums and how to engage them in the class room. So many of these techniques have been implemented by our instructors. All of our instructors should have the opportunity to attend this once a year meeting. This is the

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only meeting of its kind that blends teaching tools and the clinical laboratory.

Enhanced Support for Students:

Peer tutors, a mentor, skill lab instructor, specialist for additional blood banking instruction, TEA in lab classes and assistant for the program coordinator (especially in the up coming school year when the program coordinator will be part time). Having a budget high enough so every student can perform the testing (instead of working in pairs) would increase everyone skill level.

Coaching/Consultation:

The challenge will be to intervene early with tutoring and skills so these students do not fall behind. The skills lab offers this help. Having a person to help track student progress will help to identify students that could use the help. A mentor to help guide these students will help increase success in this group. Funding for peer on line tutoring is needed. Our students travel great distances to attend classes and many have family and jobs as well so on site tutoring is not an option. Our course work is specific and complex so former students would make the best tutors for our students.

Fund a permanent lab aide position through the SWI funding will be used to fund this position. This position will help to continue to close the equity gap and increase the success of all students and especially the targeted group of students. These health professionals have the knowledge and technology skills to aid the students in the laboratory for additional tutoring, lessen the instructor to student ratio for safety, and mentor students for clinical training success.

Thanks to the support of the college much of the old and non functioning equipment has been replaced. This helps the students stay current and learn skills and theory that are valued by the employers.

One of the main struggles for the De Anza College's MLT program is growth. The number of MLT students is balanced by the number of clinical sites. We are able to off set some of this with students that take these courses as prerequisites.

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Through recruitment, marketing and program reputation (which is credited to the relentless efforts of the previous MLT program director) throughout the Bay Area, there are more students interested in the program than we can accommodate, leading to impacted enrollment. In order for the program enrollment to increase, additional clinical training sites are needed to accommodate this additional growth. One goal is to reach out to more clinical sites on the East side of the Bay area.

The common problem of recruiting and maintaining clinical sites is still an issue. We were able to increase our affiliates with 1 additional clinical training site. One site has increased the number of trainees from 1 to 2 per year. Another site is considering the possibility of training. Unfortunately one site has decided not to continue training for the near future. The program lacks sufficient personnel support to accomplish these goals of maintaining and increasing sites. The program operates with 1 full-time faculty member (next year no full time faculty) and no administration support. To increase clinical sites requires time in recruitment which is difficult for a single person. The program coordinator is responsible for maintaining the program's national accreditation and state approval, all administrative duties, marketing and student recruitment, maintaining laboratory instrumentation, laboratory preparations, and instruction. The demands on the MLT Program Coordinator and the lack of adequate staffing limit the growth of the program.

III.E Assistance Needed to close Equity Gap: Yes

III.F Integrated Plan goals: current student equity data and action plan: 2. Close the achievement gap for students in developmental (Basic Skills) courses and other identified student populations by increasing persistence, retention and success rates.

IV.A Cycle 2 PLOAC Summary (since June 30, 2014): 100%

IV.B Cycle 2 SLOAC Summary (since June 30, 2014): 100%

V.A Budget Trends: De Anza College's MLT program receives funding from several sources. The MLT Program Coordinator and part-time faculty are paid for by De Anza College. Our program received a generous increase in the B budget to \$2000 in 16-17 and some lottery money. This helped with classroom supplies and resource materials for the students. The school this past year also increased the support for the program which allowed for purchase of equipment. SWI allowed for payment for personnel to help in skills lab, additional Immunohematology skills, and classroom specialist. As the regulations for Perkins funding

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tightens and the HLWI grant funding disappears; it is important to recognize and keep open these aforementioned funding sources to keep this high demand program sustainable.

A source of funding for reagents and media for testing that is accessible throughout the school year is needed as many of these reagents are time sensitive. Currently, the funding allows for purchases only for the lab courses; with additional funding more kits or reagents could be purchased to fund the skills lab as well.

V.B Funding Impact on Enrollment Trends:

The funding has allowed for replacement of UA, Coagulation, chem analyzers and this year a immunology analyzer and new UA equipment to include microscopy that will keep our students current with the new regulations that were just past. We were able to introduce molecular techniques this year to keep current for the job market and to maintain the high standards of the program.

The instruments are the component of the program that allows the students the "hands on" experience necessary to be successful in the work place. This "hands on" before the externship is one of the most valuable aspects of the program, according to student and clinical feedback.

