TECHNICAL EDUCATION DIVISION
PROGRAM REVIEW 2005-06

INTRODUCTION AND OVERVIEW

The Technical Education Division consists 15 individual programs, 13 full-time faculty, nine classified staff, over 40 adjunct faculty and one administrator who serves as the Dean. Most of the programs in the division relate directly to the Vocational and Technical aspect of the College Mission Statement, however, the Engineering program is related to the Transfer section of the College Mission Statement.

Programs in this Division (and full-time faculty) include:

Aeronautics – Airframe and Powerplant (2)
Air Conditioning and Refrigeration (1)
Aircraft Fabrication and Assembly (1)
Agriculture and Landscaping (1)
Auto Body (1)
Automotive (2)
Clothing and Textiles (1)
Construction Technology (0)
Drafting and Computer Aided Design (0)
Electrical Technology (1)
Electronics Technology (1)
Transfer Engineering and Engineering Technology (1)
Fire Technology (1)
Interior Design (0)
Welding (0)

The programs within this division are very diverse and unique. While they share a philosophy of preparing students for high-skill, high-wage jobs, they are individualized and diverse. Therefore, the approach taken with program review was for each individual program to reflect and review strengths, weaknesses, and future needs. The Division Program Review document is then the summary document of the individual strengths and weaknesses highlighting those areas of significance. Therefore, the Division Program Review document should be considered only within the context of the individual Program Review documents.

TECHNICAL EDUCATION DIVISION
PROGRAM REVIEW
DIVISION SUMMARY DOCUMENT

Part I. CURRICULUM

1.1 The curriculum supports the educational objectives of the program/discipline. New and revised courses address changes in the discipline or industry and specifically address student needs.

Most courses are reviewed and revised on a regular basis. However, there was no systematic approach to review, revision, and updating. The division is taking the opportunity of program review to establish three-year review cycles for all courses in all programs. This systematic cycle for course review will assure that course content and requisites are current.

New courses are generally developed based on input from the advisory committee. New courses must be considered in the context of certificate and degree requirements, resources, appropriate content for entry-level employment, and impact on student completion rates. This assures that the courses developed will meet the needs of the students served and area employers.

Two new programs have been developed during the period under review. The Aircraft Fabrication and Assembly program and the Electrical Technology program began offering classes in Fall 2003. Both of these programs were made possible by the construction of the new Technology Building. These two programs were developed with extensive input from the industries that they serve to assure that they prepare students for high quality employment opportunities in the local area.

1.2 Course requisites have been reviewed and are consistent with validation criteria.

Course requisites are reviewed each time a course is updated or revised. Most course requisites involve sequential learning of topics that build upon one another. These requisites allow for an efficient learning environment without repeating topics in multiple courses. Whenever possible, advisories are used to steer students to appropriate levels of coursework rather than limit their choices.

1.25 Each course will be reviewed to determine which need to be <u>revised</u> and which need to be <u>updated</u>.

Most courses have been revised on a regular basis. There are a few programs where courses have not been reviewed and updated within three years. Typically programs without full-time faculty have had difficulty keeping courses updated on schedule.

This includes the Electronics Technology program. The full-time faculty retired in Spring 2004 but was not replaced until Fall 2005.

As a result of the program review process, all programs have established goals of reviewing and revising all courses on a three-year rotation. Please refer to the individual program review sections for the specifics for each program.

1.3 Vocational Programs/Courses are in compliance with industry standards, advisory committee recommendations and state/federal funding guidelines.

All vocational and technical programs have established advisory committees that meet on a regular basis. All vocational programs that have received VTEA funding over the period under review have met all federal requirements for vocational and technical programs. Additionally, the Aeronautics program meets the standards for the Federal Aviation Administration Regulations governing aircraft maintenance schools.

1.4 Courses are taught within the parameters described in the outline of record.

Courses are taught within the parameters of the course outline of record. Additionally, faculty within a given program are encouraged to develop and adopt consistent standards for student classroom and laboratory behavior and attendance. These rules for student conduct mirror the standards for employees within that industry. Therefore, students are learning skills outlined in the 1990 Secretary's Commission on Achieving Necessary Skills (SCANS skills) through the enforcement of appropriate conduct. This helps students adapt to the conduct and behavior expected on the job.

1.45 Divisional faculty have deleted courses from college catalogue which have not been taught in 3 years. If the course is not deleted it must be revised.

Most courses that have not been offered within three years have been revised, are being revised, or will be deleted from the catalog. An exception to this is the Construction Technology program. This program has a very weak structure of courses (3 construction courses and 5 drafting courses). It does not meet the needs of the construction industry and previous enrollments have been very low. The program does not have the benefit of the leadership of full-time faculty. Adjunct faculty and members of the construction industry have been approached repeatedly by the dean requesting assistance in revising the curriculum. While they support the concept, they are all very busy with full-time positions and have not accomplished this task. It is recommended that this program be suspended from the college catalog and considered for program discontinuance.

1.5 Where appropriate, courses address issues related to diversity and/or multicultural perspectives.

All programs within the Technical Education Division reflect enrollment patterns that mirror the racial, ethnic, and socio-economic diversity of the general college population and the community as a whole. All faculty demonstrate a sensitivity and appreciation of

the diversity of our students and treat all students with respect and courtesy. All recruitment materials portray a diverse population of students to encourage students from all backgrounds to participate in programs that can benefit them

The area of less success is that of gender equity. Two programs are female dominated, while thirteen programs are male dominated. All programs encourage non-traditional students to enroll and succeed and all programs have a few non-traditional students. However, gender equity goals as set by the Chancellor's Office have not been achieved. This is, unfortunately, in line with state and national demographics for these programs.

1.6 Course scheduling provides students with reasonable access to meet their educational objectives.

All programs offer a variety of courses during the day and evening. Those without full-time faculty have the most difficulty offering courses at a variety of times. Most adjunct faculty are available to teach only in the evening, or on a very limited day schedule. This adversely affects students in Drafting/Computer Aided Design, Interior Design, and Welding. While this also affected the Construction Technology program, enrollments in that program never attained a level that could support a full-time faculty.

1.7 Course scheduling promotes strong enrollment patterns.

Faculty and the Dean work closely on course scheduling to assure that schedules promote strong enrollment patterns, student access, and timely completion of program requirements. Statistics are kept within the division related to the frequency of course offerings and the enrollment in every section. Most programs begin entry level classes in the fall and spring semester. These beginning level classes, however, may limit beginning level students to only evening classes in the spring semester to avoid over saturation of the schedule. Student interest and success build as cohorts merge into second year classes. Specialty classes may only be offered every other year or on special demand.

The major barriers to student access relate to inadequate staffing for those programs without full-time faculty. It is well known that students would like expanded offerings in Interior Design and Drafting/Computer Aided Design courses and expanding beginning classes in these programs would strengthen the enrollments in advanced classes. However, qualified adjunct faculty available to teach in the morning are not available.

1.8 Courses are articulated with local high schools and institutions of higher education.

Over the period under review, the number of opportunities for formal articulation with high school programs diminished as high schools diverted from traditional vocational programs and established career academies. While career academies provide students with contextual learning within broad applications of a given career field, they do not provide students with the depth of learning and mastery of basic principles typically

covered in a beginning vocational course at college. Additionally, changes to Title 5 regulations in 2001, make it almost impossible to offer college credit for course work accomplished in high school.

Creative, new approaches for linkages to the high schools should be cultivated. It is hoped that the new Vice President of Academic Affairs will help us renew these efforts.

Engineering courses are articulated with the CSU and UC system. During this review period, significant efforts have been put into a joint project with CSU Fresno. This effort is an attempt to bring junior and senior level engineering classes to the Antelope Valley. Progress has been made, but there are still uncertainties regarding the status of this project.

1.9 Faculty and staff have developed innovative instructional strategies to meet student needs and staff development supports the development of these strategies.

Faculty in Technical Education typically lead the charge in innovative instructional strategies. They have a long, rich heritage in active learning, learning by doing, and learning for mastery.

Faculty within this division were some of the first on this campus to embrace computer based learning and computer simulation for learning. Computer labs sprung up around the peripheral areas of the technical labs in such secretive ways that they were once referred to as the "mushroom labs" – springing up everywhere seemingly in the dark. These "mushroom labs" are now well established learning venues. Computer projection systems are now common in most of the learning environments within the division.

Other innovative strategies used by faculty include student study groups, lab teams, group projects, field trips, guest speakers, class presentations by students, and projects that duplicate the work that they will be doing for their employers. The creativity of the faculty of this division is a rich resource for this college. It is probably one on the best-kept secrets as well. The faculty from the division should be more involved in Flex presentations and Faculty Academy.

Classified staff is also vital to the educational process. Instructional Assistants are available to assist faculty in Airframe and Powerplant, Agriculture/Landscaping, Air Conditioning and Refrigeration, Auto Body, Automotive, and Welding. These Instructional Assistants set up lab experiments, maintain tool and supply inventories, keep equipment in good working condition, and assist the instructor with student safety issues. They also serve as role models for student conduct and behavior.

1.10 Faculty and staff are familiar with and work closely with the student services and instructional support services staff in program development and student referral.

What is the relationship between the program under review and the following student support services?

Counseling Center: Advisement, Orientation, Assessment
Transfer Center
Career Center
Extended Opportunity Program & Services
Admissions and Records Office
Financial Aid Office
Disabled Student Services Program
Matriculation Program

-Consider support staff role and services.
-Consider availability, relevancy and currency of materials & services.

The dean provides a briefing about all programs to the counselors every year. This helps them stay abreast of changes within the programs. The Transfer Center is most involved with the Engineering Program and provides assistance to students as they need information on the requirements for various engineering colleges within the University of California and California State University systems. Many students within the Technical Education Division are receiving financial aid and may also receive services through Extended Opportunity Program & Services and Disabled Student Services program. Students in the division are encouraged to matriculate – especially so that they may receive an early registration appointment, however technical students seem reluctant to complete assessment testing or attend orientation sessions. This resistance is especially true for evening students.

The Job Placement Center is very helpful when the various programs need student workers. They also provide students in the programs with assistance preparing resumes and cover letters when they are ready to apply for employment in their field. They are very willing to be guest speakers in classes to provide students with information related to conducting a job search, preparing job application materials, or learning proper interviewing techniques. The job fair that they host twice a year is an excellent opportunity for our programs and faculty to make contacts with prospective employers.

What is the relationship between the program under review and the following instructional support services?

Learning Center	Library
Math Lab	Instructional Media Center
Writing Center	ESL Support Program
Reading Lab	

Tutoring Center

-Consider support staff role and services
-Consider availability, relevancy and currency of materials & services.

Students are encouraged to take advantage of all of the services available in the Learning Center and the Library. The Math Lab has been especially helpful for technical students. There is a mathematic theme woven through most technical programs and this can be a stumbling block for technical students. Over the years, Magdalena Caproiu has developed many handouts and work sheets relating mathematic problems to technical topics. She has developed materials for Electronics, Automotive, Auto Body, Electrical, and Air Conditioning to name a few. She is very willing to work individually with the faculty in each program to find better ways to serve our students.

Joseph West, in the Instructional Media Center, has been instrumental in assisting the division faculty with computer aided projection systems for our classrooms. His knowledge and technical assistance is greatly appreciated by faculty that have had an occasion to work with him.

There has been little coordination between the Technical Education Division and the ESL Support Program. There is room for improvement in this area. Increasingly, students with weak English skills desire entry to technical programs. The reality, however, is that without proficiency in English, their success rate in technical programs is low and their employment prospects are not good.

1.11 The programs meet one or more of the primary goals articulated in the College Mission Statement.

The Engineering program is intended for students wishing to transfer to a University and attain a Bachelor's degree in engineering. Therefore, it fits within the college mission statement for transfer courses. That part of the mission statement reads:

"Transfer Courses in liberal arts, the social and natural sciences, and technical education. Completion of these courses allows students to enroll in upper division (junior, senior) programs at accredited four-year institutions through articulation agreements with universities."

The Agriculture/Landscape program and Interior Design programs also provide students with the opportunity to continue their studies at selected four-year institutions that recognize and offer programs in these majors. They are, however, primarily considered vocational and technical programs.

All other programs within the division clearly fall within the Vocational and Technical section of the college mission. That part of the mission statement reads:

"Vocational and Technical certificate and degree programs comprised of business, technical and occupational courses designed to enhance students' knowledge and skills leading to employment, career advancement, certification, and state and federal licensure. We award both Locally Approved certificates and Chancellor's Office Approved Certificates."

All programs within the Technical Education Division embrace the philosophy stated by this paragraph of the Mission statement as well:

"Antelope Valley College takes pride in providing a quality, comprehensive education for a diverse community of learners. We are committed to student success, offering value and opportunity to all members of our community."

