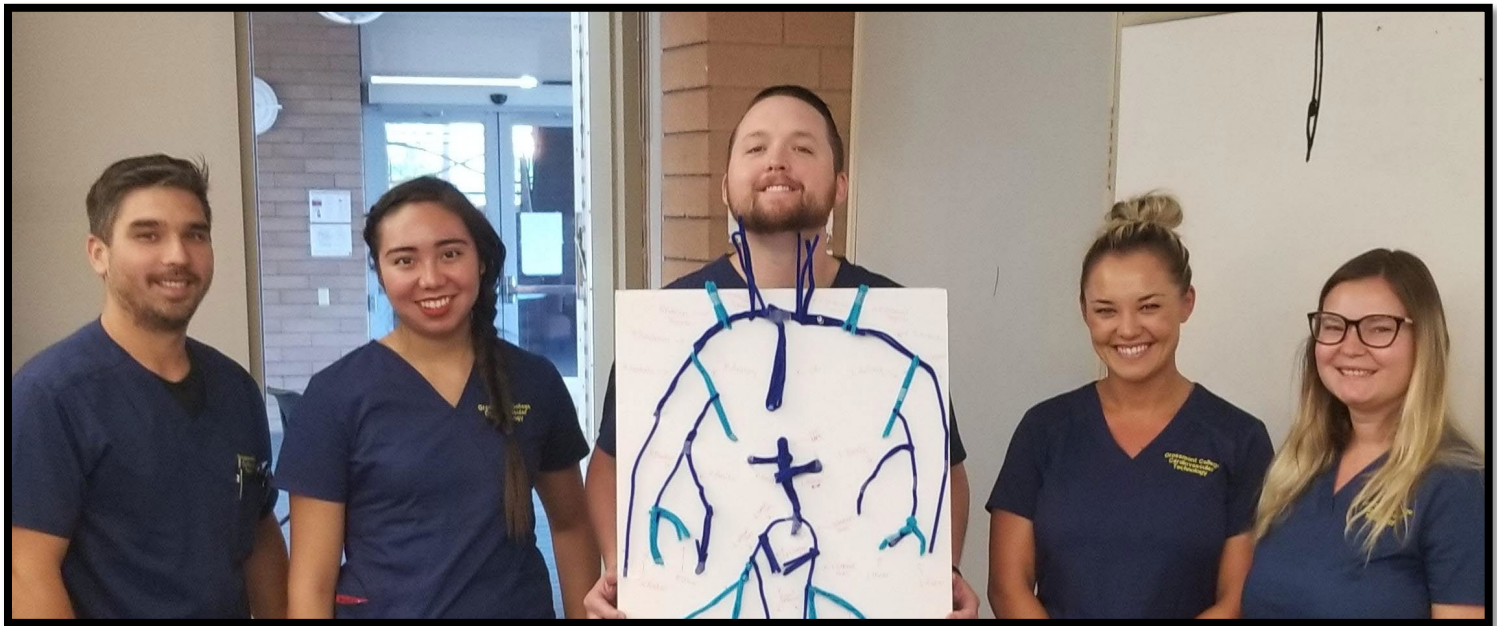


ACADEMIC PROGRAM REVIEW



CVT students in their first semester FA 2019 – all now ready to graduate in June 2021 😊

Cardiovascular Technology
Spring 2021

SIGNATURE PAGE

This program review report for 2016 - 2021 is respectfully submitted by the members of the Grossmont College Cardiovascular Technology Department.

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DEPARTMENT/PROGRAM ACADEMIC PROGRAM REVIEW

SECTION 1 – OVERVIEW.

DEPARTMENT HISTORY & PREVIOUS PROGRAM REVIEW RECOMMENDATIONS

PURPOSE OF SECTION 1.1: *To help the committee understand the history of the department, what your department does, what population you serve, and your overall place in the college. Include any information that helps the reader understand your department, such as which courses are primarily GE, programs added, new degrees, certifications, where your students come from, where they go, and a description of your faculty (the role of FT, PT and staff). Student population specifics (transfer, basic skills, CTE, etc.) are useful as well.*

- 1.1** Introduce the self-study with a brief department history. Include changes in staffing, curriculum, facilities, etc. (You may wish to cut/paste your previous department history and then add to it). Additionally, please list degrees and certificates your department offers.

The Cardiovascular Technology Program is actually three programs: Adult Echocardiography, Vascular Technology, and Invasive. Echo and Vascular are ultrasound programs, each with a different emphasis of study, ultrasound of the heart and ultrasound of the vascular system respectively. Invasive is training for those who want to work in the Cardiac Catheterization Lab. All three programs are accredited separately, lead to a specific credential, and run by a lead instructor credentialed in that specialty. All three tracks lead to a profession where specialized technologists assist with cardiovascular exams that help with diagnosis and treatment of cardiovascular disease. These jobs transform the lives of our students!



Adult Echocardiography is ultrasound based technology used to diagnose and evaluate patients for cardiovascular disease.



Vascular Technologists perform ultrasound and other diagnostic studies to evaluate arterial and venous obstructions, malformations, or diseases.



Invasive Cardiovascular Technologists work in the Cardiac Catheterization Lab where they assist physicians with coronary, peripheral, and electrophysiology procedures.

The Cardiovascular Technology Program was founded in 1972 by Dr. Willard Dellegar. The initial curriculum was composed of a series of courses leading to an Associate Degree in Biomedical Technology which emphasized the repair of specialized medical electronic instruments. While graduates were obtaining employment in that field, feedback from employers and potential employers indicated a greater need for Allied Health Professionals who could assist physicians in the performance of sophisticated medical diagnostic and interventional tests such as cardiac catheterization and angiographic procedures, cardiac ultrasound studies and vascular duplex imaging. Dr. Dellegar enlisted the assistance of local technologists and the Naval Medical Center to revise the program, and over a two-year period the faculty was expanded to include staff from the clinical arena, and the curriculum was revised from a “Biomedical” orientation to a clinically based, Cardiovascular Technology program.

As one of the original accredited Cardiovascular Technology programs in the country, we are currently accredited for three specialties: Adult Echocardiography, Non-invasive Vascular Study, and Invasive Cardiovascular Technology. In 2014 we were awarded a ten-year reaccreditation from the Commission of Accreditation for Allied Health Education Programs (CAAHEP) for all three specialties and enjoy the privilege as the only accredited cardiovascular program for Invasive and Vascular in the state of California, and one of two accredited CVT programs for Adult Echocardiography in California. Being an accredited program assures our students have a seamless pathway for their national registry exams through American Registry for Diagnostic Medical Sonography (ARDMS) and Cardiovascular Credentialing International (CCI). Our next programmatic accreditation visit will be in 2023.

To enter the program, all students are placed on our waitlist (2-3 years) for the program once they complete the prerequisite courses with a grade of “C” or better in Chemistry (4 Units) and Human Anatomy and Physiology (8 Units). We encourage students to complete their GE requirements as they wait for program due to rigor of the full-time CVT program making additional courses difficult to carry during the program. A new cohort is seated to begin each fall semester with the target number at 40 students to fully maximize our clinical placement capability which includes all three specialties. The first year of the program contains curriculum composed of an 18-unit Core Curriculum in mathematics, physics, advanced cardiovascular anatomy, physiology and pathophysiology, medical electronics and instrumentation, cardiovascular pharmacology, and clinical practicum. Following completion of their first fall semester, students select one of three specialties in the scope of practice of Invasive Cardiovascular Technology, Adult Echocardiography or Non-invasive Vascular Technology. The first year of the program is composed of campus-based lectures and labs. The students enter their first clinical experience course in the summer. The second-year specialty training is composed of on-campus lectures and labs, and clinical experience in local hospitals. The students complete with an AS degree in Cardiovascular Technology.

The program utilizes Perkins funding to provide tutors during “open lab” times with either second year student tutors or graduate tutors. Students make good use of the ultrasound lab as they initially learn their new skills, and once they are placed clinically, they return to the lab to further their skills. This is the importance of keeping our equipment as up to date as possible so that our students are better prepared for the clinical setting as well as have the same machine to return to practice at school.

Equipment improvements in our Invasive track have encouraged those students to also use “open lab” time because of new simulation equipment that furthers the skills the Invasive CVT students learn on campus. And once these students enter the clinical environment, they return to campus to practice skills in a safe, non-rushed environment that the clinical setting often simply does not allow due to the nature of the work in the Cardiac Catheterization Lab.

Our graduates complete the program as “entry-level” technologists and when they secure full-time employment, they can expect a starting wage at \$75,000 or higher per year. Job placement varies per track, but overall, the classes of 2018, 2019, and 2020 combined have averaged 95% job placement.



The ECG/Telemetry Program resides within the CVTE department. This certificate program is independent of the CVT Program and is designed to support entry-level positions within healthcare systems such as an ECG Technician (one who performs 12-lead ECGs) and Telemetry Technicians (one who watches live ECG tracings of monitored hospital patients).

This program was on hiatus during the previous department program review. The program originated as a Regional Occupation Program (ROP) and was then moved to the college as a certificate program many years ago. It was felt that the program had not truly shifted from a ROP program to a “college-level” program and so the program was put on hold while the AHN Sr. Dean and the program coordinator updated the curriculum to prepare students for national registry credentialing exams through Cardiovascular Credentialing International (CCI). There is a credential for ECG Technicians, the Certified Cardiographic Technician (CCT), and one for Telemetry Technicians, the Certified Rhythm Analysis Technician (CRAT).

The hope was that the program could introduce graduates that now carried a credential making them more employable and slowly raising the expectation of the community to desire potential employees with such a credential and Certificate of Achievement. We have had much success with this program as demonstrated with nine of the students hired after completing the first half

of the program (ECG) this fall 2020 semester, and all continuing with the second half (Telemetry) as they begin their new jobs.

PURPOSE OF SECTION 1.2: To help the committee understand what the last program review recommendations were, and how your department addressed and implemented them.

- 1.2** Your last program review contains the most recent Academic Program Review Committee Recommendations for the program. Describe changes that have been made in the program in response to recommendations from the last review including any activity proposals funded and what the results were. (Be sure to use the committee recommendations and not your own). Include the recommendations from the last program review in this section.
1. Work with the faculty staffing committee to replace the full time Invasive track instructor. We hired the full-time Invasive track instructor, Chad Farmer. Both Chad and our Vascular track instructor, Daniel Rosen, have achieved tenure since our 2016 program review. We also had our Echo instructor, Helen Potter, retire in June 2017, and are currently using part-time instructors to teach the Adult Echocardiography courses while the program coordinator teaches overload in the core curriculum. The program needs to plan for a full-time Echo instructor and for a potential program coordinator as the coordinator plans to retire within four years.
 2. Continue to assess and revise course SLOs. Most current course SLOs are in need of revision both with outcomes and assessments. Chad Farmer is joining the program coordinator as co-SLO Liaisons. The intention was to present the SLO revision work at the annual summer CVT faculty retreat, but COVID cancelled that meeting and delayed that work.
 3. Continue to research and plan for a fourth track in Electrophysiology. Initial discussion with the CTE Dean to determine process occurred and statewide job data was obtained, but effort has been suspended due to workload of the program coordinator at this time, although this is still a goal for the program.
 4. Develop and deploy the new clinical assessment tool. An improved form was developed and is in its third year of use. The faculty plans to assess the improved tool at our 2021 summer faculty retreat. We are also looking into a system designed for health programs to support clinical records including evaluation tools. This system is paid for by the students and products like it are more commonly used by other allied health programs than “paper” systems (we currently use paper).
 5. Invite representatives from relevant counseling and student service areas (e.g. general counseling, DSPS, EOPS) to present at orientation. This has become standard practice and in spring 2019 we had our first interdisciplinary student orientation with Nursing, Respiratory Therapy, Orthopedic Technology and Cardiovascular Technology. The student services representatives were situated to interact with all allied health students on one date. We had planned to repeat in May 2020, but COVID interrupted that plan. The AHN division will most likely attempt to recreate the multi-program orientation day once we are all back on campus in spring 2022.