It is imperative that the program budget in for replacement and new technology. A replacement plan for equipment every 5-7 years and evaluate new technology as it becomes available. With lack of clinical sites, more discussion is around running simulation labs at the academic institutions. Now is the time to start planning for this eventual change.

Lack of clinical sites, continues to be the biggest factor in limiting enrollment. As the demand for the programs grows some changes may need to be made in the admissions process. A recency requirement has been discussed, this would allow students to "refresh" their knowledge and thus be able to keep up with the pace of the class, cutting down on repeaters. This may also have the benefit of students taking additional courses at DeAnza.

V.C.1 Faculty Position(s) Needed: Replace due to vacancy

V.C.2 Justification for Faculty Position(s): Next year the program director will be part time. It is imperative for the program to maintain it's high standards and continue to function and grow; a full time Program Coordinator will need to hired. Even with an assistants' help, the program coordinator will need some help.

Part-time faculty for skills lab and additional skills and training in other areas of the laboratory. Last Spring we were able to hire a

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person until the end of the year under a trial period that was successful and hope to have it become an important part of the program. Students need more time to practice lab skills and have expert help to tutor on techniques, math and understanding general concepts in the clinical field. This is an unique program that requires special knowledge to tutor these skills. These skills are ones that we are getting directly from the clinical sites as needed skills to be successful in employment.

This additional training allows us to attract clinical sites and thus increase the number of students we can accept in the program.

To maintain and increase the clinical sites for training, some marketing is needed to tie the program to community beyond the associated schools and internal network of the staff. A face of the program is needed to help "brand" the program and attract top clinical sites for training.

V.D.1 Staff Position(s) Needed: Growth position

V.D.2 Justification for Staff Position(s):: Permanent: part time professional health expert to aid the instructor during the laboratory sessions by adding valuable instruction and demonstration of needed laboratory skills to increase the success of students in the classroom and prepare them for the workforce. One of the NAACLS standards require that the school ensure the appropriate personal safety for students and faculty are safe guarded during educational activities. This is not possible with a 1/20 ratio in the laboratory. An additional person in the laboratory would reduce this 1/10 a more manageable number.

This position should be a professional expert that has the knowledge and skills of the clinical laboratory to aid the instructor in presentation of material, answering questions, giving additional tutoring and demonstration of skills for those that are in need.

The lack of this position and its direct effects on students was noted in the student evaluations and also noted on the tenure review.

As the program coordinator position will be part time next year is more important than ever to get this person support. This is more than a full-time position to begin.

2018-19: an administrative assistant is needed for the program to continue to growth. Currently all administration of the program is done by one full time faculty. This includes (but not limited to), program review, ordering and budget, student tracking, preparation for exam, maintaining accreditation, recruiting clinical sites, hiring, aid with SLO and curriculum. This is in addition to the

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responsibilities of a full time instructor. The program currently has 8 students in externships, 2 student that is still being tracked as they have not taken the exam and at least 9 students ready for externship now and at the end of spring quarter. There are additional (roughly) 20 students that are still working their way through the academic portion of the program. This does not include all the students that are taking courses as prerequisites for the other programs.

V.E.1 Equipment Requests: Over \$1,000

V.E.2 Equipment Title, Description, and Quantity: Please see attached Worksheet for equipment: AND the list below:

Microscopes- these should be on a 5 year recycle program

New Chemistry Analysers -1 (2Tosoh 600II are no longer supported by the company) Will replace one this year

VeiwslQ:integrated computer/camera/software for real-time panoramic images and ability to create in-house library of slides and aide in creating on line classes. Five monitors or High definition projection screen or TV

Chemistry and immunoassay analyzer, refractometers, centrifuge, heat block, cell washers, spectrophotometers, serofuges, incubators

coagulation analyzers and glucometers

electrophoresis equipment

Blood banking equipment and supplies

Microbiological test identification kits and media

All reagents and kits needed to run tests on the above instruments

Molecular equipment for processing Dna/rna extraction (for example) Ez1 the base model runs about 1-6 samples

PLO to provide needed training so students are prepared to enter the workforce with the needed skill level.