1.12 The development of new and revised courses is consistent with the College Mission Statement.

All courses within the division must fit within the college mission statement. Courses intended for transfer must meet the rigors of receiving institutions. Courses for vocational programs must meet the needs of the business or industry that will employ the graduates. Courses should prepare students for entry level employment. Care must be taken when developing programs or new courses that the efficiency of learning must be respected. Students should expect to complete Certificate and Degree requirements in a reasonable amount of time and they should expect to be prepared for transfer or meaningful employment at the end of their studies. Avocational or "fun-to-teach" courses are better suited to the Community Education offerings of the college.

1.13 Recent development in instructional technology have been incorporated into courses and student support services consistent with the objectives of the program and services.

During this period of review, the most significant development is the wide spread adoption of computers and computer projection equipment into the educational environment. Most programs have access to a computer laboratory and specialized software for computer simulation. Virtually all employers now require computer literacy as a basic skill and they expect resumes and cover letters to supplement applications for employment. Division computer labs are frequently used by students to compose resumes and cover letters for employment applications.

All of the laboratories in the new TE7 building have computer projection equipment built in. Many other labs within the division also use computer projection systems as well. Some adjunct express high dissatisfaction if they are assigned to teach in rooms without computer projection equipment as many of them have prepared lectures that require Powerpoint to present. While it is very costly, the division supports efforts of the college to move toward modern projection equipment in as many classrooms and laboratories as practical. As this new projection technology spreads throughout the college, a more

effective and systematic method for equipment maintenance needs to be developed college-wide.

1.14 The programs and courses are consistent with the development of programs, courses, and facilities articulated in the Educational Master Plan and Facilities Master Plan.

All of the programs within the division are included within the college Educational Master Plan. However, the Electrical program and Aircraft Fabrication and Assembly programs were just in the planning stages when the current Educational Master Plan was written. These programs have since developed into successful courses of studies. The Educational Master Plan is in need of updating and all of the programs within the Technical Education Division will benefit from an update to the Educational Master Plan. Significant portions of this program review could be effectively incorporated into that project.

The Facilities Master Plan has significant weaknesses related to future facilities for the programs within the Technical Education Division. A major oversight to the Facilities Master Plan throughout the years has been the lack of planning for a college supported facility for the Airframe and Powerplant program. This program has been operated at various facilities at William Fox Field Airport for many years. For a two-year period, our dreams were realized when the program established a joint venture with SR Technics and operated within the back shops of their facility at Plant 42 Site 9. The economic damage to the airline industry in the aftermath of the 9/11 attacks eventually forced SR Technics to go out of business. It was assumed that a new tenant for Site 9 would quickly materialize and a new partnership could be formed. This has not been the case. Facilities for the Airframe and Powerplant program should be contained in any update of the Facilities Master Plan.

Another significant lack of planning related to the Facilities Master Plan is the location of the New Auto Body Spray Paint Booth. The Auto Body program is scheduled relocate to the expansion of the Automotive Complex at some time in the future. This, however, is not scheduled to happen before the building of the new Health and Sciences building. Analysis of the current Facilities Master Plan leads one to believe that the current Spray Paint Booth will need to be relocated before the construction of the new Health and Sciences building. Yet, there appears to be no good location within proximity of the current Auto Body Shop. This problem needs to be addressed in the very near future.

Another area lacking attention in the Facilities Master Plan is the Welding Facility. Building TE2 has been identified as too old for renovation and scheduled for demolition in the future. Prior to this demolition, a new location for the Welding Program and the Fire Technology program must be found. It is recommended that consideration be given to the logic of locating the Welding program with the Automotive and Auto Body program in the Automotive Complex expansion plans. The Fire Technology program may be included in a public safety complex at the Palmdale Campus.

Another building scheduled for demolition is the TE1 building. This houses two laboratories and equipment storage for the Electronics Technology program. A recent needs assessment of local employers has defined a significant and critical need for electronics technicians in this area to support the aerospace and defense industry as well as the Federal Aviation Administration Air Traffic Control Facility. This need is expected to grow with the development of unmanned aerial vehicles which is being conducted primarily in the Antelope Valley and Mojave Desert airspace. A related program that could possibly benefit from sharing laboratories with the Electronics program is the Electrical program. This program has one laboratory in the new TE7 building. It is, however, already operating at near capacity. Thought should be given to three or four new laboratories (for a total of six laboratories and associated storage areas) dedicated to these programs. Those facilities would be best located on main campus but they could also be magnet programs for aerospace and construction industries at the Palmdale campus.

Part II. STUDENT OUTCOMES

2.1 Expectations for student outcomes are clearly articulated and actual student outcomes are used in the assessment of course and program effectiveness.

Student outcomes for Engineering students relate to successful transfer to a university program in engineering. The engineering professor does a good job of tracking students and gathering antidotal success stories. A more systematic process for following up on the success of all transfer students would be beneficial for the college.

Successful student outcomes for students in technical programs relates to the number of students that successfully achieve Certificates. The courses within the certificates and the student learning outcomes for these programs are reviewed and recommended by the Advisory Committees and indicate the skills required for success as entry level employees in the related occupations. The Division Office monitors the number of Certificates completed and provides this information to the instructors within the programs.

All programs within this division have developed Student Learning Outcomes as a product of this program review process. They are contained within the individual program review documents.

Technical Education Division
Student Learning Outcomes

1. Analyze and evaluate various mechanical, electrical, or environmental systems for proper operation and function and recommend repairs or improvements as necessary.

2. Interpret a variety of technical documents including blueprints, diagrams, State and Federal regulations, and manufacturer's data manuals.

3. Demonstrate appropriate workplace work habits including proper use of tools, equipment, safe work habits, and teamwork.

4. Evaluate mechanical, electrical, or environmental systems to assure that operation or function meets industry standards and tolerances.

One means of evaluating the effectiveness of student learning will be through the monitoring of the number of students completing Certificates. While this is not a perfect indicator of success, all program student learning outcomes indicate that students who complete all courses within the Certificate should have developed or mastered program student learning outcomes.

2.2 Student evaluations are an integral part of the assessment of course and program effectiveness.

Student evaluations are used as a part of the Tenure Review process, faculty evaluation process and as part of this program review process. Some faculty use student evaluations during every course, others take a more casual approach. While Education Code gives reference to significant emphasis on student evaluations, guidance from the Academic Affairs office has been inconsistent. There is room for improvement in this area.

2.3 Job placement data are an integral part of the assessment of course and program effectiveness for vocational programs.

Institutional collection of job placement data is lacking at this college. Follow up studies of graduates is difficult to conduct, and results are often lacking in integrity. Response rates are often poor and the sample can be so small as to be statistically inaccurate or even misleading. Core Measure data is available at the California Community College Chancellor's Office (CCCO) website related to employment of students who have taken vocational courses. This data, however, is not related to certificate completers, nor is it related to employment within their field of study. Again, by the time the data is analyzed at the six-digit TOP code, the sampling is so small as to render it statistically invalid.

Instructors within the individual programs have a better feel of the job placement rate for individual programs. The advisory committees consist of area employers and frequently report to instructors if they have hired graduates from the program. Also, students frequently return to thank individual instructors for giving them the skills and knowledge necessary to succeed in their chosen field.

The Job Placement Center is very helpful to programs within the Technical Education division. They conduct job fairs at least twice a year, give workshops related to resume writing and job searching, and assist students individually as needed. They are very willing to be guest speakers in classes where students will soon be seeking employment.

Part III. PERSONNEL AND SUPPORT SERVICES

3.1 The ratio of full-time to part-time faculty provides students with a quality of instruction consistent with student needs and goals of the programs.

The ratio of full-time and part-time faculty does not provide students with quality instruction in the three programs that have no full-time faculty. Drafting, Welding, and Interior Design courses are conducted exclusively by adjunct faculty. There is no full-time faculty available to give students advice related to the broader aspects of the field of study or how the various courses work together to complement each other. The adjuncts that teach are rich in talent with extensive experience from industry, but they do not have the time to connect with each other. Therefore, the courses are not well connected and the programs do not provide students with a consistent, high quality educational experience. They do not have the time to make significant outreach to the local businesses and industries. Students, therefore, do not receive good information related to job placement opportunities for program completers.

Another significant problem with all three of these programs is the inability to staff day and night classes with adjunct. Adjunct are rarely available to teach day classes as they are working their full-time jobs during those hours. Students, however, have expressed a desire for day classes – especially in Interior Design and Drafting. Also, these two fields are very prone to contract and overtime work. When the industry work increases, adjunct are difficult to find even for evening classes. Architectural Drafting classes have been cancelled with 20 students enrolled on several occasions due to lack of available adjunct talent. This is not a lack of effort on the part of the dean or the engineering faculty. It is a lack of availability of qualified talent willing to teach when they are required to work overtime for their full-time employer.

3.2 The ratio of full-time to part-time faculty provides adequate personnel responsible for program evaluation and revision.

As mentioned above, the Drafting, Welding, and Interior Design programs do not have full-time faculty. This is even more critical to the ability of these programs to keep up with program evaluation and curriculum revisions. All of these programs have been attempting to revise curriculum over the last two years. The lack of full-time leadership has made this task virtually impossible. Adjunct faculty are not compensated for curriculum revision. Many times, they only teach one course and they may not be the only adjunct that teach that course. Therefore, they do not feel responsible or accountable for this necessary task. Additionally, even if they did feel responsible, or the college agreed to compensate them, most of them have full-time jobs with other employers and do not have the time to devote to curriculum revision. These programs have been on the college list of approved programs since at least 1970. These positions have been brought forward as significant personnel needs on numerous occasions. The college needs to take a serious look at its commitment to vocational and technical programs.

Another area that could benefit from additional faculty is the popular and growing Fire Technology program. There is only one full-time faculty. He is complemented by at least 12 very well qualified part-time faculty. While adjunct faculty are readily available and willing to teach, the program has grown to the point that an additional full-time faculty position is needed. This is especially true if the college wants to continue the successful Wildlands Fire Fighter program and expand into a Municipal Fire Academy.

3.3 There are adequate staff development opportunities to enhance the effectiveness of all staff in meeting the goals and objectives of the programs as well as the professional development of staff.

There are adequate opportunities for staff development and faculty in this division have taken full advantage of a variety of opportunities and activities. Faculty routinely participates in Flex activities. They have attended many state and national conferences funded either through district staff development funds or VTEA funding. These activities have been attended by experienced faculty and new faculty to help them develop in their new field as educators.

3.4 Full-time faculty are actively involved in the process of hiring and evaluating instructors.

Faculty are very active in the process of hiring faculty. The dean relies on the full-time faculty in each discipline to be the primary contact with that industry and be the principal contact for recruiting and retaining adjunct faculty. In addition to adjunct hiring, during this period, the division has hired seven additional full-time faculty. Division faculty were included on every hiring committee. Faculty in this division take the tenure review process seriously and willingly serve on the tenure review committees.

The evaluation process for tenured and adjunct faculty has been inconsistent with the lack of continuity in the Human Resources office. It has been difficult to obtain reliable information on who is scheduled for evaluation and whether the previous evaluation was conducted by the dean or by faculty peers. Faculty are reluctant to evaluate faculty in different disciplines and without a historical perspective, it is difficult to encourage faculty to become involved in the evaluation process. New adjunct faculty are routinely evaluated by the dean.

3.5 The evaluation of staff is systematic and conducted at appropriate intervals. Follow-up to evaluation is timely and systematic.

As stated above, tenure review for new, tenure-track faculty and evaluation for new adjunct faculty are conducted in a systematic and timely manner. Follow-up is always conducted in a timely manner and in a way that provides constructive feedback. The lack of information from the Human Resources department regarding timelines for tenure faculty evaluations, adjunct faculty, and whether past evaluations were conducted by the dean or peers make it difficult to maintain an effective evaluation program.

3.6 The evaluation processes assess effectiveness and encourage improvement.

The evaluation processes are effective in assessing successful teaching strategies and encouraging improvement. Again, the lack of records management related to peer versus administrative evaluation is creating difficulty keeping the process working as outlined in the evaluation procedures.

3.7 There are adequate full-time faculty to meet program needs.

There are not adequate full-time faculty to meet program needs. As referenced in 3.1 and 3.2, the lack of full-time faculty for Drafting, Interior Design, and Welding is a significant problem and leads to weak programs that do not meet the needs of students and have significant difficulties staying up with the changing needs of their respective industries. It has only been through the continued dedication of the engineering professor, dedicated adjunct faculty, and the welding instructional assistant, that these programs have been able to maintain the status quo and provide some level of service beneficial to students. Additionally, additional full-time faculty are needed to support the growth of the Fire Technology program.

3.8 There are adequate support staff to meet program needs.

There is not adequate support staff for this division. The Administrative Assistant is very efficient and works tirelessly to keep everything running smoothly and making every possible deadline for schedules, book orders, catalog changes, curriculum revisions, etc. However, the workload has expanded greatly over the period under review with no additional clerical assistance. In addition, it is not clear what workspace could be used to support additional clerical assistance.

