

**Submission date:** February 10, 2020

**Program/s in this review:** Phlebotomist OEC, Medical Laboratory Technology AAS, Medical Laboratory Science BS

**Specialized accrediting agency (if applicable):** National Accrediting Agency for Clinical Laboratory Science (NAACLS) for Medical Laboratory Technology, AAS and Medical Laboratory Science, BS

**Campuses where the program is delivered:** Anchorage

**Members of the program review committee:**

- Angela Craft, Term Assistant Professor of Medical Laboratory Science (Chair), Anchorage
- Melainie Duckworth, Term Assistant Professor of Medical Laboratory Science, Anchorage

**1. Centrality of Program Mission and Supporting Role (700 words or less)**

***Relevancy and Support of Other Academic Programs***

The mission of the Medical Laboratory Science Department is to graduate competent and ethical clinical laboratory professionals with the knowledge and skills for career entry. It is also the department's mission to prepare graduates for leadership roles in the clinical laboratory and professional organizations, and to instill an understanding of the need for maintaining continuing competency in a rapidly changing and dynamic profession.

The phlebotomy program is relevant to many healthcare professions. Many of the students enrolling in this program or one of its courses are entering into other healthcare professions. The program introduces them to medical topics, provides a path for experience in healthcare and provides an advantage for applications to other healthcare programs. This program articulates into the Medical Laboratory Science and Medical Laboratory Technology programs without loss of credit. It is also beneficial to students looking for a new career path that can be completed in two semesters. Graduates are eligible to sit for the national certification exam and work as phlebotomists upon completion of the program.

The AAS Medical Laboratory Technology (MLT) degree articulates into the BS Medical Laboratory Science (MLS) degree without loss of credit. Students can choose to complete the AAS MLT and return to finish their BS in MLS. BS MLS students have continued on and completed Physician Assistant programs, Master in Public Health, Master in Business Administration, and Master in Clinical Laboratory Science degrees. These students have furthered their careers in healthcare, education, and laboratory management.

***Partnerships and Extramural Support***

The programs currently have twenty-five active community partners in the Anchorage/Mat-Su area and in rural Alaska. These partners accept our students for practicums and provide mentoring and training for distance phlebotomy students. The programs provide workforce-ready graduates for needed professions in our state. In addition to providing practicum experiences for our students, our partners donate a significant amount of equipment and supplies that assist us in offering a high-quality education at a lower cost. The program recently received in excess of \$200,000 worth of equipment that is being used to improve the student experience and a cost savings for the program. The Phlebotomy OEC, AAS MLT, and BS MLS supply graduates for high demand jobs with anticipated high growth projection by the Alaska Department of Labor and Workforce Development.

The programs strive to develop professionalism in our students. The students are provided the opportunity, and are encouraged, to be involved in our professional organization's state chapter, Clinical Laboratory Scientists of Alaska (CLSA). Students are included in annual conference planning and raise funds through their student club to attend sessions at the conference. They are also encouraged to participate in volunteer opportunities during the conference, which allows them to meet potential employers and make a positive impression.

In addition to developing professionalism within our field, students are encouraged to develop interprofessional skills while in our programs. Over the past several years, students have collaborated in interprofessional activities with the WWAMI program and nurse practitioner students at UAA. Students have also participated in College of Health interprofessional simulations and other events with multiple health programs. This develops a sense of working as a team for them when graduates enter a workforce with these other professions.

***Workforce Development, Employment Opportunities, and High Demand Designation***

There is a high demand for Medical Laboratory Scientists and Medical Laboratory Technicians in the state of Alaska and nationally. According to the Alaska Department of Labor and Workforce Development, medical laboratory technician and technologist employment in Alaska is expected to experience robust growth of 23-24% between 2016 and 2026.

For the past three years, the job placement rate for BS MLS students has been 100% within six months of graduation. Two out of the last three years for AAS MLT students have had 100% job placements within six months of graduation.

**2. Program Demand (including service to other programs), Efficiency, and Productivity (7 year trend; 1400 words or less)**

Enrollment in the Phlebotomy OEC has declined since 2013. This is partly due to students in other degree programs taking the course to improve applications or to get jobs relevant to healthcare while completing other degrees. These students often take the class without declaring the Phlebotomy OEC as an additional major. Students with the career goal of phlebotomy can take the course and be eligible to sit for the national certification exam without declaring the OEC, therefore many students complete requirements to sit for the national certification exam without declaring the major and/or applying to graduate. The phlebotomy courses do fill with students taking them as part of the AAS MLT program, BS MLS program, and other health majors. However, to address the program goal of meeting the needs of those in the community who would like to pursue phlebotomy as a career, the course was offered for the first time with an online lecture and weekend laboratory schedule to reach non-traditional students. The course filled and we will monitor numbers to ensure the plan is meeting the needs of our students with phlebotomy as a career goal. Students are now being asked to declare the OEC major before being scheduled for practicum.