Freezers and Refrigerators replacement (>10 year commercial refrigerator is starting to show slight increases in temp so will need to be replaced soon) Dedicated electrical line

Hematology analyzer, replacement

New Coagulation and Urine Analyzers

Mass Spectrophotometer

New instrumentation for identification of clinical bacteria and kits including needed reagents and supplies

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All new technology instruments to keep current in the field
 Equipment for data entry and tracking of specimen data
 New computers and other technology to keep the current "smart classroom" up to date: class room ready for computer upgrade

Under \$1000
 Graph paper for Chemistry, small calculators for in class math skills, test tubes, plastic and glass, media for micro courses, pipette tips and pipettes, plastic loops, slides, biohazard and sharp containers, identification kits, gloves, paper gowns, slides, staining reagents replacements of pipettes, magnifying glasses for reading bacterial plates, plastic small rulers, batteries for calculators, pens for use of white boards, and lab supplies as needed

V.E.3 Equipment Justification: Technology is increasing in the laboratory and for the program to stay current and prepare students for clinical rotations and jobs it is crucial to keep up with the demands of the employers and the skills they expect the students to have on graduation. Technology is constantly changing so specific equipment asked for one year may have a lower priced competitor the next or a company that is more willing to accommodate the schools needs and limitations. As it can be impossible to know each year what equipment may fail, it is important to be flexible if priorities must change to accommodate this change.

It is also very important to evaluate the status of equipment yearly with idea of a 5-7 year turn over for life span of a piece of equipment. Equally important is to keep open to new technologies on the market. All of these may require a shift in priorities from the previous stated requests.

Without equipment we have no program. Since this is a hands on based lab science having the proper equipment to provide the employers expected skill set is absolute.

Yes all equipment requests are from SLOAC and PLOAC process
 Infrastructure: dedicated electrical line so the refrigerator and freezer do not shut off and destroy all the expensive reagents.

Reworking space in what is now a student library area will give us more needed space and the books can be donated to the new library.

Instructional equipment includes a camera and microscope that allows the program to build their own library of photographs for teaching of multiple disciplines.

Equipment is used by students to get the hands on experience

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needed to be successful in the work place. In order for the program to maintain its high standards and great reputation with the business community it is important to have equipment and technology that is representative of what is expected/demanded by employers. Most equipment has a planned five year obsolesce The goals of the college are for CTE graduates to have the knowledge, skills and positive learning attitude that is valued by the employers. Keeping the technology and equipment current is an integral piece to each students education and the program. .

V.F.1 Facility Request: New classroom space – a simulation lab is the direction that many programs of this kind are heading towards as this will give the students the "hands on" time that is required and may potentially lead to shorten rotations in the clinical setting. This could make training more attractive for clinical sites. Lack of space was noted by the accreditation team that recently came out for a site visit.

Highest priority! The refrigerator and freezer keep shutting off because there is not enough electrical outlets. There is only ONE for this area. Every time this shuts down we loose expensive reagents. More outlets for equipment, especially in the side storage area S73c. Minimum needed is a dedicated line for refrigerator and freezer per maintenance personnel. Also, ventilation is needed. It appears that an opening could be created between this room and the room next door.

- Updates to keep Smart classroom
- Sink with foot pedals
- Cabinets for storage, microscopes, etc. in the annex area between the class room and the bathroom. Orginally this area was a library. Most of these books can be donated to our new library so we can better utilize the space.
- White boards
- Abundant outlets for lab equipment
- Biological Safety Cabinets

- Additional storage space
- Shelves
- Cabinets
- Freezers
- Refrigerators



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Cold Storage Room

V.F.2 Facility Justification: For much of the new technology more outlets are needed and infrastructure needs to be put into place to accommodate the added load on the electrical system. At a minimum each of the refrigerator and freezer should have a dedicated line so the breakers are not tripped. Backup generators should be considered whenever power is down for more than 8 hours as supplies kept in these are very expensive. Open up more computer outlets in the class room so the Labdaq equipment can be used to its fullest and also moved to more convenient locations as needed. The computer ports are already in the class room they just need to be activated. The class room infrastructure should change with the needs of new equipment and testing.

In order to utilize a camera integrated scope technology (Veiws IQ system) to its fullest 5 monitors for the students to use in groups is needed to have high quality viewing of the slides.

Much of the work in the laboratory requires microscope work and the desk and chairs are not adjustable. This may lead to back and other strain injuries. I am happy to report that we did receive these chairs this year! Thank you.

Overall, this program needs more actual space and especially space designed to house the lab equipment. Some discussion of what are the possibilities and what option may exist would be great to explore. This lack of space was noted on our accreditation site visit report.