A new instructional assistant has been hired to support the programs within the TE7 building. This person will be primarily responsible for providing support to the Air Conditioning and Refrigeration program. This program has been without the help of an Instructional Assistant since relocating from TE2 to TE7.

The Instructional Assistants in the TE2 building are spread too thin to do an adequate job. Originally, these positions were proposed to support the simultaneous operation of Welding, Auto Body, and Air Conditioning. This is an impossible task. Eventually, the Air Conditioning program moved to the TE7 building, day Welding classes were greatly reduced when the full-time welding instructor position wasn't filled, and the day Instructional Assistant could provide adequate assistance to the Auto Body program. He has since been on worker's compensation leave for over one year. This position has been filled by an hourly worker, but a permanent solution needs to be found as soon as it is practical.

The Instructional Assistant in the TE2 building at night is stretched beyond practicality. The Welding program and Auto Body program both conduct overlay classes at the same

time. It is not possible for him to be in both labs at the same time. It is not possible for him to get "one lab going" and then go help the other lab. Student workers are helpful when they can be found, but they are an unreliable source of employees. There needs to be an additional Instructional Assistant for TE2 at night. That way, one Instructional Assistant can be assisting with Welding and the other can be assisting with Auto Body. This is needed for the safety of the students in overlay classes and the effective monitoring of supplies, tools and equipment.

An additional Instructional Assistant may be required to support the Electronics Technology program if it grows to its previous capacity. The half-time position that did support Electronics was redirected and expanded to become the Instructional Assistant for TE7.

Part IV. FACILITIES AND EQUIPMENT

4.1 Instructional areas and facilities are appropriate for effective teaching and learning.

As mentioned in section 1.14, the Educational Master Plan and the College's Strategic Plan are in need of updating. Weaknesses with the Facilities Master Plan were addressed in section 1.14 and will be summarized here as well.

Instructional areas in the TE7 building are very effective for teaching and learning. This is the newest building on campus and is home to the Aircraft Fabrication and Assembly program (structures and composites), Air Conditioning and Refrigeration program, and the Electrical Technology. It also contains a Material Testing Laboratory and a shared computer laboratory. These laboratories are well planned and well designed. They contain areas for lecture and discussion, computer simulation, laboratory project work and adequate storage for materials, tools and equipment. All equipment in this building is approximately three years old and is in good working condition. Instruction can flow from one space to another seamlessly. These laboratories are frequently used for tours for local officials and prospective students and they always receive rave reviews.

Drafting/Computer Aided Design laboratories are in the APL building. One large laboratory was subdivided into two rooms several years ago. While the configuration of the rooms is not ideal, they are adequate and provide for more efficient of scheduling of classes. The Interior Design and Clothing and Textiles laboratories are also in the APL building. They have adequate space for teaching but would benefit from more efficient cabinetry and improvements to the storage areas.

The existing Agriculture/Landscaping facility is very lacking, however, plans are in place to relocate it to the area west of the TE7 building in the next two years. This new facility will be a welcome improvement to the program. However, the costs of plant and landscaping materials for re-establishing the outdoor laboratory areas must be taken into consideration. These costs are not included in the architect's estimates for construction.

The Automotive facility is adequate for the program as it exists and the courses that we currently offer, but it will benefit from the planned expansion of the Automotive Complex.

As mentioned in section 1.14, programs that are housed in the TE1 and TE2 have significant problems with facilities. These buildings are some of the oldest on campus and have been slated for demolition rather than remodeling. The current Auto Body laboratory is very small for the number of students enrolled Outdoor storage areas are not adequate for the cars and body panels that must be used by students in the program. Additionally, there are significant concerns regarding the location of the new Spray Booth in light of plans for the new Health and Sciences building.

The Welding program recently replaced all of the arc welding stations and the oxy/acetylene bench with modern equipment. This was necessary since the old stations were no longer cost effective to repair and maintain. The new stations are very modern and meet the needs of the industry, but the overall appearance of the shop is dingy and shows its age.

The Fire Technology program utilizes a reconfigured Air Conditioning laboratory in TE2 as its primary classroom and storage area. The acoustics of this room are not good but it is functional until a better facility can be built.

Likewise, the Electronics Laboratories in TE1 do not show well due to the age of the building and the old, inefficient, and out-of-date laboratory benches. The existing benches are over 30 years old and were donated to the college by Northrup Grumman. An investment in new laboratory benches is overdue and was requested as part of the division budget requests in April 2005. This is an urgent need that needs to be addressed immediately if the program is to rebuild the student base and update its reputation with the local industry. Again, a new facility (that is not included in the current Facilities Master Plan) is needed before TE1 is demolished.

The highest level of need is a permanent location for the Airframe and Powerplant program. The current facility at Fox field is cramped and does not provide for efficient instruction. Attempts to gain corporate support for a facility will continue to be pursued, but no immediate solutions are on the horizon.

4.2 Instructional areas and facilities are appropriate for effective teaching and learning.

Great strides have been made during this period toward improving the equipment used within the programs of this division. The construction of the TE7 building was a major upgrade in equipment for the Air Conditioning and Refrigeration program and was instrumental in allowing the start-up of the Electrical program and the Aircraft Fabrication and Assembly program without diverting assets and funding away from existing programs. The other programs within the division have been able to benefit from VTEA funding to make major improvements to equipment. These programs

include, but are not limited to Welding, Automotive, Drafting/Computer Aided Design, Fire Technology, Airframe and Powerplant, Electrical Technology, Aircraft Fabrication, and Electronics Technology.

The Electronics Technology program has the most critical needs for improved equipment, tools, durable supplies and trainers. This program was suspended for one year while a needs assessment was conducted upon the retirement of the full time instructor. The needs assessment validated the need for the program and indicated that the program should move in the direction of providing support to the aviation and defense industries. Now that the commitment has been made to hire a full-time instructor, the college needs to provide adequate investment in funds to reinvigorate the program. This includes the previous request of approximately $37,000 for new work benches and chairs for both rooms. Beyond that, approximately $50,000 will be needed over the next two to three years to reestablish an adequate and modern parts inventory, purchase state-of-the-art soldering stations for surface mount technology, upgrade digital, analog, microprocessor and communications systems trainers to meet the needs of industry and repair and upgrade oscilloscopes and meters as necessary.

The Auto Body program is also looking at the possibility of needing to purchase durable tools and supplies necessary to expand instruction into aircraft painting and refinishing. Both Lockheed Martin and General Atomics have expressed a strong interest in hiring completers from the Auto Body program to work in the aircraft industry. Lockheed has been helpful in providing teaching material to support this curriculum change.

All programs will need periodic influxes of one time funding to assure that they stay up with the needs of business and industry. A continuous concern across the campus is the never ending battle to keep computers and software up to current standards. This is particularly critical for the Drafting/Computer Aided Design area. AutoCAD is the industry standard software for this program. It is upgraded every two years. The new versions are expensive and frequently require a significant upgrade or replacement to the hardware as well.

4.3 Program support space is adequate to ensure the effective operation of the educational program and related support activities.

Most of the support space is adequate. All programs would benefit from additional storage, however, the better approach is to periodically evaluate that existing space for more efficient use. There is a need for more outdoor storage space for the Welding and Auto Body programs. The Fire Technology program could benefit from storage shelves and cabinets to make better use of available space.

As mentioned in a previous section, additional clerical support would be a wonderful addition for the division, but it is difficult to determine a space that would be effective for that additional person.

Offices are adequate for the current faculty. There is adequate office space to support a full-time Drafting Instructor in the TE7 building. An additional Interior Design Instructor could use an office area in the APL building adjacent to the Interior Design storage area if the storage area was modified. Also, there is a small office area adjacent to the Welding Laboratory in TE2 that could be used by a full-time Welding instructor. This is the extent of the adequate space for support.

4.4 The safety of the facilities and equipment are reasonable and adequate.

In general, the safety of the facilities and equipment are reasonable and adequate. The one concern for safety is the overlay classes in Welding and Auto Body without adequate support staff.

Part V. FISCAL SUPPORT

5.1 During the period under review, resources have been used effectively to support programs and services.

During the period under review, a systematic and continuous plan has been carried out to identify areas of significant need, obtain necessary resources, upgrade equipment, tools, and durable supplies and improve the effectiveness of the programs within this division. Significant funding has been obtained through the proper use of VTEA funds for major program improvement. Additionally, a $100,000 grant from CCCCO was obtained for the Airframe and Powerplant program. Equipment funding and supplies increases have been priorities by the division over the needs for faculty and staff as it was imperative that the current programs, faculty, and staff have adequate support.

One such decision was to request a significant increase in ongoing funding for supplies through the categorical funding source referred to as Proposition 20. Even though full-time faculty in Welding and Drafting were needed, the prioritized request for on-going funding was directed at increasing the supplies budgets of all programs to assure adequate supplies for students in all programs. This increase was approved by the SPBC beginning in 2001/02. Since that time, it has been continuously debated by various Vice Presidents and Presidents as to whether this funding is one-time or ongoing. It has been utilized as if it was ongoing after reassurances from three different individuals occupying the Vice President of Academic Affairs in the years since. This funding is necessary and vital to the continued operation of the existing programs.

Ongoing funding was requested and granted by SPBC for 2004/05 to support the Electrical program, Aircraft Fabrication and Assembly and expansion of the Engineering offerings in the Materials Testing laboratory, Drafting/Computer Aided Design and Fire Technology.

A summary of instructional supplies funding is provided below:

Historical Ongoing Supplies Budget from 1998/99	$ 46,000
Historical Budget for Clothing/Textiles & Interior Design	$ 3,573
Proposition 20 Ongoing from SPBC 2001/02	$ 33,000
SPBC Increases in 2004/05 for New Programs	$ 32,000
Total	**$114,573**

Instructional supplies funds are allocated to the various programs based on their individual needs. It is recognized that some programs are more dependent on supplies than others. An average of the annual supplies per program can, however, be obtained by dividing the total budget above, by the 15 programs within the division. This number is a very conservative $7,638 per program.

5.2 Current and anticipated funding is adequate to maintain high quality programs and services.

Most of the programs are operating within acceptable standards at the current time. The notable exception is the Electronics Technology program. As stated in section 4.2, the decision to continue the program based on the needs assessment requires an investment in funding to bring it in line with industry standards. One time funding requested in April 2005 for approximately $37,000 for new work benches and chairs is critical. Additionally, approximately $50,000 will be needed in each of the next three years to reestablish an adequate and modern parts inventory, purchase state-of-the-art soldering stations for surface mount technology, upgrade digital, analog, microprocessor and communications systems trainers, and repair and upgrade oscilloscopes and meters as necessary. It is hoped that some of this funding will be obtained through VTEA as it fully meets the requirement of major program improvement. However, some one-time district funding (such as that requested for workbenches) may be needed to stay in compliance with the "supplement but not supplant" language of the Carl D. Perkins Federal legislation or in the event that major changes are made to the Act during reauthorization.

Vigilance will be necessary to assure that all program needs for all of the programs are fully communicated to SPBC and the VTEA planning team in the future to assure that the programs to not slip into obsolescence and disrepair. It is much easier and fiscally prudent to keep programs continuously modernized than to allow them to become neglected.

An unanticipated expense is the cost of plants and materials for the re-establishment of the landscaping areas around the relocated Agriculture/Landscaping area. These costs are not included in the architect's plans for the cost of construction. The labor will be very reasonable as students will accomplish the work as a part of their normal course work. Materials, however, will need to be available for these projects. This is estimated at $100,000 to $200,000 over a 3-5 year period.

A notable area for future needs will be an adjustment on the supplies budgets across the division. The increases in 2001/02 were enough to bring unhealthy programs into functional operation and the increases in 2004/05 were to fund new programs or programs that had not had a supplies budget in the past. Instructional supplies funding has not been adjusted for inflation since 2001 and costs have continuously increased. Programs of concern for increases in supplies include Automotive, Auto Body, Aircraft Fabrication, Electronics Technology, Welding and Airframe and Powerplant. It is estimated that the supplies budget for the division should be increased by approximately $25,000 for 2006/07 to keep up with the inflationary pressures on the consumable supplies used by these programs.

Another area of concern regarding budgeting is the woefully inadequate funding for non-instructional supplies ($125) and warehouse supplies ($1,800). These budgets have remained the same for over 10 years. The $125 will not begin to support the cost for replacement business cards for existing faculty, not to mention business cards for new faculty and other necessary non-instructional supplies. During the 10 years that the warehouse budget has been stagnant, we have gone from an office using typewriters, carbon paper, and dot-matrix printers to an office with high speed copiers, high speed printers, need for toner cartridges, ink jet cartridges, thumb drive storage devices, etc. the college needs to recognize and accept the cost of doing business and allocate reasonable budgets to support the educational mission. A recommendation of $4,000 should be considered as reasonable and necessary.