6. Continue to seek out opportunities for professional development in the areas of teaching and learning. All CVTE faculty are eager for opportunities for PD. Often there are options provided by the Regional Health Sector Director through HWI or other state-funded programs aimed at health program instructors. The faculty who continue to work clinically also must pursue CME/CEUs to maintain their registry credential.
7. Using the Course History Information Report, continue to submit curriculum modification proposals for those courses that have not been reviewed by the Curriculum Committee in more than four years or curriculum deletion forms for those courses that have not been offered in the last three years. The CVT curriculum has had updates for specific courses, but it is time for the entire curriculum to be updated and revised. The program coordinator is on the curriculum committee and has a strong understanding of the process and the necessity of curriculum review and revision. The program only offers one degree in “Cardiovascular Technology” while there are three different specialty tracks within the program. When a student returns to complete a second track, there is no offering of a second degree. The program is considering developing Certificates of Achievement for each track specialty so that returning students will have something on their transcript and to offer employers upon completion.
8. Use student-learning outcome data for continued course and program improvement. This will improve as SLOs are revised, but it is our department practice to continually improve course content, primarily driven by changes and improvements in clinical practice. The field of Cardiovascular Technology is a rapidly changing field due to technological advancements, changes in practice and new procedures developed. An annual report is required of the program to maintain programmatic accreditation with outcome reporting an essential part of that report. Outcomes reported include retention, registry exam participation and success, job placement, graduate and employer survey data. Any outcomes not meeting threshold require the program to document accountability and improvement within a year.

SECTION 2 - CURRICULUM DEVELOPMENT AND ACADEMIC STANDARDS

To answer these questions, refer to your department's catalog descriptions from the most recent college catalog (see "Courses of Instruction" section. This is the blue section).
If your program has an Associate Degree or Certificate program, refer to the relevant pages from the catalog (see "Associate Degree" section. This is the yellow section).

PURPOSE OF SECTION 2.1: To describe how curriculum is maintained and/or developed.

2.1a Describe how your course offerings have changed since the last program review. List added or deleted course and state why. Include new degrees and certificates.

The CVT Program has not had any changes in course offerings since the 2016 program review.

During the last program review the ECG/Telemetry Certificate Program was on hiatus. The ECG/Tele program was originally an ROP program that became a college program many years ago. It became apparent to the dean (Debbie Yaddow) and the program coordinator that the program needed to be revised. The program and courses kept their structure of units and lecture and lab hours, but the content was shifted to prepare the students for national registry credentials from Cardiovascular Credentialing International (CCI) for both the ECG courses and the Telemetry courses. Also, a prerequisite of BIOL 120 was added to better prepare the students for the revised content.

2.1b Explain how diversity, equity, and inclusion is infused in the curriculum. Please provide specific examples.

Due to the CVT Program being an allied health program as well as a very niche career path within healthcare, there are limited textbooks available making it difficult to search out diverse authors. Although, many medical authors are physicians, and cardiologists are quite diverse in their ethnicity as well as their country of residence.

CVTE 113 – Intro to Clinical Practicum II – may offer the best opportunity to introduce examples of inequality in healthcare tied to the ethics module. This course is designed to introduce the students to the clinical environment and includes modules tied to soft skills. We also look at patient interaction where cultural diversity is discussed as it ties into communication and cultural humility. All of this can be improved upon as the faculty gain better understanding.

The faculty attempt to be thoughtful when selecting pictures of patients, creating patient scenarios or case studies, and other opportunities to demonstrate diversity.

PURPOSE OF SECTION 2.2: To understand your practice for reviewing outlines. For example: under what circumstances do you submit a new course, a modified course, or a course update to the curriculum committee?

2.2a Faculty need to abide by Title 5 and ACCJC standards as directed by Ed Code to validate the content of courses and/or programs. Describe how your department reviews the courses (in relation to the program, if applicable) to ensure you are maintaining currency within your discipline?

As an accredited allied health program, we are obligated to meet the standards and guidelines set forth by the Joint Review Committee on Education in Cardiovascular Technology (JRC-CVT). We provide an annual report with data from student, graduate, employer, and program personnel surveys. We also have an annual Advisory Meeting where we solicit input from our local clinical sites/employers, grads, students, and the public.

We have begun the practice of an annual summer faculty retreat where curriculum is reviewed, and courses compared for content so that the students receive a “common” message from the faculty despite the different topics taught within the program. We strive for alignment as we build the cardiovascular foundational knowledge in the core curriculum of the program.

2.2b (Reference Program & Course Approval Handbook) Per the Board approval dates which outlines are out of date? Describe the plan and include the dates by which your department will submit to Curriculum Committee.

The majority of the CVT Curriculum is due for revision with May 2014 as the oldest date. The curriculum committee will be implementing a process to get all curriculum on campus updated. They are allowing a two-year grace period for all departments to revise their curriculum. Ideally this work for the CVT department will be completed in the 2021-2022 academic year. It would include revising all of the CVT courses, revision of the course SLOs, and the addition of Certificate of Achievements for each specialty track.

The curriculum of the ECG/Tele program was board approved in May 2017. These four courses will be due for updates in the 2022-2023 academic year.

PURPOSE OF SECTION 2.3: Explain how you incorporate new material in your courses on a semester-to-semester basis to maintain relevance and address current issues related to your discipline within the existing course outline.

2.3 How does your department use student engagement strategies in the classroom? How are your faculty including current issues in course content? Consider environmental, societal, ethical, political, technological, and/or other issues when answering this question. Please provide specific examples of all of the engagement strategies utilized.

Much of the CVT Program is hands-on learning and skills-building, an innate learning process for most students. Also, the clinical courses where the students are placed in clinical assignments at local hospitals and clinics, also provide a highly engaging learning process. When it comes to lecture courses, all the faculty have different teaching styles. Some of the engagement strategies are:

- Flipped classroom
- Videos of lecture material and lab hands-on techniques for students to reference
- Case studies – developing scenarios (critical thinking)
- Case review – real world cardiovascular exams/images (interpretation/applying knowledge)

- Group activities – Zoom breakout rooms, in-classroom such as building vascular models from pipe-cleaners, illustrating different concepts using multiple drawing stations around the room, games/activities designed to enhance understanding of complex concepts and spatial relationships within cardiovascular anatomy, role-playing and experiential learning activities
- Student presentations with intentional peer involvement

Annual input from our Advisory group, including utilizing our medical directors (one for each track specialty), and clinical professional development of our instructors keeps the program apprised of new clinical practices and technologies.

PURPOSE OF SECTION 2.4: To describe what the department does to maintain consistently high academic standards amongst its faculty.

2.4. What orientation do you give to new faculty (both full- and part-time), and how do you maintain dialogue within your department about curriculum and assessment? What strategies do you have in-place that ensure consistency in grading in multiple sections and across semesters (e.g., mastery level assessment, writing rubrics, and departmental determination of core areas which must be taught)? Consider department practices, academic standards, and curricular expectations (SLOs and teaching to course outlines)?

As a small department we maintain consistent communication. We have multiple faculty meetings per semester, usually to keep us all on the same page or when the coordinator has important college business/information to share and/or receive input and feedback. We literally pass by each other daily due to the proximity of our offices and classrooms (when on campus).

We rarely have new full-time faculty and most of our part-time faculty instruct labs off campus. There is not a regimented orientation process for the department, but all the faculty of the AHN division are a close-knit group and very supportive. In the past new faculty participated in a college new faculty orientation and then found support within the division for any questions.

With a cohorted program, the faculty consistently check in with each other about the students, how they are performing in our courses, and our impressions of any students who may need student services referrals. While we do not have multiple sections, we do compare the overall performance of the students within the different semesters of the program.

As an accredited program, the standards help define the competencies tied the PSLOs, and likewise the course SLOs should tie into the PSLOs. These standards and guidelines have defined the CVT Program since its inception. While some competencies never really change, and others change dramatically with technological advancements, overall, the students ultimately must meet competency as an “entry-level” technologist. The students are assessed continually throughout the program so that anyone not meeting competency can have the opportunity to improve.

PURPOSE OF SECTION 2.5: To gauge the overall patterns of student success, retention, and grade distributions across the course offerings in your department. Here the committee is looking for explanation on unusually generous or rigorous grading patterns.

2.5 Referring to the Grade Distribution Summary graphs (see Appendix 1), comment on how your department patterns relate to the college, division and statewide patterns. For course-by-course graphs, provide an explanation for any courses with different grade/success patterns than others. This may relate to major’s courses vs GE, first-year vs second-year or basic skills vs transfer. Please describe how the department handles any unusual grading patterns. If you have any information that allows calibration of your grading data to external standards (performance of your students on standardized tests or licensing exams, transfer and/or employment success) please provide those to us and explain the connection. [The Program Review Data Liaison can help you with this section and will be providing you with all required data.]

The majority of our students achieve a grade of “A” or “B” in our courses. We define a “C” grade as 75-79%, all grades below 75% are graded as “F.” (Note: if students fail, we usually allow for reentry to the program following a discussion about what could be different to promote success during the second attempt.) Similar to other allied health programs, it is essential that the students achieve a passing grade demonstrating competency in both lab and lecture due to safety and welfare of patients.

Almost all of the CVT courses have a single section. Two courses in the first semester have three sections due to three lab times. There is only one instructor for each course. There isn’t a local or state program to compare the CVT courses with any equivalency due to the unique structure of individual programs.

To become employable, the students must pass a registry exam, credentialing them in their respective specialties. Local employers prefer the echo and vascular students attain their credential from ARDMS (American Registry of Diagnostic Medical Sonography) while the invasive students attain their credential from CCI (Cardiovascular Credentialing International).

An accredited standard for reported outcomes is participation and success (threshold >60%) with registry exams. Because we are an accredited program the students have a smooth pathway to the exams and can take them during the spring semester before graduation if they prefer. (ARDMS is limited to 60 days before graduation.) Our program consistently scores well in these categories.

<https://www.grossmont.edu/academics/programs/cvt/program-outcomes.php>

Registry Pass Rates past 3 years:

CVT Track	Credential	2020 Cohort	2019 Cohort	2018 Cohort
Echo	RDMS	100% 9/9	100% 12/12	100% 12/12

Invasive	RCIS	100% 8/8	100% 12/12	75% 3/4
Vascular	RVT	100% 11/11	100% 7/7	100% 13/13

Job Placement (threshold >70%) last three years:

CVT Track	2020 Cohort	2019 Cohort	2018 Cohort
Echo	100% 9/9	92% 12/13	100% 12/12
Invasive	80% 8/10	100% 13/13	100% 8/8
Vascular	75% 9/12	86% 6/7	100% 13/13



Two 2019 grads hired into a Cath Lab at Sacramento at \$55/hour. On the right is Carl Fielden's son!

PURPOSE OF SECTION 2.6: To evaluate the department's success with course delivery methods in online vs. hybrid vs. face-to-face platforms.

- 2.6** If applicable, provide a comparison of the retention and success rates of distance education (online) sections (including hybrid) and face-to-face sections. What are your department policies on course delivery method? Is there anything in the data that would prompt your department to make changes? (Required data will be provided by the Program Review Data Liaison – insert graph here).

Traditionally we do not offer DE or hybrid courses. Like everyone we had to shift to ERT format for lecture courses during COVID. Our lab classes continued on campus during this time.

We had two students from the 2022 cohort self-withdraw citing online instruction didn't work for them. (They will be reinvited to the program.) Other statements from the students of this cohort included the difficulty in creating a "community" we normally see for a cohorted program due to the lack of face-to-face interaction with their peers. This group will be on campus for their summer pharmacology course SU2021, and many will be meeting their classmates face-to-face for the first time in a year.

- 2.7** If applicable, include the list of courses that have been formally articulated with high schools. Describe any articulation and/or curricular collaboration efforts with K-12 schools. (Contact the Dean of CTE if you have questions).

Not applicable.

PURPOSE OF SECTION 2.8: The committee wants to gauge if students are able to transfer successfully to four-year universities via your articulation agreements.

- 2.8** Please describe how the program ensures that articulations are current. Identify any areas concern or additional needs that your department has about articulation with four-year institutions.

The completion of the AS in Cardiovascular Technology is a terminal degree. Bachelor's programs in ultrasound do exist in the country but are not often pursued by our graduates and a BS degree is not required to work in this field.

From the articulation officer:

In response to your request for articulation information, in Cardiovascular Technology, all courses are transferable to the California State University. Any student who successfully completes these courses, can use the units as elective credit. Due to the nature of Cardiovascular Technology, there are no current course-to-course articulation with CSUs or UCs. Consequently, the courses in CVT are satisfactorily articulated.

SECTION 3 – STUDENT LEARNING OUTCOMES (SLOs)

The SLO Cycle is summarized in figure 1 below.