Enrollment in the AAS MLT has always been lower than the BS MLS program. Often, students in the BS MLS career track switch to the AAS MLT if life circumstances have changed and they need to complete a degree sooner. Likewise, students that enter into the AAS MLT program may switch to the BS MLS after realizing throughout the program that they would like to pursue the bachelor degree. The number of students for AAS MLT and BS MLS programs overall have steadily increased since 2013, except for 2019. In 2018-2019 there was significant faculty turnover and the introduction courses were initially canceled until an adjunct was found who could teach on the weekends. With those circumstances, only 8 students started the program in Fall 2018. A new cohort process was implemented with cohorts being resumed in Summer 2019. There was a slight decrease in enrollment that semester, but as of Fall 2019 we have full cohorts starting the program. The program plans to build a distance delivered option for this degree and this provides an opportunity to grow the program. This could allow for a step ladder approach for students outside of Anchorage to obtain their OEC in Phlebotomy, continue into one of the higher degrees, and work their way up at their place of work.

The data show that AAS/BS students tend to have more than the required credits for the degree. These credits are high because many of our students enter with credits towards another major or with another degree. This is seen also with phlebotomy, which is a 9-credit certificate, but most students are also completing another degree, so their credit numbers are much higher.

Tuition revenue has remained stable, steadily increasing since 2014, except for a slight decrease as seen in the decreased enrollment in 2019. The program receives a significant number of donated supplies and instruments from community partners, which minimizes what we purchase for the labs and saves the students money in lab fees. The instructional cost variation is attributed to faculty turnover, retired senior faculty and hired junior faculty.

### 3. Program Quality, Improvement and Student Success (1500 words or less)

#### **Specialized Accreditation**

The AAS MLT and BS MLS programs are accredited by the National Accrediting Agency for Clinical Laboratory Science (NAACLS). The program is due for reaccreditation in 2019-2020. At the time of the last re-accreditation, the program received accreditation for 7 years, which was the maximum at that time. The programs are currently surpassing benchmarks set by the accrediting body in certification exam pass rates, job placement rates, and attrition. While the phlebotomy program is not accredited, both the phlebotomy program and the AAS MLT program have 100% pass rates on their respective certification exams and the BS-MLS graduates have an 82% pass rate (benchmark established by NAACLS is 75%). Exam pass rates have been increasing and this percentage is expected to be higher with 2020 assessment.

#### **Student Success, Curriculum Currency and Innovative Program Design**

The College of Health recently increased student advising support at the college level to reach pre-majors and exploratory students interested in health careers. Program faculty provide academic advising to majors, but also advise pre-majors as they are ready to apply for admittance to the full major.

External accreditation expects the curriculum to be updated as needed to reflect current industry content and methodology. Most courses have been revised within the past three years. The program is implementing a hybrid constructivist approach to teaching some courses. This active learning style has been implemented into two courses thus far and exam scores are improving within the course. The program will be monitoring certification exam pass rates and scores in these topics for improvement. In addition, within the past three years undergraduate research opportunities were developed for the students. This provides them the opportunity to engage in research experience and presenting at a professional level at national conferences. These students are able to graduate with their BS-MLS having already published as professionals. This is a benefit to the students in their careers, and the university, for recognition on a national level. From Fall 2016 to present, twenty-eight students have been involved in departmental research projects and six of these have presented at national conferences with published abstracts. At this time, there are eight students involved in research projects and of those, five have abstracts submitted for upcoming conferences.

The students in our programs do practicums at facilities across the state of Alaska, giving students the opportunity for direct work experience and to meet professionals in the field. Practicums also provide rural hospitals with needed employees when the students are hired upon completing the practicum and their degree. Throughout our Cultural Diversity in Healthcare course and practicum sites in rural Alaska, the students gain understanding of diversity within our state and workplace.

#### **Phlebotomy Program Student Learning Outcomes Assessment**

- *Demonstrate entry-level competency.* Scores on task objectives during practicum, scores on the ASCP certification exam, graduate surveys, and employer surveys are used to assess this. Graduates exceed the national average in all topic areas on the ASCP certification exam. Graduate surveys show that students are working as phlebotomists or continuing their education in a healthcare-related field and employer surveys show that students are well prepared or prepared for employment. Actions taken to improve student learning include simulation-based labs and merging of phlebotomy and specimen processing into one course. Scores in specimen processing on the certification exam have improved since these courses were combined.
- *Demonstrate professional conduct, stress management, interpersonal and communication skills with patients, peers, other healthcare personnel and the public.* This is assessed with employer surveys and scores on professionalism during practicum. Students exceed the benchmark on their scores during practicum and employer surveys show that students are professional in the workplace. Actions taken to improve student learning include adding a resume and interview learning module with a tour and lecture lead by a local phlebotomy supervisor.