During the period of review, the Instructional Block Grant funds granted to this division have taken an interesting twist. In 1998/99 the Technical Education Division was granted $16,750 in instructional block grant funds. This funding usually covered some emergency replacement of equipment, or was used to upgrade classroom furniture, or make a major purchase that could benefit multiple programs. During the budget crisis of 2001/02, it was reduced to $8,375. Then in 2002/03 it was initially allocated at $23,125 but subsequently reduced to $0 before it could be spent. In 2004/05 it was restored to $23,125 and used for modern computer projection equipment that could benefit multiple programs. Then in $2005/06, Instructional Block Grant funds were reduced to $14,250. This is less than an average of $1,000 per program. It is hoped that some more stable and reliable way of managing this funding will develop in the future.

5.3 Anticipated funding is adequate for the development of revised and new programs.

There are no plans for new programs for this division. The lack of faculty to staff the current programs is a serious source of discouragement for starting new programs. Over the period under review, the opportunities for new programs were directly related to the opening of the new TE7 building. It was imperative that the capital equipment and supplies budget for those programs not come at the expense of the existing programs.

The costs for revised courses or programs must always be considered by the college as a necessary cost of doing business. The costs associated with the Electronics Program could be considered the cost of revising the program but there are no major plans for

revising the curriculum. The costs associated with that program are the costs necessary to keep it in line with industry standards and costs from the lack of attention by the previous faculty. They have been fully outlined in previous sections.

Part VI. COMMUNITY OUTREACH AND PROGRAM AWARENESS

6.1 Staff maintains appropriate links with community.

Staff maintain adequate links with the community. The Dean serves as the college representative to the Greater Antelope Valley Economic Alliance, the Defense Industry Task Force, and other Economic Development entities of the local area. She is seen as a resource for the L. A. World Airports agency and the city of Palmdale when they are attracting new businesses to the area. She also maintains a high level of visibility with the management of Lockheed Martin, Boeing, Northrop Grumman, Edwards AFB, NASA and Federal Aviation Administration as they are major employers of graduates of many programs within the division.

Staff participates in a variety of activities such as the annual Aerospace Walk of Honor and Street Faire and also host targeted events such as the Aerospace Technician Night. The Automotive Career Day hosted by the Automotive Department is an event that area high schools look forward to attending every year.

The Agriculture Instructor writes a weekly column for the Valley Press and is active in the local water board and the Antelope Valley Fair and Home and Garden Show.

Ways to improve the support of the local Automotive Dealerships is being explored as an area for future improvement.

6.2 Staff makes appropriate efforts to inform students about each program and facilitate student participation in those programs.

Faculty and staff participate in the orientation days that the college hosts for the high school students each spring. New brochures were developed for all programs for the 2005/06 year. They are very pleasant and informative and are used at a variety of venues. Faculty and the dean make every attempt to keep visible with counseling, EOPS, Disabled Student Services, and other offices of the college to assure that our programs are visible and open to those who can benefit.

An area of improvement that was noted earlier is a better relationship with ESL. Also, recently discussions have begun with the Math/Science division about improving the information flow between technical programs and students in elementary and intermediate mathematics. Since mathematics is a common thread through most technical programs, students who have had successful mathematical experience should be good candidates for success in technical educations.

6.3 Where appropriate, advisory committees meet regularly and support the development of programs as well as promote student placement.

All programs have active advisory committees and through the program review process, programs have confirmed their commitment to maintaining active advisory committees. These committees include major employers of students from the industry and they also serve as a good source for guest speakers for classes. This helps students hear the needs of business and industry for good work attitudes from those who will be responsible for hiring them. It also gives the industry a chance to preview the students. When possible, internships and work experience opportunities for students arise through these contacts.

Part VII. COMPLIANCE WITH FEDERAL AND STATE REGULATION

State and Federal guidelines that are pertinent to the division have been reviewed and compliance issues addressed.

All programs within the division are in compliance with state and Federal guidelines.

Summaries and Recommendations

For each part (I-VI) of the self-study, provide the following information and relate its impact to the Vision and Goals of the College' Strategic Plan.

A. A summary of the findings and their significance.

Part 1 Curriculum

Most programs have revised and updated curriculum on a regular basis. A systematic approach to curriculum review is an outgrowth of this program review process. Two new programs were developed – Electrical Technology and Aircraft Fabrication and Assembly. The needs assessment conducted related to Electronics Technology reaffirmed the need for the program and the solid foundation for the curriculum in its current form. The Construction Technology program should be considered as a candidate for review under program discontinuance guidance when they are developed.

For the most part, course scheduling provides students with reasonable access to meet their educational needs and to promote healthy enrollments. The notable exception to this is in the programs that lack the presence of full-time faculty. These programs are also weaker when it comes to curriculum revision and good contacts with business and industry.

Student support services and instructional resources are generally available for students within this division. They take advantage of financial aid, learning resource center, job placement and EOPS frequently. Coordination could be improved with the ESL support and enhanced partnerships with the Math/Science Division.

The programs within the Technical Education Division are well aligned with the college Mission Statement. They directly support the Mission Statement goals for transfer programs and vocational and technical education programs. Courses within all programs are analyzed to ensure they properly address the college goals and mission and fit into an efficiency of education for students and the taxpayers of California.

Part 2 Student Outcomes

Student Learning Outcomes have been developed for all programs within the Technical Education Division and for the Division as an outcome of this program review process. Students are encouraged to complete all requirements for Certificates and Degrees. Job Placement services are readily available to assist students with the development of an effective job search strategy. Those students interested in transferring can receive good information from division faculty or the Transfer Center. While student evaluations during this period indicate a high level of satisfactions, the process of student evaluations could be more systematic.

Part 3 Personnel and Support Services

Those programs with full-time faculty are adequately staffed. A significant weakness is the three programs that do not have the benefit of full-time faculty. Drafting/Computer Aided Design, Interior Design, and Welding have difficulty providing adequate sections of classes, schedules that meet the needs of students, advice for students related to job placement and updated and revised courses and programs.

Additionally, there is not sufficient support staff for certain programs. Welding and Auto Body programs should have separate Instructional Assistants for evening coverage with adjunct faculty teaching overlays.

Faculty are involved in the hiring process for faculty and staff and are actively involved in the tenure review. Improvements could be made in tenured faculty evaluation and adjunct faculty evaluation with better support from Human Resources.

Part 4 Facilities and Equipment

Those programs lucky enough to be housed in the TE7 building have modern lecture/laboratories that are truly show places of effective and modern technical education. Programs housed in the APL building and Automotive are in facilities that are generally acceptable.

The Agriculture/Landscaping facilities are not adequate. Plans are currently underway to relocate this program to modern and adequate facilities to the west of the TE7 building. Besides relocating the buildings, however, plans need to consider the amount of new planting materials and landscape materials that will need to be purchased over the 3-5 year initial period for students to re-establish the outdoor laboratory areas.

Programs in TE1 and TE2 have inadequate facilities. The Auto Body area is too small, there is inadequate outside storage, and the location of the Spray Booth will present a significant problem for the development of the Health and Sciences building. The Welding laboratory is dingy and in need of a facelift. The Fire Technology classroom suffers from poor acoustics. The Electronics Technology laboratories are in serious need of new work benches.

Another concern regarding facilities is the lack of a permanent solution to house the Airframe and Powerplant program. The shared facilities with SR Technics were an ideal situation for this program but they are no longer available. Other corporate sponsors are being sought but they have not been forth coming as of this writing.

In general, there have been significant gains in the quality and quantity of equipment and durable tools and supplies used by all programs. This has been through special grants, new building funds, and judicious use of VTEA funding. It is imperative that this type of continuous investment remain in the future to assure program quality does not decline.

Part 5 Fiscal Support

As mentioned above, fiscal support has improved and therefore programs have been able to keep pace with the standards set forth by business and industry. Some of this support has been through one-time funding, VTEA funding, grants, and on-going increases to supplies budgets by SPBC.

Future support must continue through these sources and district instructional block grant funds to continue the programs at the standards required by area employers.

Additional funding will be required over a 3-5 year period to re-establish the plantings and landscaping areas associated with the new Agriculture and Landscaping areas. These are not included in the architect's drawings or building costs. The labor for these activities will be very inexpensive as students will do the work as a normal part of their course work. However, the materials will need to be available on an ongoing basis until the entire area has been re-established.

Additionally funding needs to increase to match recognized costs associated with inflation and changes in technology. This is most important as it relates to supplies budgets.

Another fiscal consideration is proper staffing levels for faculty and staff. Programs should not be expected to exist for more than a year or two without a commitment of full-time faculty. Adequate Instructional Assistants need to be provided as well.

Part 6 Community Outreach

The Technical Education Division is visible in the community in a number of ways. The dean is active in a variety of economic development committees and activities. A close connection exists in a variety of ways with the local aerospace community. Automotive Career Day has become an institution. The Agriculture Instructor writes a weekly column for the Valley Press. Advisory Committees are active for every program. Job placement for students is generally good and this increases community awareness for the programs.

B. A list of major recommendations which include:

-a plan of action for implementation of goals and objectives for improvement or enhancement of programs and associated costs.
-expected outcomes of goals and objectives.
-a reasonable timeline for attainment of goals and objectives.

Part 1 Curriculum

- Develop and implement a system for course review, update, and revision on a three year rotation for all courses in all programs.
    - Timeline: This has been accomplished largely through the program review process and will be implemented for Spring 2006.

- Continue maintaining and analyzing division enrollment statistics to watch for changing trends or adapt schedules to changing student needs.
    - Timeline: This is current practice and will continue.

- CT 101 needs to be removed from the courses required for the Certificate in the Interior Design Program. This has been the recommendation of the Advisory Committee for the last three years and it is time to follow this recommendation.
    - Timeline: Spring 2006 for inclusion in 2006/07 catalog.

Part 2 Student Outcomes

- Develop Student Learning Outcomes for all programs.
    - Timeline: This has been accomplished largely through the program review process.

- Refine Student Learning Outcomes and develop a detailed plan for measuring the effectiveness of student learning related to Student Learning Outcomes.
    - Timeline: Spring 2007.

- Encourage students in all programs to apply for Certificate and Associate Degrees. Increase the number of Certificate completers in each program by 10%.

- Timeline: Develop a handout to pass out to students by Fall 2006. Implement encouragement of advanced students to apply for graduation in Fall 2006.

Part 3 Personnel and Support Services

- Hire a full-time instructor for Drafting/Computer Aided Design.
  - Cost: $100,000
  - Timeline: Fall 2007

- Hire a full-time instructor for Interior Design.
  - Cost: $100,000
  - Timeline: Fall 2007

- Hire a full-time instructor for Welding.
  - Cost: $100,000
  - Timeline: Fall 2008

- Hire a full-time Instructional Assistant to replace the Instructional Assistant on Workers Compensation leave.
  - Cost: $0
  - Timeline: Spring 2006

- Hire a full-time Instructional Assistant for evenings assigned in support of the Auto Body program. This is in addition to the full-time evening Instructional Assistant who is primarily serving Welding at the present time.
  - Cost: $50,000
  - Timeline: Fall 2007

- Hire an additional full-time Instructional Assistant for TE7 programs.
  - Cost: $50,000
  - Timeline: Fall 2008

- Hire a full-time Instructional Assistant for support of Electronics Technology.
  - Cost: $50,000
  - Timeline: Fall 2009

Part 4 Facilities and Equipment

- Develop a plan for a permanent facility for the Airframe and Powerplant program
  - Cost: $10,000,000
  - Timeline: Fall 2008

- Develop a plan for a suitable relocation of the Spray Booth.
  - Cost: $100,000
  - Timeline: Fall 2009

- Incorporate the Welding program into the Facilities Master Plan with the Automotive Complex.
    - Cost for planning is predicted to be minimal.
    - Timeline: Fall 2009

- Develop a plan for relocation of Electronics Technology and expansion of Electrical Technology.
    - Cost for planning is predicted to be minimal.
    - Timeline: Fall 2009

- Develop a plan for a Municipal Fire Academy at the Palmdale site.
    - Cost for planning is predicted to be minimal.
    - Timeline: Fall 2006 or Fall 2007

Part 5 Fiscal Support

- Replace workbenches and chairs in both Electronics Technology Laboratories.
    - Cost: $37,000
    - Timeline: Spring 2006

- Modernize Electronics Technology equipment, durable supplies, tools and parts inventory.
    - Cost: $100,000 - $150,000 VTEA Eligible.
    - Timeline: Fall 2006 to Spring 2007

- Re-establish the infrastructure of plants and landscaping for the Agriculture/Landscaping program necessary due to the relocation of the program to new facilities.
    - Costs: $100,000 - $250,000 (Recommend Bond Funds and some donations)
    - Timeline: Fall 2007 to Spring 2009

- Increase instructional supplies across the division to keep pace with inflation.
    - Cost $25,000
    - Timeline: Fall 2006

- Purchase necessary supplies and tools for Auto Body program to demonstrate proper techniques for aircraft painting and refinishing.
    - Cost: $25,000 - $35,000 VTEA Eligible.
    - Timeline: Fall 2006

- Keep AutoCAD laboratories up-to-date with the proper versions of AutoCAD and hardware with sufficient capability to run the software properly.
    - Cost: $50,000 No funding source identified.
    - Timeline: Spring 2007

- Encourage all programs with program improvement needs to submit VTEA proposals.
    - Cost of encouragement $0
    - Timeline: Ongoing

Part 6 Community Outreach and Program Awareness

- Continue successful activities outlined in Part 6.
    - Cost: Minimal
    - Timeline: Ongoing

- Develop strategies to connect with and inform students in Elementary and Intermediate Algebra of opportunities in Technical Education Programs.
    - Cost: Minimal
    - Timeline: Summer 2006

- Develop new strategies for building relationships with the High Schools.
    - Costs: Minimal
    - Timeline: Fall 2007

- Develop better lines of communication with ESL staff and faculty
    - Cost: Minimal
    - Timeline: Spring 2007

C. A list of recommended changes in the Educational Master Plan, Facilities Master Plan or Vision and Goals of the College's Strategic Plan.