Figure 1
SLO CYCLE



PURPOSE OF SECTION 3: To show how SLO assessments are used to improve teaching strategies, develop curriculum, modify and/or update curriculum, and guide program planning.

3.1 Over the course of the last Program Review cycle, how has your department used the results of course level (referred to as SLOs or CSLOs) and Program level (PSLOs) learning outcomes assessments? Please respond to both prompts below.

3.1a: How have you used the results of CSLO assessments to inform adjustments in courses? How have you assessed (or how will you assess) the success of these adjustments?

The current state of our CSLOs is that the current faculty/program coordinator inherited CSLOs that are unreasonable and poorly written. They are in dire need of revision. The department understands the goal of CSLOs and the importance of having CSLOs that are meaningful and informative with their assessment to inform the faculty.

The state of our CSLOs does not mean we have not been assessing the quality of our content, the methods of delivery, and the assessment of learning. As a competency-based program, we have multiple assessments throughout the program to evaluate student success. We review examination results thoughtfully, self-reflecting on our

responsibility as instructors to lead our CVT students to our PSLO of being an “entry-level” technologist as well as being prepared to pass their registry exams.

The CVT faculty are in continuous conversations about our teaching methods, exam results, and feedback to each other. The program director acknowledges the differences between the track specialties yet attempts to maintain a consistent tone over the entire program as it pertains to teaching and learning as well as student outcomes.

The department acknowledges the need for CSLO revision and looks forward to creating CSLOs that will inform course improvement differently than the existing competency-based outcomes tied to each course.

3.1b: How have you used the results of PSLO assessments to inform adjustments to degree and/or certificate programs? How have you assessed (or how will you assess) the success of these adjustments?

PSLOs are tied to the program’s accreditation standards. It is required to report our outcomes annually. (See data tables in section 2.5 above.) Consequences of not meeting accreditation standards include ultimately losing programmatic accreditation, so accountability of meeting these standards is essential to the program’s success.

3.2 What general trends or patterns do you see as you review your department’s analysis of its SLO and PSLO assessments since your last program review? (NOTE: You may want to provide a synthesis of responses to question 3.3 in your Annual Unit Plans.)

Without true CSLO data to refer to, we will comment on a few examples of changes made due to our regular assessment methods for our curriculum, using the example tool provided.

Changes to the Assessment Plan	<ul style="list-style-type: none"> ▪ revision of performance rubrics throughout the program to contain patient communication assessment ▪ revision in CVTE 101 and 111 to include more frequent, lower-stakes exams/quizzes ▪ revision of exam questions to focus on problem-solving and critical-thinking – especially in the core curriculum
Changes to the Curriculum	<ul style="list-style-type: none"> ▪ changes in teaching techniques in response to ERT format
Changes to the Academic Process	<ul style="list-style-type: none"> ▪ improvements in technology including a cloud-based repository of echo images used for assignments ▪ changes in faculty staffing to include a part-time teaching duo in place of the full-time echo instructor

- 3.3 What implications do these results have for your curriculum, both at the course and program level? What support (time, professional development, curriculum approval process, etc.) will you need in order to respond to these implications

The demands of the cardiovascular community and our Advisory group keep the program on task for updated technological and procedural content. The hope of the redesign of our CSLOs would not only include skills tied to competencies within the program but would help identify what might be improved in the teaching and learning cycle for students.

The part-time echo instructors (Lisa Vargas and Dan Dyar) have brought a fresh perspective to the echo track and they have implemented many new practices which have enhanced the echo curriculum. They both received teaching excellence awards spring 2020 recognizing their innovative work. They were also supported with special project stipends to assist with the long hours of curriculum revision.

- 3.4 What changes has your department made to its SLO and PSLO assessment cycles (aka the 6-year plan) (e.g., changes in timing of assessments to accommodate curricular changes, addition/deletion/revision of SLOs/PSLOs, intentional delay or acceleration of the collection of assessment results, etc.)? (NOTE: these changes may be documented in section 3 of your Annual Unit Plans.)

We have created an assessment plan/cycle as requested by the SLO coordinator, but we have not adjusted the SLO assessment cycle for specific reasons. It is understood that assessing a course out of cycle might be necessary and appropriate for varied reasons.

- 3.5 Based on your answers to questions 3.1 – 3.4 above, what assessment cycle will your department follow to ensure that results of its SLOs and PSLOs are collected and available for use in planning? (Note: Grossmont's Outcomes Assessment Team strongly recommends collecting course outcomes data in the first semester the course is offered, or after a change is made, in order to have baseline data.)

We will follow our current cycle unless we need to vary due to new CSLOs or targeting a specific course for any reason.

- 3.6 What do the results of your SLO work tell you about the progress you made toward your program goals? How will they inform your goals moving forward?

Our current CSLOs do not assist beyond our established competencies tied to our courses based on accreditation standards which are demonstrated by students successfully passing the courses. What the CSLOs could do is assist with assessment of learning beyond the competencies and skills already assessed within the course. These revisions could possibly be aimed at measuring critical-thinking and problem-solving.

SECTION 4 - FACILITIES AND SCHEDULING

PURPOSE OF SECTION 4.1 – 4.4: To determine how departments utilize various campus services and the impact on student access (consider facilities, scheduling, campus resources and technology).

- 4.1 List the type of facility spaces your department/program utilizes for instruction. This can include on-campus, off-campus, and virtual.

In June 2012, the Cardiovascular Program moved to a 52,000 square foot state-of-the-art Health and Science Complex, building 34. This building contains several classrooms and labs specifically designed for both the invasive and non-invasive CVT students. There are echocardiography, vascular, cardiac catheterization and electrocardiogram labs. Laboratory classroom equipment includes EKG machines, a treadmill, hemodynamic monitoring equipment, computerized simulation for echocardiography, and a specialized lab holds nine ultrasound machines.

Our students also have clinical lab courses off campus at multiple hospitals and clinics around the San Diego area as well as a few outside San Diego such as Cedars-Sinai Hospital in Hollywood, CA. It is the limited clinical spots that define the size of the CVT Program. Generally, we have 16 spots for echo, and 12 each for Invasive and Vascular. The community has responded by adding spots when requested as well as having to limit spots due to operational reasons on occasion. The program could potentially expand with more clinical sites, but even at the numbers we have, we are one of the larger CVT Programs in the country.

Also at this point, we do not compete with any other CVT programs for clinical placements. We have just received information that a private ultrasound school in Los Angeles is planning to expand to San Diego. They have been actively recruiting faculty within the community. Depending upon the community response for additional student placements from this private school, our program capacity may be affected.

- 4.2 Are the spaces listed in 4.1 adequate to meet the program's educational objectives?
Yes No

- o If you checked 'yes', please explain how your department/program utilizes facility space so your department can meet its educational objectives. Please provide an explanation of specific facility requirements of your program, and how those requirements are being met.

The classrooms and labs designed for building 34 meet the needs of the CVT Program as well as the ECG/Telemetry Certificate Program. Having been one of the few departments allowed to remain on campus during the pandemic, we have stretched our needs to other classrooms within the building, successfully able to accommodate social distancing during lab activities.

- o If you checked 'no', please explain how your department/program is not meeting its facility space needs to adequately meet its educational objectives. Please provide an explanation of specific facility requirements of your program, and how those

requirements are not being met.

- 4.3 What proactive steps have you taken with regards to facility and scheduling to improve the ability of your department to meet the educational objectives of your program and ensure that students can complete their program in a timely manner?

This has only become necessary during the pandemic in order to run our labs with social distancing parameters in place. Normally, our courses are scheduled in the classrooms designed for the program in building 34.

- 4.4 Identify and explain additional needed technological and equipment resources that could further enhance student learning in these spaces.

The CVT Program has been fortunate with grant money and Perkins funding to support the purchase of equipment as needed. The program is highly dependent on technology and to meet the needs of the students, we must maintain current equipment such as ECG recorders and ultrasound systems. Simulation in allied health programs is also a rapidly expanding aspect to many programs. Some equipment is shared among the different allied health and nursing programs within the division as well as spaces such as the “ICU” classroom for nursing.

Future needs of the program will include updating ultrasound systems, with our current focus on attaining a system with 3D scanning capability. As the technology advances within the clinical setting, the program must attempt to offer similar equipment on campus for the students to attain the skills they will need at clinical and upon graduation.

PURPOSE OF SECTION 4.5: To have departments determine, based on their review of waitlist data and student feedback, if their program could serve more students if it had more facility resources available and/or used them differently.

- 4.5 Are students trying to access your program impacted by the facility spaces listed in 4.1?
Yes_X_and_No_X__

- o If you checked ‘yes’, please explain how students are being negatively impacted by unmet facility needs experienced in your department/program. Please provide some specific examples.

The CVT Program utilizes a wait list. In the past, the program had a 1-2 year wait, but in the last few years, the waitlist has increased to 2-3 years. The limitation to the number of students admitted yearly to the program is defined by the number of our clinical sites. The program is maximally utilizing all clinical sites for CVT students locally at this time. When local healthcare systems expand and build new facilities, we are sometimes able to increase our clinical spots.

- o If you checked ‘no’, please explain how your department/program is actively managing its facility space needs to meet its educational objectives and provide student access to your program. Please provide some specific examples.

At present our on-campus facilities meet the needs of the program. The classrooms

and lab spaces were designed well, including a lab dedicated to our ultrasound systems known as the “scan lab.” The classroom designed for the echo students provides space for the treadmill and gurneys for practicing skills. Classroom design in the “Cath Lab” classroom (invasive students) has a space mimicking the Cath Lab procedure and control rooms.

- 4.6 If applicable, please include any additional information you feel is important regarding facilities and scheduling that was not included above including non-classroom spaces such as offices, storage, preparation areas, and open workspaces for students/tutoring, etc.

The upstairs lobby of building 34 has been slowly changed from a social gathering area with soft (and horribly stained) furniture, to a study area for the multiple health programs at the college, with the purchase of tables and chairs. When the campus is normally populated, this space is always filled with AHN students. There is also a computer lab attached to this space, which is used not only during free time, but for AHN classes as well including CVT courses for exams.

SECTION 5 – STUDENT EQUITY AND SUCCESS

PURPOSE OF SECTION 5:

- To determine if student enrollment in your program is robust and if students are enrolling in your program in equal representation to the general Grossmont student population.
- To have the department examine student success and retention overall for your department and disaggregated by ethnicity, age, gender.
- To have departments explain what they have done to improve success for all students while maintaining academic rigor.

NOTE: See Appendix 2 for enrollment data; Appendix 3 for student success data.

- 5.1 What are the identifiable patterns with regards to overall trends in enrollments in your department? Explain what is causing these trends (e.g. campus conditions, department practices). Once you have identified and explained your enrollment patterns, then address what your department has done/is doing to address identified issues. Examples of any changes you made to manage enrollment are encouraged.

The enrollment in the CVT Program is consistent. We have a wait list sorted by application date and usually have anywhere between 120 to 175 students on the wait list. We invite 50 students each fall. With a consistent attrition rate of 9-20%, each cohort will renumber close to 40 students, our maximum clinical placement number, by summer session.

In addition, you should examine your enrollment data, disaggregated by gender, age and ethnicity. For any of these student groups in your department with enrollment data at lower or higher proportions than college-wide numbers, describe what factors you think is causing these patterns [Data and a summary of notable patterns will be provided by the Program Review Data Liaison].

Our disaggregated data compared to the college data is different for gender, age and ethnicity.

The program is predominantly white, followed by Hispanic/Latino, whereas the college has a greater Hispanic/Latino population than white. Gender is close, but for the last three fall semesters the CVT Program has a ratio of two females to one male, while the college is closer in gender. Finally, our program has an older student population with most of the students falling consistently in the 25-29, 30-39, 40+ range compared to the majority of students at Grossmont are under 25 years of age.

Most of our students are adult reentry and career changers which would explain the older student population. The field of Cardiovascular Technology has never been gender dominant, unlike the field of nursing where men are the minority. It is difficult to address the demographic of ethnicity. The program is accessible for anyone who has a grade of "C" or better in anatomy, physiology and chemistry. Is the barrier with the prerequisite courses? Is the barrier with the prerequisite courses to A&P? Or is there some sort of systemic belief system that inhibits some ethnic groups from pursuing STEM or intuitive interest in science in general?