V.G Equity Planning and Support: For the program to grow, more efficient use classroom space is needed and the infrastructure needs to keep up with change in technology. The more hands on experience and exposure to laboratory techniques during their student labs the more likely they are to be successful in their course work and jobs. A simulation laboratory setting is the ultimate goal.

Personnel for the skill labs (instructor), peer tutors (paired with underachieving students) and helping with review sessions, on line lectures to reinforce the in class material, mentor and instructor for blood banking supplements

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V.H.1 Other Needed Resources: Assistant to help guide students to the resources already available to students, biology counselor, CTE job resume/interview skills
Career center to help with job search

Hiring our MLT students or graduates as peer tutors for our program. The information and skills are very specific and is difficult to find a "general" tutor.

Partnership with the community to find funding to pay clinical sites to train students. These sites will be more likely to train if the financial burden is shared. Grant writers?

A donation fund for the program as been started. Graduating or former students that would like to give back to the program have donated and these have been used to off set the externships cost for students. The goal is to make this more widely known and encourage our former graduates to give back. They have made it very easy to donate to the program.

V.H.2 Other Needed Resources Justification: Lack of clinical sites is a limiting factor for admissions and success. Since the school is open access, not many limitations are placed on students to enter the program. Finding a clinical rotation can be more of a challenge. Personnel to interact with the community and form strong ties to the community is needed beyond the program directors input.

Lack of resources make it difficult for students to give up income for 6 months, so active ways to help fund their training would go a long way. Biotech companies that benefit from the licensed (and trained) personnel may be convinced to help monetarily support training sites. A person to undertake this goal is needed.

V.J. "B" Budget Augmentation: "B" budget for the MLT program annually has been generously increased to \$2000/year. With the increase in scope maintenance this increase in money has not gone as far as I would have liked to see it. This past year some lottery money was added to this budget which was very helpful in obtaining class room supplies and resource material. The overall budget for the MLT program is much higher than this number and much of the funding as come from a generous grant funded by the local hospitals. In the next several years, this money will be exhausted. We have been good stewards of these funds but they are limited. The college support of this program will require an increase in the B budget to help cover some of these costs.

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Perkins Funding, SWI and Instructional money have all played a huge part in supporting the program need for big ticket items.

Thank you administration for your support.

Additional funding of the SWI and Perkins Funding will hopefully be sustained so the high quality of the program can continue and meet the needs of the community employers. Having a high quality program puts us in high demand for classes. It allows us to be able to at least "talk" to clinical sites about the possibility of training because they understand the quality of the person we will put into their laboratory. The college is committed to training the future workforce and this does come with a cost. Without the support, the program can not exist.

V.K.1 Staff Development Needs: CLEC once per year, good for all instructors to attend and network . This is the most important meeting of the year and the only one that focuses specifically on teaching to clinical scientists. The information is invaluable so it is important that all instructors be included. The information is specific to discipline so each instructor can get ideas that relate to their classroom. General topics cover classroom behaviors, how to recognize and tract good exam questions, how to teach to the tech age student as well as specific issues concerning externships.

It is important that the faculty stay current in the ever changing health technology field. The CLEC (Clinical Laboratory Educators' Conference) meeting (once per year) is specific for clinical science educators to gather and share ideas and learn new skills for the class room. The meeting also has information about current technology with company representatives present to answer questions and publishers are present to show off the latest textbooks and how to create or customize your own textbook.

V.K.2 Staff Development Needs Justification: The CLEC (Clinical Laboratory Educators' Conference) meeting (once per year) is specific for clinical science educators to gather and share ideas and learn new skills for the class room. There is no other meeting of this kind Many times these are out of state but the information and knowleged shared and learned is valuable.

This meeting helps all us be better teachers as it addresses both academic, communication and wellbeing skills that can be transferred back to the classroom. Faculty can tailor the information to their specialty.

This years conference was well attended by several instructors. It will be very important for the new program coordinator to attend next year as our accreditation agency holds a workshop on the

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standards and how to comply.

Several of the faculty are ready for re-employment consideration this year.

V.L Closing the Loop: We will re assess the outcomes based on our student retention and success rates especially for the targeted student populations.

Collection of data from the skill lab and comparing to students exam in those courses will help access this aspect.

Clinical site and employer surveys will help us assess if our students arrive for training or work fully prepared

Advisory committee meeting: Ask the question, how can we help?

What do we need to improve to make the training experience better.

Last Updated: 03/22/2019

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