The Vision and Goals of the College's Strategic Plan, Educational Master Plan, and Facilities Master Plan for the programs under review should be reviewed and revised to: (1) meet student needs, (2) respond to institutional priorities, (3) adequately reflect changes in the disciplines as well as changes in educational methodology and technology, (4) address external mandates such as state requirements, industry and professional standards, etc.

As mentioned throughout this document, the College's Educational Master Plan is somewhat outdated and in need of being updated in a number of areas. It is suggested that this program review document can be a good source of information for the next revision to the Educational Master Plan.

Please refer to Section B Recommendations Part 4 Facilities and Equipment for very specific recommendations of changes that need to be addressed in the next revision to the Facilities Master Plan.

PROGRAM REVIEW OUTLINE
Aerospace-Airframe & Powerplant

PART I. CURRICULUM

This program is designed to prepare students for careers in the aeronautical and aviation industry. The courses offered by the Airframe and Powerplant program are vocational education based. Three Airframe and Powerplant certificates (General Aircraft Maintenance, Aircraft Airframe, and Aircraft Powerplant) are designed for those individuals seeking an aircraft maintenance technician license. The General certificate requires 18 units, the Airframe certificate requires 30 units, and the aircraft Powerplant certificate requires 30 units. The entire program requires successful completion of 78 units.

Completing any of the certificate programs in addition to the associate degree requirements may satisfy the requirements for an associate degree in aeronautical and aviation technology. This program is transferable.

1.1 The curriculum supports the educational objectives of the program/discipline. New and revised courses address changes in the discipline or industry and specifically address student needs.

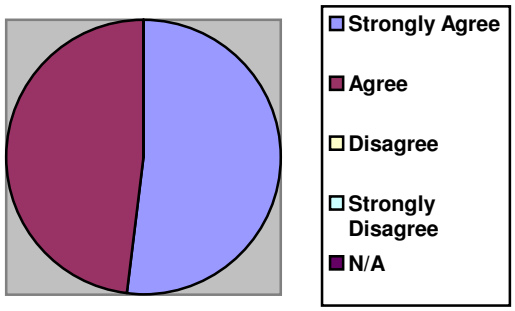
The curriculum supports the educational objectives of the program. The courses are continually revised in accordance with Federal Aviation Regulations.
The Airframe and Powerplant program funding has been supported by the yearly supply budget, proposition 20 funding, grants and the Federal Vocational Technical Education Act (Vocational Technical Education Act).

Since September 11, 2001, there has been a decline in the aerospace industry, which has affected both the industry and college enrollment. The aviation industry is now in slow recovery and moving forward again. The Antelope Valley is considered the aviation capitol of the world and is still the primary employer of this community. The program is targeted to meet local industry needs.

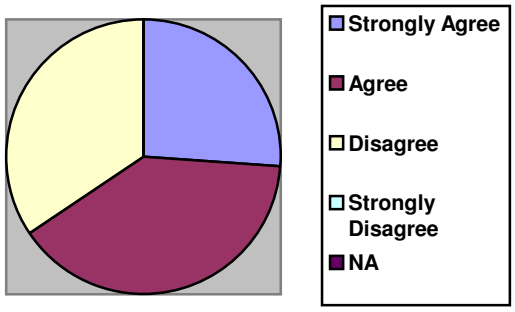
The Federal Aviation Administration is our direct controller and if the college proposed to develop or revise existing courses it must first obtain Federal Aviation Administration approval.

The addition of distance education would enhance the ability of the program to better serve the student needs and increase the possibilities of greater enrollment.

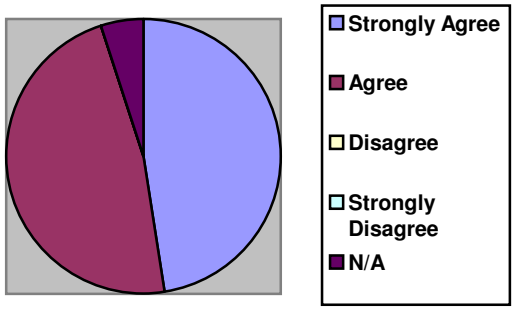
Student Survey: The course offerings in this program meet my learning needs.



Student Survey: The course offerings in this area of study are relevant and up to date.



Student Survey: The program adequately prepares me for my future.



1.2 Course requisites have been reviewed and are consistent with validation criteria.

Course prerequisites are for AERO 231 and AERO 241, which are AERO 230, and AERO 240 respectively. All other courses have Advisories. The course advisories are

periodically reviewed by the faculty and advisory committee as part of the revision process.

1.25 Each course will be reviewed to determine which need to be <u>revised</u> and which need to be <u>updated</u>.

Aero 120, Aero121, Aero 230, Aero 231, Aero 240 and Aero 241 courses were revised in 2002 to incorporate Secretary Commission on Acquiring Necessary Skills (SCANS) competencies and industry standards. Aero 280, Aero 281 and Aero 282 have not been taught in several years and are in the process of revision at this time.

Course	02-03	03-04	04-05	05-06	06-07	07-08	08-09
AERO 120	X			X			X
AERO 121	X			X			X
AERO 230	X			X			X
AERO 231	X			X			X
AERO 240	X			X			X
AERO 241	X			X			X
AERO 280	X			X			X
AERO 281	X			X			X
AERO 282	X			X			X

1.3 Vocational Programs/Courses are in compliance with industry standards, advisory committee recommendations and state/federal funding guidelines.

The course curriculum is followed to the letter due to adherence to Federal Aviation Administration regulations. Changes occur with advances in technology, changes to Federal Aviation Regulations (FAR's), industry standards, and advisory committee recommendations.

1.4 Courses are taught within the parameters described in the outline of record.

All instructors follow the course outline of record. They also collaborate on grading and teaching methodology to assure consistency.

1.45 Division faculty has deleted courses from college catalogue, which have not been taught in 3 years. If the course is not deleted it must be revised.

Aero 280, Aero 281 and Aero 282 are in the process of being revised.

1.5 Where appropriate, courses address issues related to diversity and/or multicultural perspectives.

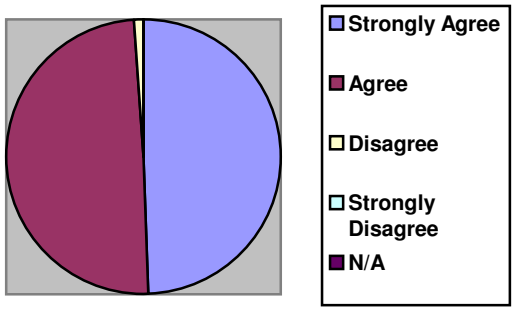
The program attracts students from all ethnic and socio-economic backgrounds. Women are considered nontraditional students in this program and they are not represented in

large numbers but there are women students in classes every semester. Minority and nontraditional students are treated with respect and dignity, as are all students. All educational and promotional materials feature students from diverse backgrounds.

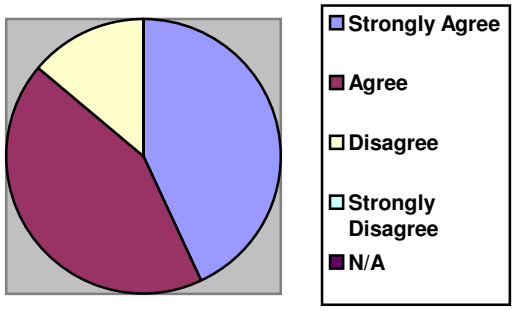
1.6 Course scheduling provides students with reasonable access to meet their educational objectives.

Courses were offered during evening hours when working adults would be able to attend. Approximately 4 years ago, a day class was added and has been successful. At the present time we have day and evening classes to better meet the needs of the student base population.

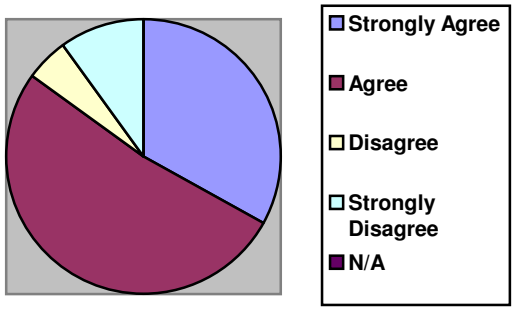
Student Survey: The pattern of courses for certificate programs or associate degree majors contributes to my personal and/or professional development.



Student Survey: Scheduling of class meetings days/times meet my needs.



Student Survey: Courses in which I am interested are offered frequently enough.



1.7 Course scheduling promotes strong enrollment patterns.

As discussed above the classes are being offered in the morning and evening to contribute to an improved enrollment.

1.8 Courses are articulated with local high schools and institutions of higher education.

The Airframe and Powerplant program has a good relation with the pre-engineering program at Lancaster high school. The instructor at Lancaster High School is an adjunct faculty member for the program. Also, the Antelope Valley College faculty is used as guest speakers at other local high schools. The program is a strong member of the Aviation Technician Education Council (Aviation Technical Education Council), which facilitates the communication with institutions of higher education. In addition, program staff is investigating articulation prospects with the local Embry-Riddle Aeronautical University.

1.9 Faculty and staff have developed innovative instructional strategies to meet student needs and staff development supports the development of these strategies.

The program faculty is continually changing their instructional strategies as long as they are approved by the Federal Aviation Administration. Faculty receives Advisory Circulars and update material monthly from the Federal Aviation Administration to keep current. Computer based training has been incorporated into the program. Powerpoint presentations are being utilized to enhance lectures. The program faculty is using industry trainers for hands on learning. The purchase of a Bell helicopter and twin-engine general aviation aircraft allows the student to experience a more realistic working environment.

The Instructional Assistants with an Airframe and Powerplant license work diligently to improve the program and increase the teaching tools available for the instructors.

1.10 Faculty and staff are familiar with and work closely with the student services and instruction support services staff in program development and student referral.

Students are encouraged to access all student services that can benefit them. The program has a strong tie with the Job Placement Center as they present job search skills on a semester basis. The program participates in the annual job fair that is hosted by the Job Placement Center. The program has established a job placement bulletin board at our offsite facility.

EOPS, Financial Aid, and disabled student services are helpful for many of our students. The programs relationship with the instruction support services is very limited, but students are encouraged to utilize all instructional support services.

1.11 The programs meet one or more of the primary goals articulated in the College Mission Statement.

The Airframe and Powerplant program is a Vocational and Technical program that awards Certificates and Associate Degrees. Therefore, it most closely aligns with that aspect of the college Mission Statement.

1.12 The development of new and revised courses is consistent with the College Mission Statement.

The Airframe and Powerplant courses are intended to prepare individuals for high skill jobs in the aviation industry. This is consistent with the College Mission Statement related to vocational and technical education.

1.13 Recent developments in instructional technology have been incorporated into courses and student support services consistent with the objectives of the program and services.

The Airframe and Powerplant program has recently acquired a new Computer Lab complete with networking capabilities, however a lack of Internet access has made it difficult to utilize this lab to its fullest potential. With Internet access the students will be able to access the most current Federal Aviation Administration and industry information.

1.14 The programs and courses are consistent with the development of programs, courses, and facilities articulated in the Educational Master Plan and Facilities Master Plan.

The Airframe and Powerplant program is presently included in the Education Master Plan for the college, however there is no current reference within the Facilities Master Plan related to a permanent facility for the program. Recent discussions of the Vision for the Palmdale/South Valley Campus have included the Airframe and Powerplant program as part of a possible aerospace complex.

Part II: STUDENT OUTCOMES

2.1 Expectations for student outcomes are clearly articulated and actual student outcomes are used in the assessment of course and program effectiveness.

Course objectives as stated in the course outline of record define and address the student learning outcomes for each course. Assignments, test, and grading assess the student mastery of these student-learning outcomes.