While some see healthcare jobs as a great way to have a well-paying, in demand occupation, many students find themselves in the CVT Program due to an inherent interest in the human body and especially the cardiovascular system. Students surveyed at the CVT Program Preview meetings have often found out about the program due to a personal experience for themselves or a family member with a diagnostic cardiovascular exam such as an echocardiogram. The CVT students often maintain great enthusiasm with what they are learning, frequently sharing their excitement as concepts and practices bring moments of discovery and understanding.

- 5.2** Discuss trends in student success and retention overall in your department and explain these trends (e.g. campus conditions, department practices). Also examine the success and retention data disaggregated by gender, age and ethnicity. For any groups that have success rates in your department at lower or higher than college-wide describe what factors you think cause those patterns. Provide examples of any changes you made to improve student success/retention, especially for groups that have equity gaps. [Data and a summary of notable patterns will be provided by the Program Review Data Liaison]

The CVT Program is consistent with success and retention. Our data values exceed the college averages. This is explained by our students wanting to be in this program. They work hard to succeed with the program prerequisite courses, then they wait 2-3 years to begin the program. They are advised to be prepared with the time demand a full-time allied health program will have on their lives. They are often career changers, adults well versed in working hard and managing their time. All this contributes to their success.

The faculty also have the students' success as their goal. The department has practices where any student who fails an exam must speak with that instructor and work together to look at how the student might improve. When we see students struggling, we attempt to get them to support services if their issues go beyond academic coaching.

Disaggregated data for the program on success and retention for age demonstrates that very young or older students (50+) will find the program difficult the first fall semester. These students are usually very small in number, with the younger students lacking a level of maturity needed for the profession and the rigor of the courses. Whereas the older students find the

pace and rigor of the program challenging as well as current technology used in education. There have been a few older students who have stated something like, “I just can’t keep up with these younger students.”

For the other groups demonstrating a slightly higher rate of lack of success, it would be interesting to see further data about single parents, those working full-time, or those who are the head of the household. Anecdotally, these are the students who struggle the most with adding a full-time program onto their already full lives.

One note on the summer of 2016. 33% of the CVT cohort failed the pharmacology course. We felt it was tied to the instructor and those students repeated the course with a different instructor the next fall semester (successfully passing) so that they would all complete the program on time. We changed the instructor from that point forward.

5.3 Describe specific examples of departmental or individual efforts, including instructional innovations and/or special projects, aimed at encouraging students to become actively engaged in the learning process in their classes.

Essentially half of the program is hands-on learning. There are two classes the first semester with labs where students learn to perform cardiovascular diagnostic tests including 12-lead ECG, taking a non-invasive blood pressure, performing ultrasound exams on carotid arteries and the heart. They also learn about sterile fields and how to gown and glove in a sterile fashion. There is a basic electronics lab too!

Other examples of classroom activities include:

- Students forming a circle to demonstrate electrical conduction
- Students moving through the heart chambers, systemic and pulmonary circulations as a red blood cell, dropping off oxygen at an organ and picking up carbon dioxide.
- Using Hula-Hoops and pool noodles as a group to gain 3D perspective of structures in the right atrium
- Presentation paper pasted around the classroom for various activities drawing heart anatomy, hemodynamic waveforms, choosing cardiovascular diagnostic tests based on a patient scenario
- Using pipe cleaners to construct portions of venous and arterial vascular anatomy
- Relay races for best time with scanning exercises (vascular)
- Competing for best times with manifold setup (invasive)
- Bingo and Jeopardy games, as well as Kahoot and Quizlet

The second year of the program, there is extensive lab time on campus with skills-building as well as off-campus labs. The students are also in clinical two days a week. These students are committed to learning and are focused. They have dedicated their time to learning a new skill and most take advantage of open lab times on campus to practice.

5.4 Explain how the program incorporates opportunities for student engagement outside of class time and/or in collaboration with other departments (e.g. interdisciplinary course offerings, learning communities, internships, research projects, service learning, or participation in community events, tournaments, competitions, and fairs) to enhance student learning.

The students primarily receive their outside class engagement through clinical lab days. There are some interdisciplinary activities between CVT and Respiratory Therapy, and in the past with Nursing. The big event for our students is our annual Interprofessional Education event commonly referred to as “Hospital Day.”

This event is coordinated with five of the AHN programs, Nursing, Respiratory Therapy, Occupational Therapy Assisting, Orthopedic Technology and Cardiovascular Technology. This day involves over 125 students from all the programs and the students are placed into interdisciplinary groups. Each group demonstrates their skills to the others, there are team-building activities, and then there is a group simulation with a patient requiring all of the students’ care.



The event is very successful. Pre and post surveys have been collected so that we have a few years of data. Students learn so much from this event and we hope that it will promote interprofessional work value as they become employed.

This led to our first interdisciplinary new student orientation day. COVID disrupted what would have been our second effort but once we are all back on campus, this event will continue.

The ECG/Telemetry program also utilizes clinical time. In the past, the instructor has coordinated students to work with the Eric Paredes Save a Life Foundation which provides events at local high schools to screen students for cardiovascular risk for sudden death. Once these screenings begin again post pandemic, we hope to involve the students.



Students at Eric Paredes Save a Life event

5.5 If state or federal licensing/registration examinations govern the program, please provide data and comment on student success trends.

Registry Pass Rates:

CVT Track	Credential	2020 Cohort	2019 Cohort	2018 Cohort
Echo	RDSCS	100% 10/10	100% 11/11	100% 12/12
Invasive	RCIS	100% 9/9	100% 11/11	75% 3/4
Vascular	RVT	100% 11/11	100% 7/7	100% 12/12

The CVT program has consistently had outstanding pass rates for the registry exams for all three disciplines. In the past, participation of the Invasive students was below threshold, but the instructor Chad Farmer has created a huge turnaround in participation. Kudos to Chad!

We have not been tracking the ECG/Tele students credentialing success yet but hope to begin doing so soon.

5.6 If your program offers a degree or certificate in the college catalog, explain the trends regarding number of students who earn these degrees and/or certificates, including any changes that you have made to increase awards. Insert the “Degrees and Certificates” data table in this section.

[This data table will be provided to you by the Program Review Data Research Liaison.]

Our programmatic accreditation standards dictate the students must complete with an AS degree because our program is situated in a college. Therefore, all students who enter the CVT Program and complete earn an AS degree. We have multiple points where we confirm the GE status of our students including placement on the wait list, orientation before beginning the program and a mandatory visit to counseling during their first semester of the program.

Department	Award		14/15	15/16	16/17	17/18	18/19	19/20	Total
Cardiovascular Technology	Cardiovascular Technology	AS	27	36	28	35	34	29	189
	Telemetry/ECG Technician	COA	26	0	0	11	12	17	66
Nursing	Nursing	AS	67	61	58	67	66	36	355
Occupational Therapy Assistant	Occupational Therapy Assistant	AS	22	19	21	21	20	22	125
Orthopedic Technology	Orthopedic Technology	AS	12	6	7	15	9	8	57
	Orthopedic Technology	COA	17	17	7	18	15	11	85
Respiratory Therapy	Respiratory Therapy	AS	22	27	15	22	19	28	133
	Anesthesia Technology	COA	0	0	0	0	0	0	0
AHN Division Totals	Associates		150	149	129	160	148		736
	Certificates		43	17	7	29	27		123
College Totals	Associates		1865	1972	2214	2609	2761		11421
	Certificates		1269	1198	1362	1492	1605		6926

Not all the ECG students opt to continue into the second semester of Telemetry courses, and they must complete all 12 units to receive the COA. We encourage them all to apply. (Note two years with zero COAs was during program hiatus.)

- 5.7 If you have any information on what students who major in your department go on to achieve after they leave Grossmont, please share that with us. For example, where do they transfer and do they graduate on time? What careers do they pursue? What are starting salaries in the field? Do you know if they go on to employment in their field and professional success? What impact did Grossmont have on their lives?

The program is required by accreditation to track job status post-graduation. We also are required to survey our graduates and their employers 6 months – 1 year post graduation.

Job Placement (threshold >70%):

CVT Track	2020 Cohort	2019 Cohort	2018 Cohort
Echo	100% 10/10	100% 12/12	100% 12/12
Invasive	100% 9/9	100% 12/12	100% 8/8
Vascular	73% 8/11	86% 6/7	100% 12/12

We often tell students that this program will change their lives. We can say this because all the faculty are graduates of the program and have experienced this for themselves. The program for residents costs around \$5000, and for non-residents around \$15,000. Most private ultrasound programs cost begin around \$40,000. Students hired into full-time jobs will begin at around \$75,000 per year, and potentially more if they are on-call outside their 40-hour work week. They could potentially pay of the cost of the program with one or two paychecks.

The CVT Program is an example of a community college CTE program where graduates with an associate degree will earn more than others with a master's degree in another field. CVT

graduates are setting themselves up with a career that can last their entire working lives.

We have a few students who apply to the CVT program after completing the ECG/Tele program. Often students waiting for the CVT Program will take the ECG/Tele program during that time. ECG and Telemetry jobs offer valuable experience for the CVT student as well.



These 2017 grads pictured with instructor Chad Farmer are currently working in Sacramento and South Dakota.

SECTION 6 - STUDENT SUPPORT AND CAMPUS RESOURCES

PURPOSE OF SECTION 6: To determine how departments utilize various campus services.

- 6.1 Are the college's student support services (Tutoring, Counseling, Health Center, Library, Financial Aid) adequate to meet your student's needs? Please elaborate on your answer.

Yes. Every year the students in their second year of the program complete a "Resource" Survey (Appendix 5) that is a survey provided by our accreditation group (JRC-CVT). There are questions about the program/college providing sufficient services and most years there are 1-2 responses about dissatisfaction with financial aid. Many of the CVT students receive some sort of financial aid, so the few students claiming dissatisfaction do not raise any concerns.

Students often come to the program coordinator with issues ranging from their courses to personal issues. The program coordinator has referred students to many of the student services offered including the mental health counseling and the retention specialists. We have had good feedback about mental health counseling at Grossmont.

Students are also introduced to the guide for student services at orientation and once again when classes begin. Now there is a tab in Canvas for all course with links to student services.

- 6.2 What services do students in your department/program use most often or that make the most difference? Can you provide any examples where services have clearly improved student retention and success?

We're not always aware of students utilizing student services such as Cal Works or EOPS but will on occasion find out the students are receiving help. Any support students receive will help with student retention and success unless their life challenges are too extreme to be patched up here and there.

Veteran students are identified on the class roster, and often they will alert the program coordinator of any needs they may have due to a system often requiring documentation from the coordinator.

- 6.3 Are college support services adequately supporting your faculty and staff? Consider the following support services: IT, Instructional Operations, Business Services, Printing, Bookstore, Maintenance, CAPS, and any other support services important to your faculty and staff.

Yes. A great example is that recently a collaboration occurred between our faculty, the health professions techs and IT. The students in the ultrasound lab had to save studies onto a disc and then download the info from the disc to an image storage system. This process took a long time, even over an hour for the upload of data which held up ten students needing to upload their images for an assignment. A solution was found by connecting the ultrasound machines into the server using hard wire (ethernet) already existing due to construction of the room planning for that. IT helped to identify and set up the connections to our local server which in turn loaded the images to the image storage system in a matter of seconds. In other words, as the students saved the images on the machines, the images would immediately load

into the image storage system.

IT was also instrumental with the original set up of the image storage system (a valuable software system donated to the program).

SECTION 7 – ON-CAMPUS/OFF-CAMPUS INVOLVEMENT

PURPOSE OF SECTION 7: *The purpose of this section is for your department to showcase the most meaningful outreach, engagement and retention work that you do, both on and off campus. We are interested in learning what the faculty and staff in your department do maintain/enhance their status as professionals in their field and as instructors, how you represent the college in the community/region, interact with other departments around campus, serve the college and your students, and participate in campus life.*

Examples of activities to include:

OFF CAMPUS

- **Marketing:** Flyers, brochures, booths, radio
- **Discipline Specific activities:** Conferences, Clubs/Organizations, Department Events, Licensing Meetings, Technical Reviews/peer reviewing manuscripts/textbooks and other discipline-specific volunteer activities, regional and state task forces
- **Community Involvement:** Advisory committees, serving in regional groups, K-12 outreach, Job Fairs, other college-related but not discipline-specific activities
- **Professional Development:** Attendance, creation/presentation, grants, sabbaticals

ON CAMPUS

- **Marketing:** Flyers, brochures, booths, Summit newspaper
- **Campus Volunteerism:** Involvement in college and other department's activities (campus open houses, science fair, water project, helping as a theater usher or at a sports team event)
- **Interdisciplinary Collaboration:** Collaborating on shared events, cross-listed courses, working with campus student services, linked courses (sharing of expertise/resources between departments to benefit student success, such as guest lectures, shared lab activities, simulation or other special events)
- **Professional Development:** Workshop Attendance, creation/presentation of professional development activities, grant-writing and sabbatical projects

Table two on the next page shows how you should organize your activity data. Complete this table with your commentary.