- *Act upon individual need for continuing education to grow and maintain professional competence.* Graduate surveys are conducted to assess participation in continuing education and find that graduates do participate in continuing education. Actions to improve student learning include the demonstration by faculty of participation in our professional organization. Students are encouraged and provided an opportunity to attend the annual Clinical Laboratory Scientists of Alaska annual conference.
- *Recognize opportunities for professional development within the laboratory.* This is assessed with graduate surveys. Students are continuing their education in healthcare by pursuing higher degrees in healthcare related fields. The program hopes to take action to improve student outcomes by offering an option to continue their education in the laboratory field with a distance AAS MLT and BS MLS program.

Many phlebotomy students continue their education towards a higher degree as part of the program, but with the focus on reaching students with phlebotomy as a career goal, there will be more outreach to gather employment rates upon graduation. The program has implemented an exit survey into the practicum courses, which asks the student for the email address they intend to use after graduation for follow up surveys regarding employment.

#### **Medical Laboratory Technology and Medical Laboratory Science Program Student Learning Outcomes Assessment**

The following program student learning outcomes were assessed:

- *Demonstrate entry-level competencies in the following disciplines: hematology, chemistry, immunology blood bank, urine and body fluid analysis, microbiology and laboratory operations.* ASCP certification exam scores and task objective scores during practicum assess this. The graduates of the AAS MLT program exceed the benchmark established by NAACLS accreditation and BS MLS students meet the benchmark. Actions taken to improve student learning include simulation based labs and implementation of a hybrid constructivist approach to teaching.
- *Demonstrate professional behavior including sound work ethics, cultural responsiveness and appearance while interacting with patients and healthcare professionals.* Students are scored on their professionalism during practicum to assess this. Graduates exceed the benchmark during practicum in scores for professionalism, and employer surveys report they are well prepared. Actions to improve student learning include a meeting with the student when they are mid-way through the program to discuss faculty evaluation of professionalism. Students are provided a rubric and score so they can identify opportunities to improve before going to practicum.
- *Demonstrate a commitment to the laboratory profession through active involvement in a professional organization.* This is assessed by an alumni survey. The survey shows graduates are participating in professional organizations. Actions to improve student learning include the demonstration of participation in our professional organization by involvement from the faculty. Students are encouraged and provided an opportunity to attend the Clinical Laboratory Scientists of Alaska annual conference.
- *Demonstrate continuing competency by certification maintenance.* This is assessed by the alumni survey. The surveys show that graduates are participating in continuing education and certification maintenance. The program hopes to take action to improve student outcomes by offering an option for AAS MLT graduates to continue their education in the laboratory field through a distance BS MLS program.

#### **Student Accomplishments**

As mentioned previously, the phlebotomy program and the AAS MLT program have 100% pass rates on their respective examinations. BS MLS graduates have an 82% pass rate on their certification exam, surpassing the national benchmark of 75% set by NAACLS. The three-year average rate for employment within six months of graduation is 100% for BS MLS graduates and 92% for AAS MLT graduates.

#### **4. Program Duplication / Distinctiveness (300 words or less)**

This is the only AAS MLT and BS MLS programs in the state of Alaska. There is another Phlebotomy program offered at UAF. The courses offered at UAA are also degree requirements for the AAS MLT and BS MLS programs, therefore the program is offered at the Anchorage campus. The program has developed a distance Phlebotomy program that could be delivered to UAF students.

5. Summary Analysis (500 words or less)

The programs allow students to complete a Phlebotomy OEC, AAS MLT, and BS MLS without loss of credit. The articulated programs also allow students to complete either the OEC or AAS program if life changes occur and they cannot finish the BS MLS program. The students in the BS MLS or AAS MLT programs are able to do research under Professor Leu Burke and have presented posters and oral presentations at national conferences. This makes for competitive applications when they enter the job field, provides networking at the national level, and the students graduate having published as professionals. This benefits the students, and the university, with recognition at the national level.

Our graduates in each program are serving workforce needs in our state. Through the development of community partnerships, students are now able to do practicums in more rural areas and there is an increase in students accepting positions at these sites upon completing the program. Students are filling needed positions in Nome, Kotzebue, Sitka, Soldotna, and Fairbanks. These positions were historically staffed with contracted travelers. Our graduates provide permanent employees to the hospitals. To meet the needs of our rural community partners, the program is looking to expand and offer a distance program to potential students in these areas. We can meet the need of students who are unable to leave their home to move to Anchorage, and provide local graduates who intend to stay long term.

The program has a quality reputation with employers in Alaska and nation-wide (including the Mayo Clinic, Harborview and University of Washington), who reach out to recruit upcoming graduates. This supports program assessment data that students are prepared or well prepared for career entry employment. Certification exam pass rates and scores indicate graduates are well prepared academically.

The Phlebotomy OEC, AAS MLT and BS MLS are strong and robust programs that are meeting employment needs in the state of Alaska. Our programs and students have a good reputation, both within Alaska and nationally. The program would like to expand by creating a distance program that can be delivered to students in rural areas to better meet the needs of Alaska residents and healthcare facilities. The expedited review committee recommends for program ***continuation with potential for enhancement*** through distance-delivered expansion to rural Alaska.