Program Student Learning Outcomes are as follows:

1. Analyze and evaluate critical aspects of the aerospace industry related to safe work practices, standards and tolerances, standard shop practices, and proper use of tools, power equipment and personal protective equipment.

2. Analyze, evaluate, troubleshoot, and repair structural, propulsion, and electrical and guidance systems to meet airworthy standards.

3. Evaluate Federal Aviation Regulations, technical maintenance data, and acceptable industry standards pertinent to proper maintenance and safety standards.

4. Assess aerospace work ethics, issues, and human factors directly related to system or proficiency level degradation in the work environment.

Course	Outcome 1	Outcome 2	Outcome 3	Outcome 4
AERO 120	I	I	I	
AERO 121	I	I	I	I
AERO 230	D	D	D	D
AERO 231	M	M	M	M
AERO 240	D	D	D	D
AERO 241	M	M	M	M

I = Introduced
D = Developed
M = Demonstrated at the Mastery Level Appropriate for Graduation

Degree and certificate completers are as follows:

Year completed	General Certificate	Airframe Certificate	Powerplant Certificate	Associate Degree
2000/01	10	4	13	1
2001/02	7	10	3	1
2002/03	3	38	18	1
2003/04	23	16	2	5
2004/05	16	13	1	0

2.2 Student evaluations are an integral part of the assessment of course and program effectiveness.

A student evaluation form is administered to the students who are enrolled in a class or program and then evaluated for instructional effectiveness. Changes are made to insue continual effective educational instruction methods.

2.3 Job placement data are an integral part of the assessment of course and program effectiveness for vocational programs.

There are no objective statistics regarding job placement available. The college does not conduct follow-up surveys of former students or graduates as this would be very costly and the participation rate is typically very low.

The only job placement information available is anecdotal—mostly when a student gets a job, or reports their success to the instructor or the instructional assistant.

Employers who are known to employ graduates include, but are not limited to: NASA, Northrop-Grumman, Lockheed-Martin, Boeing, Scaled Composites, BAE, Edwards Air Force Base, and General Electric.

Part III: PERSONNEL AND SUPPORT SERVICES

3.1 The ratio of full-time to part-time faculty provides students with a quality of instruction consistent with student needs and goals of the program.

There are currently two full time faculty members teaching in this program. In addition, two full time instructional assistants that meet the Federal Aviation Administration requirements and student needs.

3.2 The ratio of full-time to part-time faculty adequate personnel responsible for program evaluation and revision.

Currently the full-time faculty members and instructional assistants all collaborate with the advisory committee and Dean to ensure evaluations and programs revisions are implemented with fairness to all.

3.3 There are adequate staff development opportunities to enhance the effectiveness of all staff in meeting the goals and objectives of the programs as well as the professional development of staff.

The Airframe and Powerplant program staff has attended Aviation Technical Education Council National and Regional meetings, composite workshops, Pratt and Whitney, Lycoming, Continental and United Airline training courses and Federal Aviation Administration seminars.

3.4 Full-time faculty are actively involved in the process of hiring and evaluating instructors.

All program staff has been actively involved in the hiring process of other college instructors and staff. The instructors have been and are currently involved in several tenure and evaluation committees.

3.5 The evaluation of staff is systematic and conducted at appropriate intervals. Follow-up to evaluation is timely and systematic.

Fulltime faculty, part time and classified are all evaluated at appropriate intervals. This process ensures continual feedback between the administration and the employees, which ensures continued success.

3.6 The evaluation processes assess effectiveness and encourage improvement.

The evaluation process is effective and encourages improvement when conducted on a regular basis.

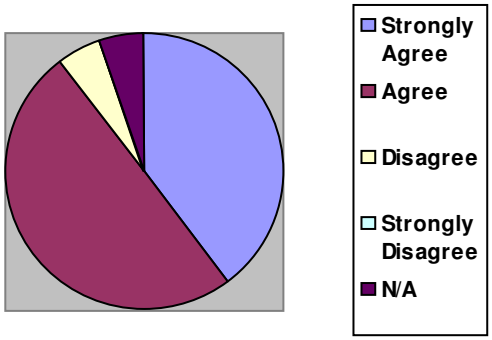
3.7 There are adequate full-time faculty to meet program needs.

At this time there is one fulltime faculty for the morning class, and one full time faculty for the evening class. Until such time that the program obtains a larger permanent facility the program is adequately staffed.

3.8 There are adequate support staff to meet program needs

Currently, there is one full time instructional assistant for the morning class, and one full time instructional assistant for the evening class, which provides adequate staffing for the program needs.

Student Survey: Department/Program support staff are helpful and



courteous.

Part IV: FACILITIES AND EQUIPMENT

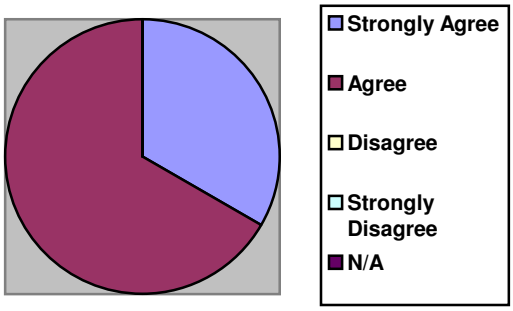
4.1 Instructional areas and facilities are appropriate for effective teaching and learning.

Approximately three years ago the program was located at Air Force Plant 42 site 9 in Palmdale, California in association with SR Technics (Swiss Air Corporation). The program was housed within a building of approximately 45,000 square feet. With dissolution of SR Technics the program had to relocate to its present facility at Fox Field Airport. Currently, the building housing the Airframe and Powerplant program is not designed for this use.

The space for the Airframe and Powerplant program is inadequate. The hangar/shop area is approximately 4500 square feet; as a result the hangar/shop space becomes crowded during heavy hands on activities.

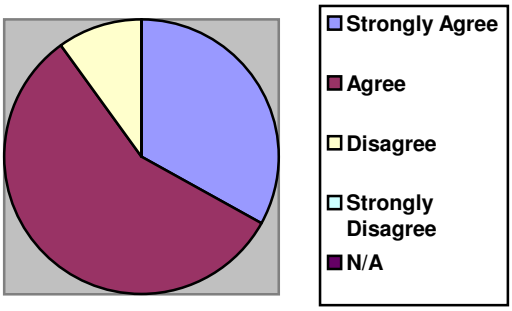
In addition, the facility housing the Airframe and Powerplant program has not received adequate attention to maintenance. The program Instructors and assistants have painted the classroom, cleaned the carpet and have done as much as possible to make the facility presentable. The hangar/shop has inadequate lighting, heating and cooling. The program is not currently included in the College Facilities Master Plan. The most logical place to permanently house the program would be at the new proposed Palmdale/South Valley Campus. The continued success of this program necessitates the need for a permanent home and a place to expand the program.

Student Survey: Lecture-type classroom facilities adequately meet my learning



needs.

Student Survey: Laboratory facilities adequately meet my learning needs.

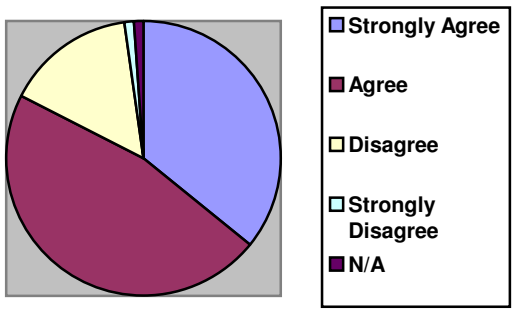


4.2 Equipment is effective for effective teaching and learning

During the past six years acquisition of Vocational Technical Education ACT funds and other donations has permitted the program to acquire a Bell UH1-B helicopter, Rockwell Aero Commander, Long EZ, six mock-up systems trainers, five Lycoming reciprocating engines (O-320), eight Lycoming turboprop jet engine (T-53), Metal Inert Gas welder, magneto tester, hydraulic mule, twelve computer stations with computer desks and chairs, which has improved the teaching and learning environment by allowing the students to experience realistic hands-on education.

In addition, the Airframe and Powerplant program has acquired a state-of-the-art borescope and is in the process of purchasing avionics digital training equipment. These upgrades have made a significant improvement on the equipment and tools available for students.

Student Survey: Equipment and materials adequately meet my learning needs.



4.3 Program support space is adequate to ensure the effective operation of the educational program and related support activities.

The office space is adequate at this time. The facility and instructional assistants supply there own personal Internet access at this office in order to receive official emails and other college business. At this time the program is not part of the College Facilities Master Plan. This program needs an adequate permanent facility at the main campus or inclusion in the Facilities Master Plan at the new proposed Palmdale/South Valley Campus.

The safety of the facilities and equipment are reasonable and adequate.

The program equipment is being used in a safe manner, however limited space compromises the ability to comply with Occupational Safety and Health Administration requirements. As stated previously heating, cooling and lighting is insufficient in accordance with the Federal Aviation Regulations.

Part V: FISCAL SUPPORT

5.1 During the period under review, resources have been used effectively to support programs and services.

As described above, the Vocational Technical Education ACT funding received over the last two years made significant improvements to the program and has brought the program up to industry standards.

5.2 Current and anticipated funding is adequate to maintain high quality programs and services.

The supply budget of approximately $6000.00 was increased by $3000.00 with an ongoing request of Proposition 20 funds in 2002/03. This year, there has been a major increase in the cost for fuel and all other products in the Aviation industry; therefore

consideration should be given to increasing the supplies budget 35% for 2006/07 and subsequent years.

5.3 Anticipated funding is adequate for the development of revised and new programs.

As stated throughout this section, the Airframe and Powerplant program needs a permanent adequate sized facility of approximately 20,000 to 25,000 square feet to include classroom, laboratory, office space, and inside and outside storage.

Part VI: COMMUNITY OUTREACH AND PROGRAM AWARENESS

6.1 Staff maintains appropriate links with community.

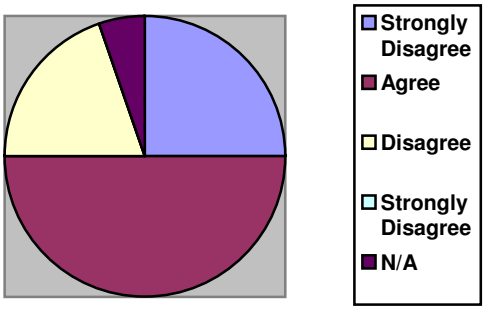
The Airframe and Powerplant program is in the process of establishing an internship with NASA and is currently negotiating with Edwards Air Force Base for a similar program. Students have had opportunities to tour the Edwards Air Force Base Propulsion Facility. In addition, recruiters from Lockheed-Martin, Northrop-Grumman and General Atomics Aeronautical Systems have been guest speakers in program classes to make students aware of local job opportunities.

6.2 Staff makes appropriate efforts to inform students about each program and facilitate student participation in those programs.

The Airframe and Powerplant entire staff maintains many links with the community by participating at major events such as Antelope Valley College open house, City of Lancaster's Aerospace Walk of Honor, job fairs, speaking at local High schools, Math and Science Odyssey, Summer Fest and various events that the college hosts.

Student Survey: Advisement by instructors in this program regarding educational and career opportunities adequately meets my needs.

Student Survey: There is adequate publicity about this program in the



community.

6.3 **Where appropriate, advisory committees meet regularly and support the development of programs as well as promote student placement.**

The program advisory committee members consist of various industry and community leaders. With their continued input, the programs student learning-outcomes were modified to reflect the needs of the local aviation industry. This active advisory committee meets at a minimum of once per year with additional meetings scheduled as needed.

Part VII. COMPLIANCE WITH FEDERAL AND STATE REGULATION

State and Federal guidelines that are pertinent to the division have been reviewed and compliance issues addressed.

At present the Airframe and Powerplant curriculum revisions are scheduled for revision in Spring 2006, but they are in compliance with State and Federal Regulations.

Summaries and Recommendations

A. The Airframe and Powerplant program fills an important need by providing students with the knowledge and skills required to gain full-time employment as an Aviation Maintenance Technician (AMT), as they are an important asset to the Antelope Valley area. The recent investment in equipment and tools made a significant improvement to the program. This investment was cost effective and will serve the program well for the foreseeable future.

B. A list of major recommendations which include:
-A plan of action for implementation of goals and objects for improvement or enhancement of programs and associated costs.
-Expected outcomes of goals and objectives.
-A reasonable timeline for attainment of goals and objectives.

1. An ongoing increase for supplies should be included in any Strategic Planning Budget Committee requests for the 2006/07 year.
2. Establish a permanent adequately sized facility with college owned land, buildings and classrooms.
3. Student surveys indicated the needs in following areas:
   a. Need more workbenches
   b. Need more workspace
   c. Need better lighting
   d. Need cooling and heating
   e. Need updated DATA such as engine and aircraft manuals
4. Internet access for the student use and staff support, the cost of approximately $8000.00.