If you need assistance in creating a table, please contact the Program Review Chair. If you are using word, simply select 'insert' from the main menu, then table, and then select the number of columns and rows you want for your table.

TABLE TWO: SUGGESTED TABLE FORMAT

7.1

Faculty	Activity/Committee	Year(s)	Value to Students
Daniel Rosen	Academic Senator	2021	
	Academic Rank Committee	Since 2019	

	Distinguished Faculty Award Committee	2021	
	Works clinically at Scripps	all years	Brings current clinical practices into the classroom
	Community Carotid Artery screening – Grossmont Hospital	2017, 2018	Students screen community members
	Interdisciplinary AHN event “Hospital Day”	Since 2017	Great experience in experiential learning
	Sharp Vascular Conference	2019	Current practices and research
Chad Farmer	Faculty Professional Development Committee	Since 2019	
	Works clinically with Scripps	All years	Brings current clinical practices into the classroom
	Interdisciplinary AHN event “Hospital Day”	Since 2017	Great experience in experiential learning
	Scripps Cardiovascular Interventions Conference	annually	Exceptional clinical conference attended nationally. The MD director invites our invasive students free of charge.
Liz Barrow	Academic Senate Officer	Since 2017	
	ADSOC (Admin + SOC)	Since 2017	
	Curriculum Committee	Since 2018	Part of the team reviewing course content
	Facilities Committee	Until 2018	A consistent student focus
	OER/ZTC Workgroup	Since 2019	Equity issue for students
	Enrollment Strategies Committee	Since 2019	Potential retention practices
	Council of Chairs & Coordinators	Since 2012	
	Faculty Staffing Prioritization Committee	Since 2019	
	Planning & Resources Council	Until 2018	
	Interdisciplinary AHN	Since	Great experience in

	event "Hospital Day"	2017	experiential learning
	Outreach – campus events in main quad	Since 2012	Opportunity to showcase the CVT program
	Outreach – Program Preview Meetings	Since 2012	Informative meeting for students interested in the program – held monthly
	Outreach – Southwestern HS Allied Health event	Three events	This HS has an allied health emphasis area of study. Great outreach to HS student who already have an interest in healthcare
	Lasana Hotep Series	2021	Current example of PD with take-aways on equity practices including syllabus reflection/revision

7.2 Please provide an overall reflection on your department’s activity displayed in your table.

Off Campus:

Discipline specific activities: With the exception of the program coordinator, all CVT faculty, both full-time and part-time work clinically in their field of expertise. Chad works in both the Electrophysiology Lab and the Cardiac Cath Lab at Scripps in La Jolla. Daniel continues to work at Scripps Green Vascular Lab, where he worked full-time before accepting his teaching position. All the part-time faculty work locally including Kaiser, Scripps, Sharp Grossmont, Rady’s, and Navy hospital.

Professional Development: Clinical conferences are common for faculty to achieve educational credits to support their credentials. The CVT department supports the cost of conferences for faculty who request it. A current example would be the ASE Scientific Sessions in June 2021 where our two echo instructors, Dan Dyar and Lisa Vargas, have been approved for registration fees.

Community involvement: The program coordinator has been invited to multiple annual events held at Southwestern HS where they have an allied health pathway for their students. The students are well-prepared for questions and have a true focus on becoming allied health students in college. Daniel Rosen had renewed a past relationship with Sharp Grossmont Senior Community Services where local residents are invited for a free carotid artery screening as part of a stroke assessment offered by Sharp Grossmont. Daniel brings his students to perform the exams using the vascular lab at Sharp Grossmont Hospital. Regina Garcia White, our ECG/Tele instructor has coordinated the students with the Eric Paredes Save a Life Foundation to assist with ECGs to screen high school students for cardiovascular disease/risk.

On Campus:

Marketing: The program coordinator, sometimes with student volunteers, will participate in activities in the main quad such as the career fair and the health fair. CVT swag is always offered!



Tate Hurvitz getting a carotid artery screening at 2017 Health Fair. Student Ty took a job in Virginia after graduating in 2017, and now works at Sharp Memorial Hospital.

Interdisciplinary collaboration: The “Hospital Day” event within the AHN division takes an incredible amount of planning and coordination. It is dependent upon all the AHN faculty to participate. With approximately 125 students from five different AHN programs placed into interdisciplinary groups, effective planning for movement of these groups through a simulation activity, skills demo stations and team-building activities, takes a village to coordinate!

Professional development: Chad is on the FPDC, helping to plan Flex week activities. Most of the on-campus PD with the CVT faculty occurs during Flex week as both Chad and Daniel have extensive lab hours on campus during the semester. The program coordinator takes advantage of PD offered throughout the year such as the recent series of workshops with Lasana Hotep. PD topics and “take-aways” are often shared at CVT faculty meetings.

SECTION 8 – FISCAL & HUMAN RESOURCES

PURPOSE OF SECTION 8: *To assess if the college is meeting the resource needs of your department and if your department is using those resources efficiently.*

NOTE: All required data tables and graphs will be compiled and delivered to you by the Program Review Data Liaison.

Fiscal Resources

Refer to the Table provided that shows Enrollment, % Fill, Earned WSCH, FTEF and WSCH/FTEF to answer these questions. Data for Fall, Spring and Summer semesters are provided separately.

	FA15	FA16	FA17	FA18	FA19
Earned Enroll	249	260	335	296	312
Max Enroll	234	251	391	326	360
% Fill	106.41	103.59	85.68	90.80	86.67
Earned WSCH	1426.00	1353.00	1716.71	1586.50	1637.79
Total FTEF	4.12	3.80	4.87	4.62	5.53
Earned WSCH/FTEF	346.12	356.05	352.51	343.40	296.16
	SP16	SP17	SP18	SP19	SP20
Earned Enroll	221	266	257	261	271
Max Enroll	220	316	292	280	294
% Fill	100.45	84.18	88.01	93.21	92.18
Earned WSCH	1393.66	1498.89	1553.55	1567.18	1268.09
Total FTEF	4.43	4.77	5.04	5.13	6.02
Earned WSCH/FTEF	314.60	314.23	308.24	305.49	210.65
	SU15	SU16	SU17	SU18	SU19
Earned Enroll	80	66	66	66	73
Max Enroll	77	65	70	74	80
% Fill	103.90	101.54	94.29	89.19	91.25
Earned WSCH	274.70	240.14	259.93	244.03	262.63
Total FTEF	0.43	0.43	0.43	0.43	0.43
Earned WSCH/FTEF	638.84	558.47	604.49	567.51	610.77

- 8.1 Describe any patterns in enrollment; maximum enrolment and % fill in the program since the last program review. What are typical section maximum sizes (capacity) for your courses and what dictates those caps? Have you changed the number of sections offered and/or section sizes in response to changes in demand? If so, what effect has it had?

Enrollment has been consistent for the CVT Program since our last program review. The enrollment is ultimately tied to our number of clinical placement sites. We generally begin with 50 students in the fall of the cohort's first semester. Due to regular attrition rates, the class usually is reduced to 40 students by summer session, where we have 40 clinical spots.

The curriculum is sequential and usually only one section per course. We have two courses with labs that we offer three sections each for a reduced lab class size, but they share a common lecture.

In the past, it was a practice within our division to adjust class max to match the student number progressing within the program. That may account for the % fill values shifting to less than 100% after 2016.

- 8.2 Describe and explain any patterns in Earned WSCH, FTEF and Earned WSCH/FTEF since the last program review. Please explain changes in FTEF due to changes in faculty staffing levels. For courses/sections with low Earned WSCH/FTEF explain their importance in the program and measures the department/program has taken/plans to take to improve efficiency and/or balance low and high efficiency offerings and/or maximize course % fill.

Like other allied health programs, the CVT program is not as efficient as other academic departments on campus. Smaller class sizes are due to the nature of a CTE program where technical skills are taught and developed. The attention and oversight students need in our track specialty courses is often bolstered by tutors. Part-time faculty are hired to teach evening labs where students are separated into small groups of four to focus on necessary skills and exams that require close attention.

- 8.3. For money that you get from the college and/or from Perkins funds as part of your budget, is this amount adequate? What is this money used for to operate your department? If it is not adequate, please explain how additional funds would be used to improve student learning and success.

The combination of the department budget from the college and the Perkins funding is adequate for the CVT Program. When the program is in need of new ultrasound equipment (beyond the budgets allocated) then grant money is pursued. Historically the program has benefited from grants from Grossmont Healthcare Foundation and one-time Perkins funds.

Also, the CVT program has worked together with the AHN division Perkins funding to assure a particular program can meet its needs as well as all the programs on campus who receive Perkins funding can work together to assure all funded programs meet their needs in any particular year. These college-wide Perkins efforts are managed by the CTE dean.

PURPOSE OF SECTION 8.4: The committee is looking to recognize program/department efforts for outside funding.

8. 4 If your program has received any financial support or subsidy outside of the college budget process (grants, awards, donations), explain where these funds are from, how they are used, and any other relevant information such as whether they are on-going or one-time.

As stated above the CVT program has benefited many times with grant money from the Grossmont Healthcare Foundation. The AHN division annually submits requests for this grant money and the Foundation has been very supportive of all the Grossmont College AHN programs.

Human Resources

NOTE: Please refer to the table provided by the Program Review Data Liaison to answer the following questions.

	FA15	FA16	FA17	FA18	FA19
FT Faculty Count	3	4	4	3	3
PT Faculty Count	8	5	8	12	13
Full-Time FTEF	2.42	3.07	3.07	2.08	1.86
X-Pay FTEF	0.33	0.00	0	0.33	0.97
Part-Time FTEF	1.38	0.73	1.8	2.2	2.69
Total FTEF	4.12	3.80	4.87	4.62	5.53
FT Percent	66.75%	80.79%	63.04%	52.16%	51.18%
Permanent RT	0.79	0.79	0.79	0.79	0.96
Temporary RT	0.20	0.30	0.30	0.30	0.30

PURPOSE OF SECTION 8.5 & 8.6: The committee is interested in knowing about the people in your department and what they do. The committee also wants to understand your department/programs staffing needs.

8.5 Describe the roles and responsibilities of full-time versus part-time faculty in your department. If any trends or changes are apparent in the past six years, please explain the reasons for them.

The program is designed for a lead instructor for each specialty track, Echo, Invasive and Vascular as well as a program coordinator. In June 2017 our Echo instructor Helen Potter retired. We had an unsuccessful hiring process for her replacement and part-time instructors were hired to teach the Echo courses. The part-time instructors (Dan Dyar and Lisa Vargas) have been instrumental in bringing a fresh perspective and energy into the Echo track, and so we have kept them in place as we plan for the future. Neither of these instructors is interested in a full-time instructor position at this time.

One of the consistent issues in finding good instructors for any of the allied health programs is the disparity in pay from their clinical jobs to instructor pay at the college.

The two full-time instructors carry a full load plus overload each semester. The program coordinator receives 0.958 RT per the current bargaining agreement between AFT and GCCCD, and also carries teaching overload. The two part-time Echo faculty are carrying maximum PT LED at 0.67. The department receives 0.3 Presidential RT to support clinical coordination work.

- 8.6 Are the current levels of staffing of faculty adequate? Discuss part-time vs. full-time ratios and issues surrounding the availability of part-time instructors as well as duties and responsibilities of full-time faculty members that influence their loads (such as reassigned time and use of overload).

Historically the full-time Echo instructor taught two courses that the program coordinator is teaching on overload. A great benefit to replacing the full-time Echo instructor position will be to relieve the program coordinator of this overload. The challenge in finding part-time instructors with the necessary expertise is that most of these people are working clinically and cannot teach one class during the week. Another concern is that if too many of the courses are parceled out to part-time faculty, the integrity of the curriculum quickly diminishes. We saw this when we had a similar experience replacing the retired Vascular instructor.