5. To enhance the leaning of the students, the addition of online classes would increase the student enrollment especially students that are currently employed.

C. A list of recommended changes in Educational Master Plan, Facilities Master Plan or Vision and Goals of the College's Strategic Plan. The Vision and Goals of the College's Strategic Plan, Educational Master Plan, and Facilities Master Plan for the programs under review should be reviewed and revised to: (1) meet student needs, (2) respond to institutional priorities, (3) adequately reflect changes in the disciplines as well as changes in educational methodology and technology, (2) address external mandates such as state requirements, industry and professional standards, etc.

1. During the next revision to the Education Master Plan this program review should be utilized for updating and improving the Airframe and Powerplant program.

2. The Facilities Master Plan should be revised to include a new facility dedicated to the Airframe and Powerplant Program. The most logical place for that new facility would be the new proposed Palmdale/South Valley Campus.

PROGRAM REVIEW OUTLINE
Agriculture/Landscape

Part I. CURRICULUM

1.1 The curriculum supports the educational objectives of the program/discipline. New and revised courses address changes in the discipline or industry and specifically address student needs.

The courses offered by the Agriculture/Landscape program are both vocational based and transfer courses. The certificate program has two levels. The first level "Environmental Horticulture" is 30 units and is also the study major for an Associate degree in Environmental Horticulture.

The second level is a Landscape Construction certificate. All of the classes in the program transfer to all or some of the universities in California that offer Agriculture and/or landscape programs (California Polytechnic State University - San Luis Obispo, California State Polytechnic University - Pomona, California State University - Fresno, California State University Chico, and University of California - Davis.

The program was primarily developed to meet the needs of two career paths. The first career path is Landscape Management. Jobs available in the path include Landscape Contractor, Landscape Irrigation Installer, Landscape Foreman, Landscape Worker, Park Superintendent, Park Maintenance, Golf Course Maintenance, Landscape Maintenance, and Landscape Material Sales. The second path is Nursery Management, jobs available include Nursery Sales and Nursery Supply Sales. This is just a small list of career opportunities available for completers of the program.

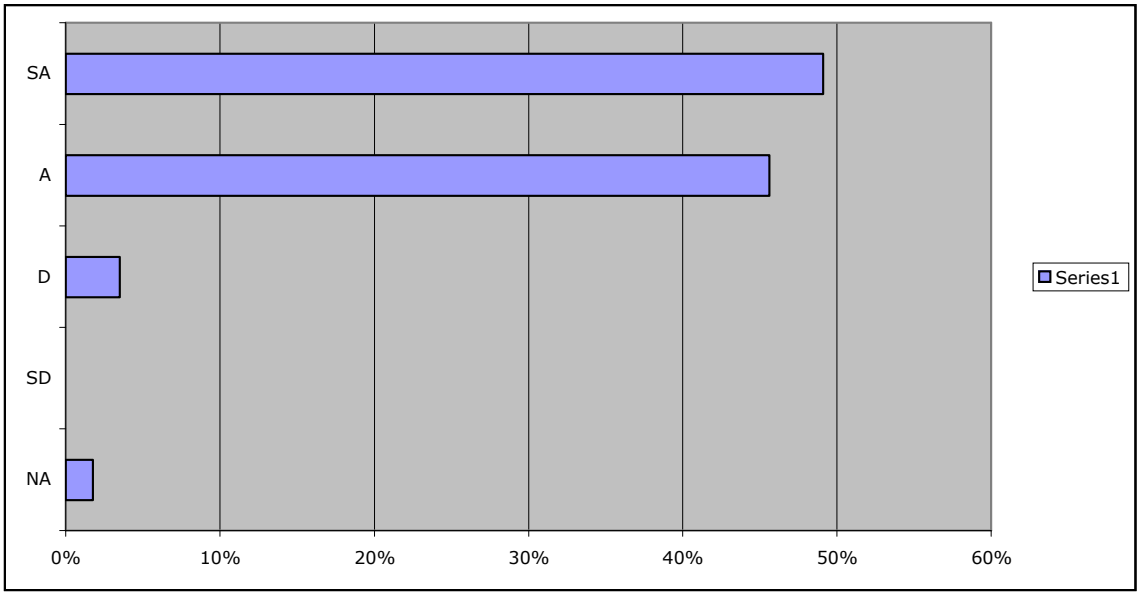
The program was developed with the landscape contractor in mind. In order to apply for the contractor's exam, one must have completed 4 years of occupational experience in landscaping. If a community college has a two-year program in Landscaping, the applicant will receive 2 years occupational credit towards their license. The Landscape Construction Certificate meets the two-year requirement.

The program was developed with separate and specialized classes, (not in the block program format) this allows a person currently working to be able to take classes that meet their needs immediately with out having to take other basic classes first.

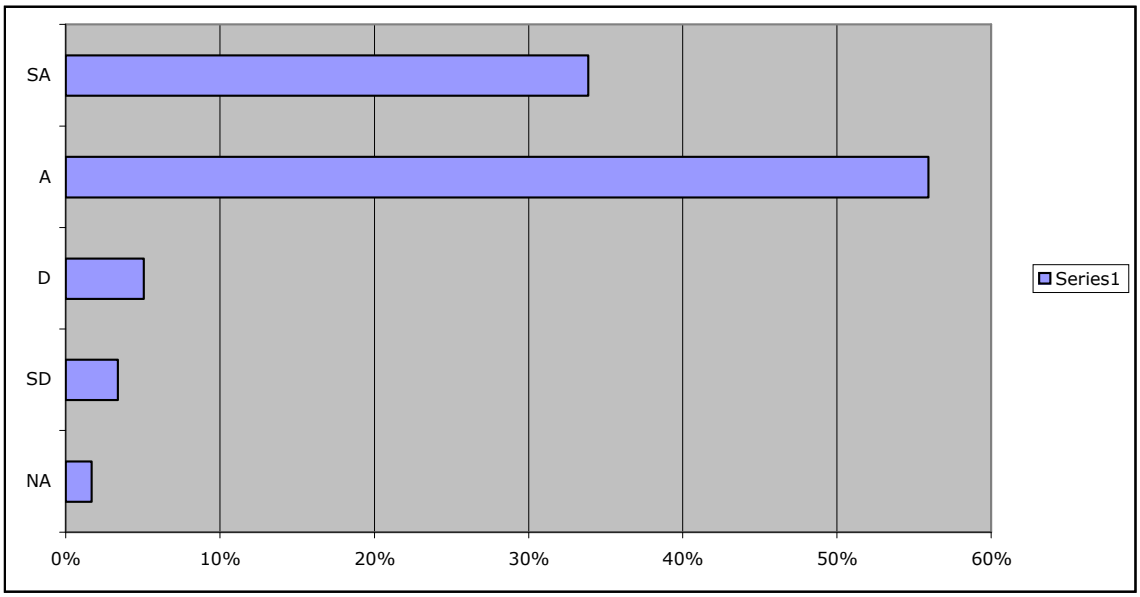
A local Grounds Maintenance Certificate was developed during this review period to provide a program to inmates of the North County State Prison. This program was a joint project between the North County State Prison, 50th District Agricultural District (Antelope Valley Fair) and Antelope Valley College.

The courses are continually updated as new materials and technologies become available, only major changes create the need to revise the curriculum through AP&P. Additional courses may become necessary as change go beyond the scope of current course outlines and objectives. All new and revised courses are first discussed and approved by the Agriculture/Landscape Advisory Committee.

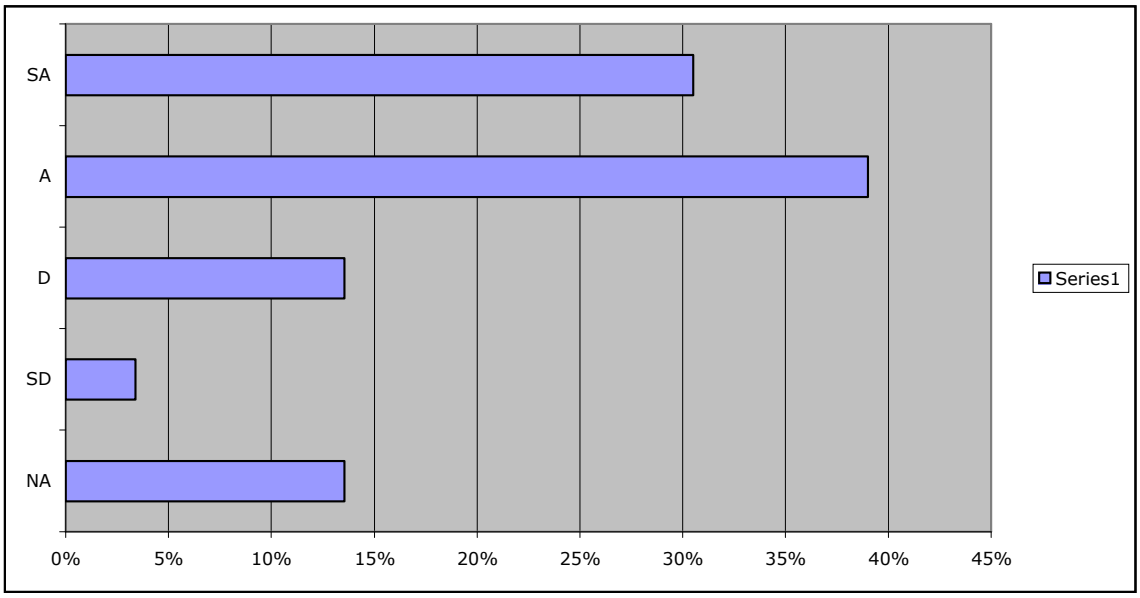
Student Survey: The Course offerings in this program meet my learning needs



Student Survey: The course offerings in this area of study are relevant and up to date



Student Survey: This program adequately prepares me for my future.



Comments: Many of the responses in the disagree category are from general education botany students, not landscape majors

1.2 Course requisites have been reviewed and are consistent with validation criteria.

Course requisites are advisory for the benefit of the students. Their awareness as to the level of difficulty of the material will be focused by these requisites. All requisites are first discussed and approved by the Agriculture/Landscape Advisory Committee.

1.25 Each course will be reviewed to determine which need to be <u>revised</u> and which need to be <u>updated</u>.

All of the courses are currently in the process of being revised to meet Antelope Valley College requirements and state developed curriculum. All changes are approved by the Agriculture/Landscape Advisory Committee.

	Class	06-07	07-08	08-09	09-10	10-11	11-12
AGRI 100	Fruit And Nut Production						
AGRI 102	Plant Pest Control						
AGRI 104	Nursery Practices						
AGRI 110	Basic Landscape Design						

AGRI 112	Plant And Landscape Maintenance						
AGRI 130	Environmental Gardening						
AGRI 134	Plant Identification I						
AGRI 152	Landscape Construction -masonry						
AGRI 155	Landscape Construction - wood						
AGRI 210	Advanced Landscape Design						
AGRI 212	Interior Plantscape						
AGRI 220	Landscape Irrigation						
AGRI 230	Soils And Plant Nutrition						
AGRI 234	Plant Identification II						
AGRI 250	Landscape Management						
AGRI 199	Work Experience						
BIO 103	Introduction To Botany						

1.3 Vocational Programs/Courses are in compliance with industry standards, advisory committee recommendations and state/federal funding guidelines.

The members of the Agriculture/Landscape Advisory Committee are all members of the landscape industry. There are no formal industry standards in the Landscape/Nursery Industry. The classes provide what the local industry needs in the way of education for anyone entering the landscape occupational field.

1.4 Courses are taught within the parameters described in the outline of record.

The course outline is followed closely with objective changing only to reflect minor changes in technologies.

1.45 Divisional faculty have deleted courses from college catalogue which have not been taught in 3 years. If the course is not deleted it must be revised.

No courses were deleted during the period, however one classes (AGRI 120 – Landscape and Turf Equipment) has not been offered in the last three years and is being deleted as the entire curriculum is being revised along with the certificate program.

1.5 Where appropriate, courses address issues related to diversity and/or multicultural perspectives.

The courses are designed to stimulate a work atmosphere between various ethic and cultural backgrounds. In specific classes like Basic Landscape Design, styles of landscapes reflect cultural and ethic ideas, discussions on Spanish and Japanese design styles are an important part of the class. In plant identification cultural and ethic uses of the plants are discussed.