- 8.7 If staffing levels are not adequate, give a justification of your request for increased Full Time faculty based on how this position would contribute to basic department function and/or the success, retention and engagement of students in the program.

We will submit for the full-time replacement of our retired Echo instructor within the next two years. We will create a plan working with our fantastic part-time Echo faculty. We also need to plan for replacement of the program coordinator due to a planned retirement in three years.

Historically the program has had difficulty hiring faculty. As mentioned above, the pay difference is substantial and there is also the consideration of taking the time to find the right fit.

- 8.8 In the table below, list non-faculty positions that are responsible to your program (by title rather than by individual name). This list should include classified staff as well as work study and student workers.

Indicate the FTE/hours and where funding comes from for these positions. Add or delete rows to the table as needed. If you have questions on how to complete this table, please contact the Program Review Committee Chair.

Position	Funding	FTE/Hours					
		YR 1	YR 2	YR 3	YR 4	YR 5	YR 6
Health Professions Specialist	Classified Employee	1.0	1.0	1.0	1.0	1.0	1.0
Health Science Technicians (2) <i>*Wages shared between AHN departments</i>	Classified Employee	1.0	1.0	1.0	1.0	1.0	1.0

Note: All tutors are paid with Perkins budget.

- 8.8 Briefly describe the duties for each position. Include a discussion of any changes in terms of non-faculty staffing and describe the impact on basic department function and/or the success of students in the program. Are current staffing levels adequate in non-faculty positions? If not, give a justification of your request for increased resources.

The Health Professions Specialist is currently doing the job of two people. The other HPS transferred to another position over a year ago and had not been replaced. The division was told the job has recently been approved for hire and is in the queue with HR at this time. This replacement is essential in that the workload has become impossible for one person and this has greatly affected students. Normally a student applies for one of the AHN programs and is immediately informed of the status of their application and given instructions. Now it is taking the single HPS up to three weeks to respond to applications creating numerous emails from anxious students about the status of their application. This is not a reflection on the ability of our current HPS, but simply the workload to support five programs instead of three is overwhelming.

The Health Science Technicians are assigned to various programs. The Health Science Technician that supports the CVT program makes all purchases and works closely with the program coordinator to manage the budgets. This also includes working with vendors for maintenance. Both Health Science Technicians support lab set up and regulate supplies and services such as linen. They both have many duties outside of program support and are an essential part of the AHN division team.

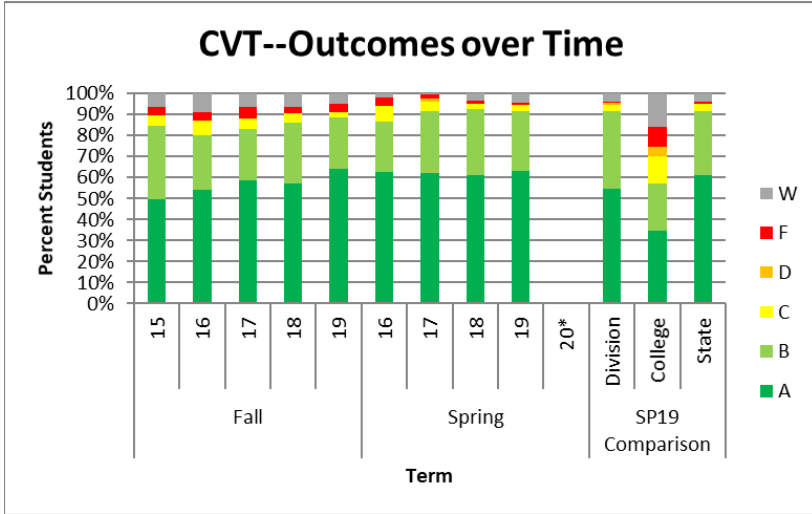
The division administrative support to the Sr. Dean is also a critical member of the AHN workgroup and is instrumental in assisting the CVT program director and faculty with many items/issues.

SECTION 9 – SUMMARY AND RECOMMENDATIONS

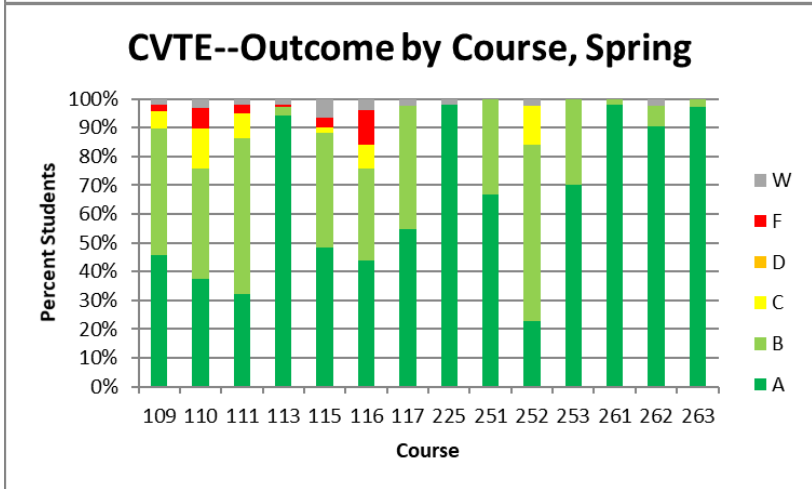
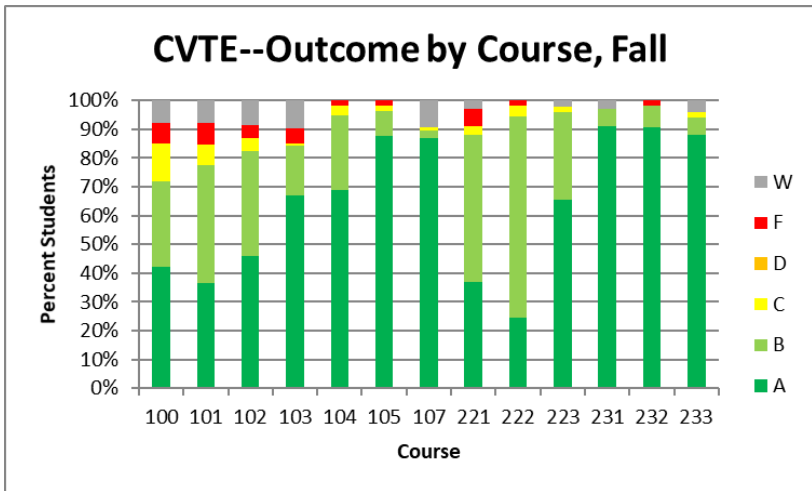
PURPOSE OF SECTION 9: The purpose of this section is to demonstrate how your department/programs ties in to the college's 2017 – 2022 Strategic Plan targeted goals of Outreach, Engagement and Retention.

- 9.1 Summarize program strengths in terms of:
- Outreach – Effective. The program has maintained a waitlist the equivalent of three cohorts for the last five years.
 - Engagement – Strong. CVT students are dedicated and consistently learning hands-on throughout the program.
 - Retention – Good. Faculty intervene in cases of academic jeopardy to work with the students to find options to help the students succeed.
- 9.2 Summarize program weaknesses in terms of:
- Outreach – In the past the program coordinator would visit the anatomy and physiology classes, as well as BIOL 120 classes to inform students interested in allied health about the CVT Program. This ceased when the program wait list grew to 2-3 years.
 - Engagement – There is always room for improvement for engagement in the classroom. There are differences between each instructor in their philosophy with engagement.
 - Retention – The program has a consistent rate of attrition between 9-20%. We are exploring a shift in perspective. Are there better strategies to improve retention such as effectively informing students on the front end about the requirements of their time once they begin the program?
- 9.3 Describe any concerns that may affect the program before the next review cycle such as retirements, decreases/increases in full or part time instructors, addition of new programs, external changes, funding issues etc.
- Recruitment and hiring of full-time Adult Echocardiography instructor
 - Recruitment and hiring of the program coordinator (planned retirement in 2024)
 - Addition of Electrophysiology track
 - If Electrophysiology Track is established, recruitment and hiring of EP instructor
- 9.4 Make a rank ordered list of program recommendations for the next six-year cycle based on the College's new Strategic Plan which includes outreach, engagement, and retention.
1. Update all CVT curriculum
 2. Revise CSLOs for all CVT courses
 3. Work with the VPAA and ANH Sr. Dean to find a solution to LED tied to all CVT clinical courses
 4. Resolve faculty staffing for Echo track
 5. Work with the AHN division to create an electronic application process for the CVT and other AHN programs.
 6. Succession planning for program coordinator
 7. Investigate and attain an electronic system for clinical management
 8. Pursue funding for a 3D ultrasound system
 9. Investigate and possibly attain a de-energized X-ray system for the invasive lab

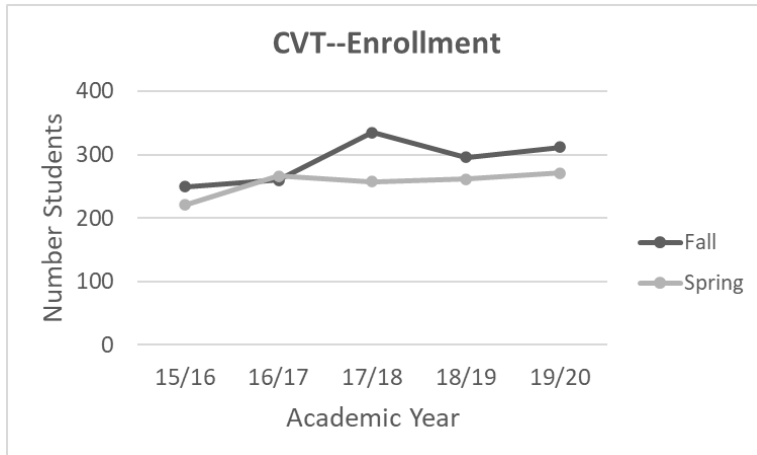
Appendix 1. Grade Distribution Summaries



*Spring 20 data missing



Appendix 2. Enrollment Data



Disaggregated Enrollment Data

Ethnicity by Term - Count of Students

Term Desc Ethnicity (9)	Fall 2018		Fall 2019		Fall 2020	
	Students	% of Total	Students	% of Total	Students	% of Total
African American/Black	4	4.04%	4	3.81%	6	6.00%
American Indian/Alaskan Native			1	0.95%		
Asian	13	13.13%	11	10.48%	10	10.00%
Hispanic/Latino	19	19.19%	37	35.24%	24	24.00%
Middle Eastern			1	0.95%	2	2.00%
Other/Unknown	1	1.01%			1	1.00%
Pacific Islander			1	0.95%	1	1.00%
Two or more	8	8.08%	4	3.81%	4	4.00%
White	54	54.55%	46	43.81%	52	52.00%
Total	99	100.00%	105	100.00%	100	100.00%

Gender by Term - Count of Students

Term Desc Gender Desc	Fall 2018		Fall 2019		Fall 2020	
	Students	% of Total	Students	% of Total	Students	% of Total
Female	68	68.69%	68	64.76%	74	74.00%
Male	31	31.31%	37	35.24%	26	26.00%
Total	99	100.00%	105	100.00%	100	100.00%

Age Band by Term - Count of Students

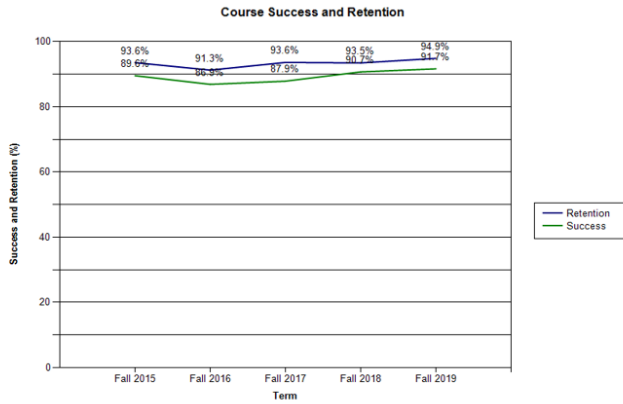
Term Desc Student Age at Snapshot - Band4	Fall 2018		Fall 2019		Fall 2020	
	Students	% of Total	Students	% of Total	Students	% of Total
18-20	2	2.02%	3	2.86%	1	1.00%
21-24	18	18.18%	19	18.10%	22	22.00%
25-29	19	19.19%	23	21.90%	22	22.00%
30-39	30	30.30%	34	32.38%	33	33.00%
40+	30	30.30%	26	24.76%	22	22.00%
Total	99	100.00%	105	100.00%	100	100.00%

Appendix 3. Student Retention and Success Data

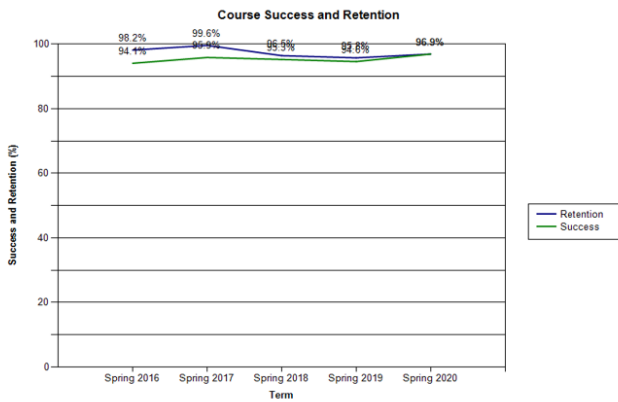
College 5-YR Averages: Success 69% and Retention 84%

College Targets: Success 75% and Retention 85%

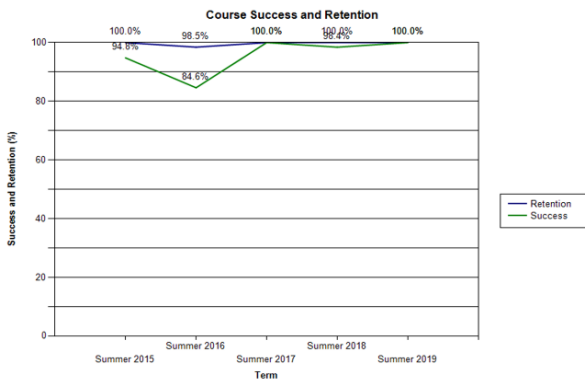
All Students: Fall



All Students: Spring



All Students: Summer



Appendix 4. Checklist Documentation

Re: Program Review - CVTE curriculum list

Krista Ames-Cook <krista.ames-cook@gcccd.edu>

Mon 5/10/2021 3:40 PM

To: Liz Barrow <Liz.Barrow@gcccd.edu>

Hi Liz,

Thank you for your email. For your program review task, here is the information you are seeking from the list of [Course Outlines Approved by the Governing Board as of December 2020](#) :

CVTE 100	December 2015
CVTE 101	December 2015
CVTE 102	December 2015
CVTE 103	December 2015
CVTE 104	May 2017
CVTE 105	May 2017
CVTE 106	May 2017
CVTE 107	May 2020
CVTE 108	May 2017
CVTE 109	May 2014
CVTE 110	May 2014
CVTE 111	May 2014
CVTE 113	May 2014
CVTE 114	December 2015
CVTE 116	May 2014
CVTE 117	May 2014
CVTE 121	May 2014
CVTE 122	May 2014
CVTE 123	May 2014
CVTE 221	May 2014
CVTE 222	May 2014
CVTE 223	May 2014
CVTE 225	May 2014
CVTE 231	May 2014
CVTE 232	May 2014
CVTE 251	May 2014
CVTE 252	May 2014
CVTE 253	May 2014
CVTE 261	May 2014
CVTE 262	May 2014
CVTE 263	May 2014

The full list can be found in the link shared above, which is on my OneDrive. Let me know if you have any questions.

Krista Ames-Cook, MA Ed.

Interim Supervisor

Instructional Operations (IOPS)

Grossmont College

Phone: 619-644-7153

Krista.Ames-Cook@gcccd.edu

Date: March 22, 2021
To: Liz Barrow, Department Chair
From: M. Denise Aceves, Articulation Officer
Re: Cardiovascular Technology • Program Review Checklist

The process of articulation is two-fold. First, transferability must be established. A transferable course is one that is taken at a community college and can be used for unit credit at a university. The next step, is the articulation of courses deemed transferrable. Articulation is the formal, written agreement that identifies courses on a “sending” campus that are comparable or acceptable in lieu of specific course requirements at a “receiving” campus. Thus, articulation identifies courses that a student should take at community college to meet university degree requirements.

In response to your request for articulation information, in Cardiovascular Technology, all courses are transferable to the California State University. Any student who successfully completes these courses, can use the units as elective credit. Due to the nature of Cardiovascular Technology, there are no current course-to-course articulation with CSUs or UCs. Consequently, the courses in CVT are satisfactorily articulated.

The CSU transferability designations are notated at the end of each course description in the Grossmont College Catalog. The courses with CSU transferability will appear on the CSU transferability list that can be found on ASSIST.org. **Once ASSIST is fully operational, the department is encouraged to review the transferability list on ASSIST.org and work with me, the Articulation Officer, to correct any inconsistencies.**

Articulation is facilitated with current, concise and thorough course outlines. It is imperative that the outlines and text books listed be current. **The requirement that course outlines be updated every 5 years through the Grossmont College Curriculum process is vital.** Below I have listed the link to *The Course Outline of Record: A Curriculum Reference Guide Revisited*, a document adopted by the Academic Senate for California Community Colleges in Spring 2017, as well as the latest standards for CSU GE Breadth and IGETC.

Curriculum Resources

- [The Course Outline of Record: A Curriculum Reference Guide Revisited](#)
- [Guiding Notes for General Education Course Reviewers](#)

You are welcome to contact me directly at mariadenise.aceves@gcccd.edu with any questions regarding this report.

CVTE Program Review re: SLOs

Felicia Kalker <felicia.kalker@gcccd.edu>

Tue 5/18/2021 12:01 PM

To: Kelly Menck <Kelly.Menck@gcccd.edu>; Joyce Fries <Joyce.Fries@gcccd.edu>

Cc: Liz Barrow <Liz.Barrow@gcccd.edu>

■ 1 attachments (204 KB)

SLO Report -CVTE.pdf;

Dear Program Review Committee:

I'm writing this letter regarding the CVTE SLOs. I apologize for the delay in getting this to you!

CVTE has submitted some assessment results for a few courses within the last two years (since Fall 2019), including Fall 2020, which means the department is now up to date and paying careful attention to entering results in TracDat. Historically, it looks like this had not been done, because many of the CVTE courses have no assessment results in TracDat.

Things are turning around now that the department is beginning to use TracDat to enter results. The department is on me for this semester with its new six-year schedule of assessments, and it is my hope that they will enter results according to that schedule going forward 😊 Thank you, and the TracDat report is attached for your reference.

Felicia Kalker
SLO Coordinator

Program Review: Library

Nadra Farina-Hess <nadra.farina-hess@gcccd.edu>

Mon 5/10/2021 3:06 PM

To: Liz Barrow <Liz.Barrow@gcccd.edu>

1 attachments (23 KB)

CVT Program Review.docx;

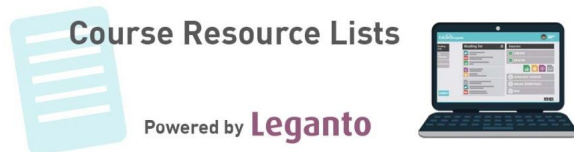
Hi Liz,

I took the previous library portion and updated the numbers and information about our library system database changes.

Please find attached document - if you need any further information, just let me know.

Talk soon,
Nadra

*Nadra Farina-Hess
Librarian
Grossmont College
8800 Grossmont College Dr.
El Cajon, CA 92020
Office: Room 70-157
Phone: 619.644.7283*



Ask me how to improve your Resource List

Books

The library Cardiovascular Technology area, call numbers RC 666-701, contains 495 books specifically on “Diseases of the Circulatory (Cardiovascular) System.” This total breaks down into 432 electronic books and 63 print books.

Print books are purchased using an allocation formula that ensure that departments get their “fair share” of the approximately \$37,350 annual library book budget. This formula is based on the average cost of books in subject area, course enrollment, and usage of materials. The allocation allows for a book budget that averages \$285 in Cardiovascular Technology per year.

All electronic materials, whether books or journal articles, can be accessed through the Library Management System, “OneSearch.” The library has spent the past 7 years building a balanced collection that focuses on electronic access to materials. This has proven beneficial to student access, especially in light of the Covid-19 pandemic.

Periodicals

Most of the Cardiovascular Technology periodicals are in electronic format, within library periodical databases. This allows for keyword searching and 24/7 access from any internet connection. A subject search for “Cardiovascular System” resulted 342,954 articles found in 431 different electronic journals devoted to this topic. It is important to note that when the library migrated to a new catalog system in 2019/20 we gained access to peer reviewed Open Access journals, such as *Global Cardiology Science & Practice* and *Research in Cardiovascular Medicine* that we didn’t have direct access to in the past.

The subject-specific databases for Cardiovascular Technology are all health-related databases. The library’s health-related databases include CINAHL Complete, Medline, College Edition Health and Life Sciences, and others.

Since the last program review cycle, the library conducted an audit on the usage of print periodicals. Two things were discovered; print periodicals were not getting usage and some of the print periodicals, such as the journal *Heart & Lung*, moved to electronic access. Because of these two factors, all journals supporting CVT, including *Heart & Lung*, are available electronically through the library catalog, “OneSearch.”

DVDs, Media

There are a number of ways to access the library’s large media collection. First, the library offers a list of DVDs by subject that are in their collection. They also have access to a much larger collection of county consortium DVDs. In addition, the library has a strong cadre of databases of videos, including Nursing Education in Video and Films on Demand. Unfortunately, one of the health-related streaming video databases, Intelcom, has announced they are dissolving their organization as of June 30, 2021. We will work with our librarians to locate replacement video clips in the courses that utilize this vendor’s material.

Appendix 5. JRC-CVT Student Resource Survey

PROGRAM RESOURCE SURVEY COMPLETED BY STUDENTS

Name of College/Sponsor: _____

Concentration/Track: _____

The purpose of this survey instrument is to evaluate our program resources. The data will aid the program in ongoing program improvement.

INSTRUCTIONS: Consider each item separately and rate each item independently of all others. Check the rating that indicates the extent of your agree with each statement. Please do not skip any rating. If you do not know about a particular area, please check N/A.

5 = Strongly Agree 4 = Generally Agree 3 = Neutral (acceptable)
 2 = Generally Disagree 1 = Strongly Disagree N/A = Not Applicable

I. PROGRAM FACULTY

A. FACULTY TEACH EFFECTIVELY...

- 1. in the classroom. 5 4 3 2 1 N/A
- 2. in the laboratory. 5 4 3 2 1 N/A
- 3. in the clinical area. 5 4 3 2 1 N/A

B. FACULTY NUMBER IS ADEQUATE...

- 1. in the classroom. 5 4 3 2 1 N/A
- 2. in the laboratory. 5 4 3 2 1 N/A
- 3. in the clinical area. 5 4 3 2 1 N/A

- C. Faculty have good rapport with students. 5 4 3 2 1 N/A
- D. Faculty help me with academic needs. 5 4 3 2 1 N/A
- E. Faculty ensure student representation on the
 program advisory committee. 5 4 3 2 1 N/A

Comments:

II. MEDICAL DIRECTOR(S)

- A. I know who the Medical Director(s) is/are. 5 4 3 2 1 N/A
- B. The Medical Director(s) has/have provided instruction. 5 4 3 2 1 N/A

Comments:

III. SUPPORT PERSONNEL

- A. Tutors assist me as needed 5 4 3 2 1 N/A
- B. The admissions personnel assist me as needed 5 4 3 2 1 N/A

- C. The financial aid personnel assist me as needed. 5 4 3 2 1 N/A
- D. The academic advisors assist me as needed. 5 4 3 2 1 N/A
- E. The learning resource personnel assist me as needed. 5 4 3 2 1 N/A

Comments:

IV. CURRICULUM

- A. The curriculum covers the necessary lecture content for the concentration for entry level Cardiovascular technologists 5 4 3 2 1 N/A
- B. The curriculum covers the necessary laboratory activities for the concentration for entry level Cardiovascular technologists..... 5 4 3 2 1 N/A
- C. The curriculum includes necessary clinical experience for the concentration for entry level Cardiovascular technologists 5 4 3 2 1 N/A
- D. The curriculum includes the necessary content in support courses (e.g. science, general education). 5 4 3 2 1 N/A
- E. The curriculum is an appropriate sequence of classroom, laboratory, and clinical activities. 5 4 3 2 1 N/A

Comments:

V. FINANCIAL RESOURCES

- A. There are funds to support special student instructional activities. 5 4 3 2 1 N/A

Comments:

VI. FACILITIES

A. CLASSROOMS

1. Are adequate in size..... 5 4 3 2 1 N/A
2. Have adequate lighting..... 5 4 3 2 1 N/A
3. Contain adequate seating. 5 4 3 2 1 N/A
4. Have adequate ventilation. 5 4 3 2 1 N/A
5. Have adequate instructional equipment (e.g., boards, projectors). 5 4 3 2 1 N/A

B. LABORATORY

1. Is adequate in size..... 5 4 3 2 1 N/A
2. Has adequate lighting 5 4 3 2 1 N/A
3. Contains adequate seating 5 4 3 2 1 N/A
4. Has adequate ventilation..... 5 4 3 2 1 N/A
5. Activities prepare me to perform effectively in the clinical setting. 5 4 3 2 1 N/A
6. Is accessible to students outside regularly scheduled class times. 5 4 3 2 1 N/A
7. Is equipped with the amount of equipment necessary for student performance of required laboratory exercises. 5 4 3 2 1 N/A

- 8. Is equipped with the variety of equipment necessary for student performance of required laboratory exercises. 5 4 3 2 1 N/A
- 9. Is equipped with the amount of supplies necessary for student performance of required laboratory exercises. 5 4 3 2 1 N/A
- 10. Is equipped with the variety of supplies necessary for student performance of required laboratory exercises. 5 4 3 2 1 N/A

C. ANCILLARY FACILITIES

- 1. Provide adequate quiet study area 5 4 3 2 1 N/A
- 2. Provide adequate secure storage for student personal items 5 4 3 2 1 N/A

Comments:

VII. CLINICAL RESOURCES

A. CLINICAL ROTATIONS

- 1. Facilities
 - a. The clinical facilities offer an adequate **number** of procedures for me to meet clinical objectives. 5 4 3 2 1 N/A
 - b. The clinical facilities offer an adequate **variety** of procedures for me to meet clinical objectives. 5 4 3 2 1 N/A
 - c. The clinical facilities provide a variety of current equipment. 5 4 3 2 1 N/A
- 2. Experiences
 - a. Each clinical rotation is of sufficient length to enable me to complete clinical objectives. 5 4 3 2 1 N/A
 - b. Overall, the clinical rotations provide similar competencies to all students. 5 4 3 2 1 N/A

B. CLINICAL INSTRUCTION

- 1. I receive adequate orientation to assigned clinical areas and procedures. 5 4 3 2 1 N/A
- 2. Clinical instructors are sufficiently knowledgeable to provide instruction to me. 5 4 3 2 1 N/A
- 3. Clinical instructors direct me in completing the assigned objectives. 5 4 3 2 1 N/A
- 4. Clinical instructors are consistent in their evaluation of student performance. 5 4 3 2 1 N/A
- 5. Clinical instructors are available to assist me, when needed. 5 4 3 2 1 N/A
- 6. There are sufficient numbers of instructors for the number of assigned students. 5 4 3 2 1 N/A

Comments:

VIII. LEARNING RESOURCES (program and hospital/affiliate)

- A. Reference texts are adequate to support assignments. 5 4 3 2 1 N/A
- B. Journals are adequate to support assignments. 5 4 3 2 1 N/A
- C. Computer resources are adequate to support the curriculum. 5 4 3 2 1 N/A
- E. Internet access is adequate to support assignments. 5 4 3 2 1 N/A

F. Databases are adequate to support assignments..... 5 4 3 2 1 N/A

Comments:

IX. PHYSICIAN INTERACTION

A. Physician/student interaction facilitates the development of effective communication skills between me and physicians. 5 4 3 2 1 N/A

B. Physician contact is sufficient to provide me with a physician perspective of patient care. 5 4 3 2 1 N/A

C. Overall, my exposure to physicians in the program is adequate. 5 4 3 2 1 N/A

Comments:

Please rate the OVERALL quality of the resources supporting the program.

Exceptional Excellent Adequate Needing Improvement Inadequate

Which resources are the strongest contributors to your learning? Why?

Which resources need improvement? Why?

Comments/suggestions to improve the program's overall resources?

Thank You!

Date: _____

Academic Program Review-Follow-up Questions

After reading each report the Program Review =Committee develops a list of follow-up questions. This allows us to get a deeper understanding of your department's operations and guides our commendations and recommendations for the next program review cycle (6 years). We have tried to make these questions clear and very specific to minimize this effort. Please email the answers to the questions below to joyce.fries@gcccd.edu and Kelly.menck@gcccd.edu by: October 1, 2021.

Section/Page	Question	Response
1.1	Q: How are job placement stats recorded?	Most of our students let us know when they find employment, and we also reach out to them consistently post-graduation. We report to our accrediting body in the fall a year and a half after grad. The data is stored on an excel spreadsheet, one for each cohort, on the AHN shared drive.
1.2	Q: Re: Goal #3- what courses would be included in the "electrophysiology" track?	We haven't looked at the full design of the program yet, but first, we would need to consider how these students would work into our core curriculum and second, which of the Invasive courses might also fit into the curriculum plan. Electrophysiology (EP) procedures are performed in the Cardiac Catheterization Lab, but many hospitals now have dedicated procedure rooms and staff for these procedures (in the past the Cath Lab staff would perform the procedures). There would need to be courses specifically about EP procedures including clinical assignments in EP labs. There would also need to be courses about Cardiac Rhythm Management (CRM) which is about devices implanted such as permanent pacemakers and implantable cardioverter defibrillators (ICDs). Part of the curriculum would need to be dedicated to these procedures as well as the programming of such devices. We would partner with industry to have the students spend clinical time with "pacemaker rep's" in order to gain the practical skills needed for CRM. The students would need to be prepared for the IBHRE exam for CEPS (Certified Electrophysiology Specialist) as well as the CCI exam RCES (Registered Electrophysiology Specialist).

<p>2.1</p>	<p>Q: 2.1a Why was there a hiatus of the ECG/Telemetry certificate program?</p> <p>Q: 2.1b It was mentioned that there are limited textbooks available, we are wondering what can the department implement to continue to infused diversity, equity, and inclusion throughout the program?</p>	<p>A student complaint had the coordinator and the dean taking a closer look at the program. After the dean visited the classroom to observe she approached the coordinator about the need to put the program on hiatus to revise the curriculum and consider new instructor(s). The program was revised based on content recommended by CCI (Cardiovascular Credentialing International) registry exams for both ECG and Telemetry. We hired instructors who currently were employed as ECG techs as well as a tele instructor who had worked in telemetry.</p> <p>Our program accepts all students who have passed the prerequisite courses of Chemistry, Anatomy and Physiology with a grade of “C” or better. The barrier to success of these courses lies well before a student gets to our program. If more students embraced science in K-12, we would have more students successful in our prerequisite courses – potentially. Equity and inclusion are somewhat difficult with the structure of our program being sequential, and single sections. Also, that our classes are in the daytime and that all clinical assignments are M-F during the day. We frontload with all that information during our program preview meetings and student orientations. This information could potentially be improved upon on the website.</p>
<p>2.2a</p>	<p>Q: Can you share more about the format of your summer retreat? Do faculty get paid to attend?</p>	<p>It is voluntary and not paid. We meet at one of the faculty’s homes in the morning, have lunch, and then work until evening. The goal is to provide cohesion as the courses are sequential and to make certain that students come prepared to the next level of the program.</p>
<p>2.6</p>	<p>Q: Has there been any plans regarding how to continue to build strong cohort communities if there was a future need for remote teaching modalities?</p>	<p>Our program has continued on campus since summer 2020. We could not run this program remotely. We simply could not have the students meet competency without having them in lab on campus.</p>

5.7	Q: How do you know your students are making more than those with a master's degree? Why do you supposed this is the case?	Data I've seen presented in the past about CTE programs in general and how community college programs set up graduates for success with such careers like nursing and allied health. Healthcare careers such as sonographers and Cath Lab techs, pay well. Comparable to nursing and often more, due to the overtime and on-call time associated with these careers.
6.1	Q: What percentage (roughly) of tuition does financial aid cover for students? For students who poll dissatisfied, does anyone in the program reach out to them?	I only have a very basic knowledge of financial aid, and no idea of what percentage is covered or how many of my students are using FA. Often our students are career changing and already have degrees, so they are using student loans only. If a student comes to me with a complaint or issue, I will attempt to get them help. The survey is anonymous, so I do not know who was affected.
6.2	Q: Could anything be done to better track the success or ineffectiveness of specific student support services? Maybe this data could be a game changer for some students	I'm certain we could attempt to track when and where students go for assistance. Many of our students are pretty self-sufficient and I won't even be aware of when they seek services. This might be better handled at the division level as I cannot imagine how to add this to my current workload – but I would be open to participating.
7.2	Q: Is Southwestern HS the only one in our county with an allied health pathway?	I honestly do not know. I find that outreach for the CVT program is most effective by visiting the biology courses here on campus (and at Cuyamaca), especially anatomy and physio classes. My experience at high school events has deterred me from participating any more (with the exception of SHS).
8.1	<p>Q: Re attrition- What happens if you start with 50 students, and you still have 45 by summer but only 40 clinical sites?</p> <p>Q: Can you please explain further the practice of adjusting class max? Was this to keep the 100% fill?</p>	<p>Frankly, that has never happened, but theoretically we would reach out to our clinical sites to see if they could extend themselves for that particular semester. We have done that successfully when we have had more students in a track specialty than typical. If the clinical sites can accommodate that extra student, we'll allow the track to be larger than normal.</p> <p>Yes, in the past we (the division) would adjust the class max as the class sizes diminished. As you know, you have to set your class max months ahead of time, and by the time the classes started, we</p>

		<p>would have a smaller class size. We no longer do this in our division.</p>
<p>8.5</p>	<p>Q: Since instructor Helen Potter retired in 2017, can you speak more to the steps you've already taken to fill that vacancy and the barriers you've faced?</p> <p>Q: In general, what types of recruiting practices do you employ to find qualified instructors/specialists/technicians?</p>	<p>We initially had an unsuccessful hiring process, and to fill the immediate need we had to hire part-time faculty. The current part-time faculty are being courted to take on the full-time position, but like many of the AHN programs, we struggle finding full-time faculty because the pay is not comparable to clinical pay, and the current part-time faculty have been very frank about this issue.</p> <p>We struggle with hiring part-time faculty as well to teach our hospital-based evening labs. Recruiting is usually by word of mouth and professional relationships, as the CVT community is relatively small compared to other allied health workers.</p>

**PROGRAM REVIEW COMMITTEE
SUMMARY EVALUATION**

The committee recommends maintaining this program. Following are the committee's specific commendations and recommendations.

The Program Review Committee commends the department for:

1. High percent of registry pass rates as well as 95% job placement rate
2. Updating and re-starting the ECG/Telemetry program to prepare students for national credentialing exams
4. Hosting a faculty retreat each year to keep all faculty engaged in the curricular and course design
5. Student engagement strategies in the classroom
6. having a high percentage of students getting financial aid (not an easy feat always)+making resources available via Canvas (maybe not all students know where to look)
7. regularly pursuing grant funding to help offset costs of regular upgrades in technology and equipment

Committee recommends the following:

1. Identify which CORs need updating first and send to Curriculum Committee for approval
2. continue with your plan to update SLOs - set aside time to update course SLOs; perhaps establish a priority order of courses and a timeline in which these will be updated
3. Identify how you can tie PSLOs to SLOs. Close the loop by using SLO data to inform teaching practices
4. Review disaggregated data and identify underrepresented groups. Determine what might be causing this and how you might change recruitment strategies

College President

Program or Department Chair

Academic Program Review Chair

CARDIOVASCULAR TECHNOLOGY

Academic Year	Fall		Spring	
	% Fill	WSCH/FTEF	% Fill	WSCH/FTEF
2015-16	106.4	346.1	100.5	314.6
2016-17	103.6	356.1	84.2	314.2
2017-18	85.7	352.5	88.0	308.2
2018-19	70.3	343.4	93.2	305.5
2019-20	86.7	296.2	92.2	210.6