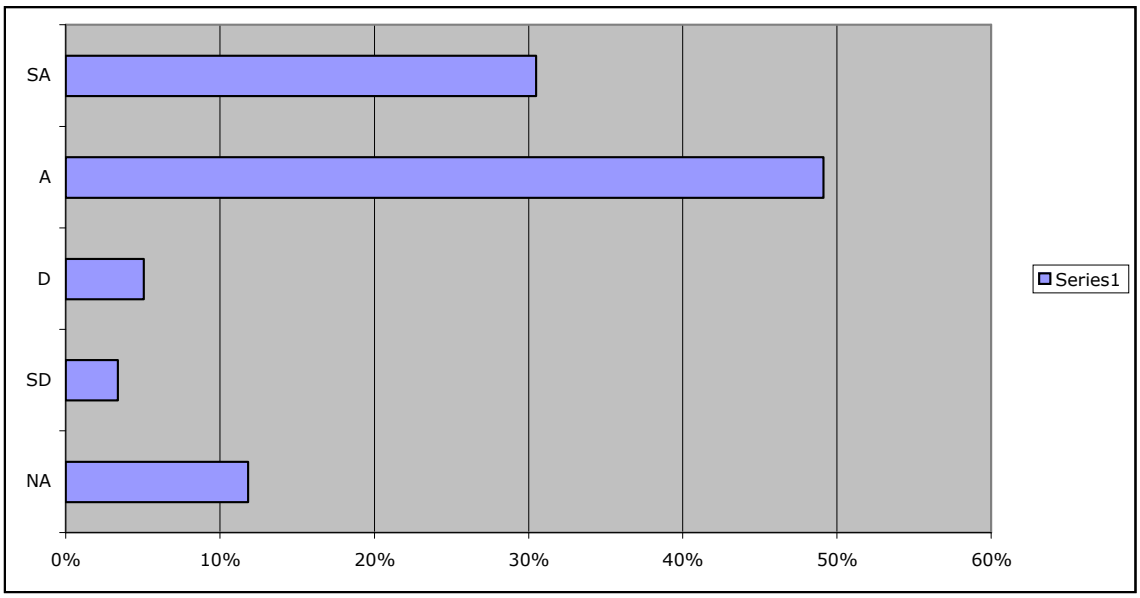
1.6 Course scheduling provides students with reasonable access to meet their educational objectives.

The program is offered primarily as night program. Students can complete both the Environmental Horticulture and Landscape Construction certificate in two years. They can also complete their A.S in two years by attending day or afternoon classes. A few classes are offered during the day, once a week. These classes have been difficult to fill. The two classes that are offered only during the day are due to light and safety requirements.

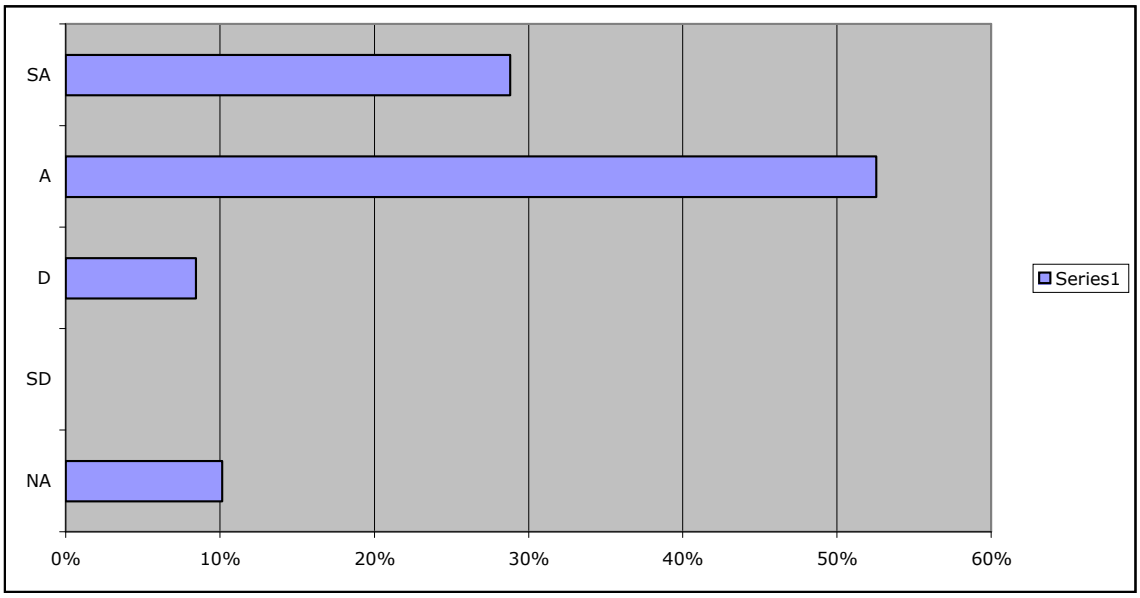
The program schedule was developed to fulfill the needs of students who are looking for career change or job advancement, while continuing to work during the day.

Student Survey: The pattern of Courses for certificate program or associate degree majors are presented in a clear manner

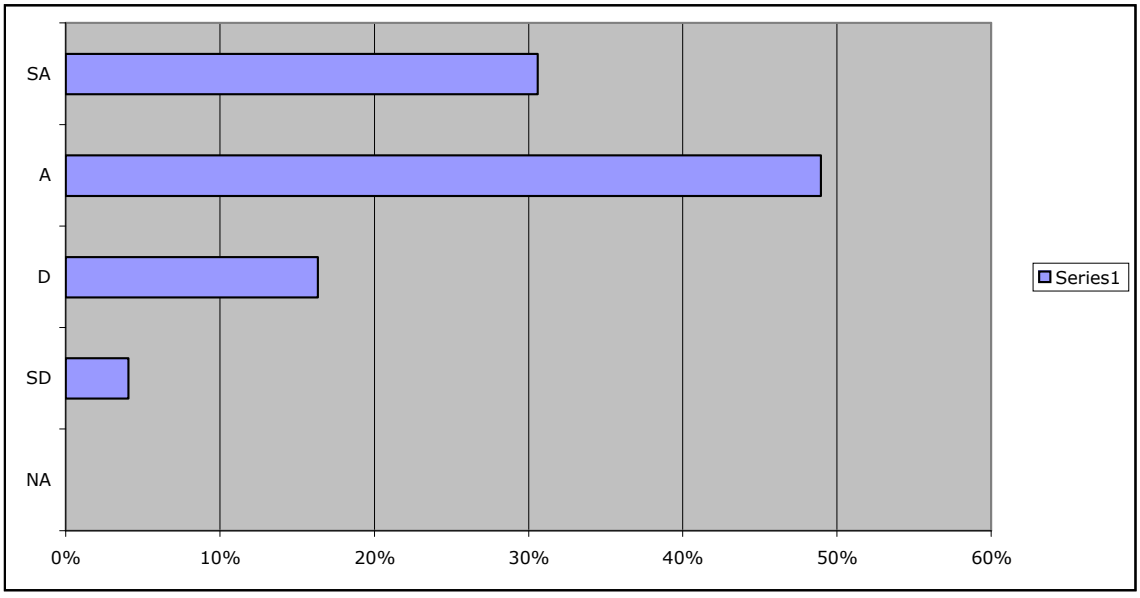
Attached: Appendix i Tentative class schedule F04-S06
Appendix ii Tentative class schedule F06-S08



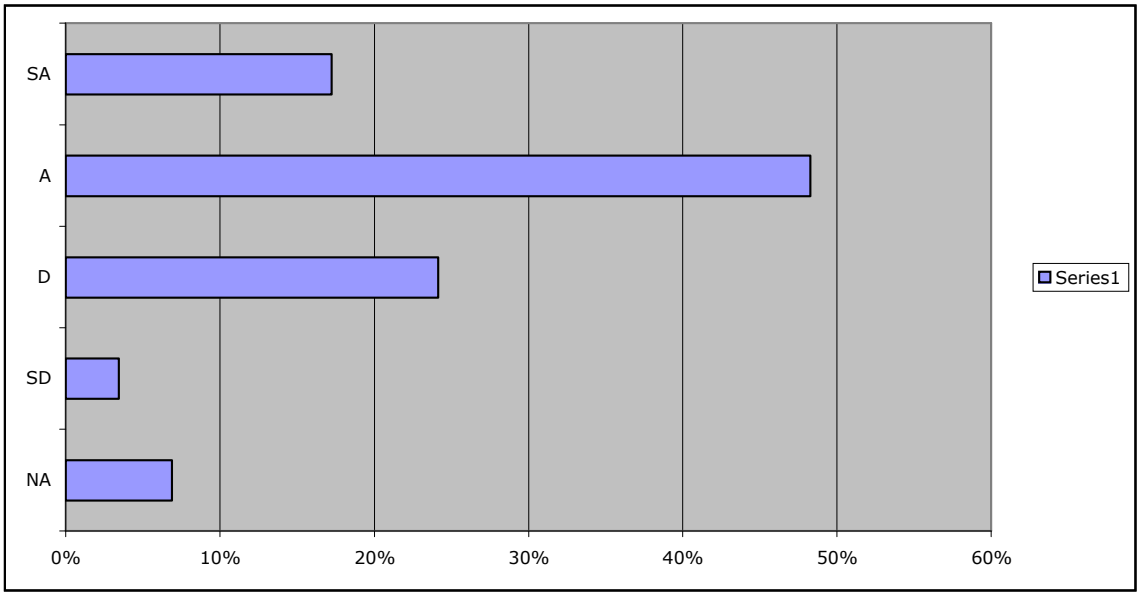
Student Survey: The pattern of Courses for certificate program or associate degree majors contributes to my personal and/or professional development



Student Survey: Scheduling of class meetings days/times meet my needs.



Student Survey: Courses in which I am interested are offered frequently enough.



Comments: The student surveys showed that a great concern by students of classes being offered only once every two years or their needs to be more classes offered during the day. In the past day classes have been hard to fill and in return caused a reduction in night classes causing low enrollment.

1.7 Course scheduling promotes strong enrollment patterns.

The majority of students each semester are new students, requiring at least one class that attracts new students to be offered each semester. Classes are sequenced according to interest, For example Fruit and Nut Production is followed by Soils and Plant Nutrition the next semester, followed by Plant Pest Control the next semester, this sequencing of classes helps promote student enrollment.

Course scheduling is also controlled by staff and facilities. Classes are offered either once a year or once every 2 years. If a student misses a class that is offered on a 2-year rotation they will not be able to complete the certificate in 2 years. Due to online registration, there is no personal contact to explain that there are other classes available.

Attached: Appendix i Tentative class schedule F04-S06
Appendix ii Tentative class schedule F06-S08

1.8 Courses are articulated with local high schools and institutions of higher education.

All of the classes in the program transfer to all or some of the universities in California that offer Agriculture and/or landscape programs (California Polytechnic State University - San Luis Obispo, California State Polytechnic University - Pomona, California State University - Fresno, California State University Chico, and University of California - Davis.

Currently, most of the classes are going through curriculum rewrites to adopt State Agricultural curriculum that was developed between community college and university faculty to insure articulation and transfer.

1.9 Faculty and staff have developed innovative instructional strategies to meet student needs and staff development supports the development of these strategies.

"Students come first" has always been the goal of the program. The use of independent study and work experience has always been a way to help students complete the program. Faculty and staff arrange times in which students can receive extra help on class assignments. Computerized programs and training written specifically for students are also used. Some classes that have a lot of information or note taking have been completely outlined for students to allow them to listen and comprehending instead of writing notes.

1.10 Faculty and staff are familiar with and work closely with the student services and instructional support services staff in program development and student referral.

The counseling staff maintains a minimal amount of information pertaining to the program. Many students find it necessary to contact faculty or staff for guidance. The first week of each semester is devoted to making sure students are in the right classes.

The Career Center has been helpful to some students.
EOP&S, Financial Aid and Disabled Student Services are very helpful for many students. Many students are retraining for a new career, while others are becoming new entry employees. These services are the most commonly used. Many students come through Disabled Student Services and need note takers or other help in classes

The Learning Center and Library is often a great help for many students.
In the process of enrolling inmates in the Grounds Maintenance Certificate, I became very familiar with admission and records, as well as, Financial Aid.

1.11 The programs meet one or more of the primary goals articulated in the College Mission Statement.

The program offers a vocational certificate, Associate degree and/or educational curriculum, which provide qualified, entry level and advanced placement individuals for business and industry. Students can also transfer to Universities to complete Bachelors, Masters or Doctorates in Agriculture and related fields. These offerings fulfill the parameters of Antelope Valley College's First and second Priorities.

1.12 The development of new and revised courses is consistent with the College Mission Statement.

The course offerings continue to reflect the philosophy and mission statements of Antelope Valley College, as vocational education is one of the missions of the college. New and revised courses will be developed to best serve the students and future employers.

1.13 Recent development in instructional technology have been incorporated into courses and student support services consistent with the objectives of the program and services.

With the use of VTEA funds the program was able to purchase several desktop and laptop computers. These computers are used in several classes for topics such as landscape design, cost estimating and presentations. A video projector was purchased which allowed many slide and lectures to be converted to PowerPoint presentations; also a video microscope was obtained to show close-up video of insects and plant parts.

1.14 The programs and courses are consistent with the development of programs, courses, and facilities articulated in the Educational Master Plan and Facilities Master Plan.

The Facilities master plan illustrates the heavy impaction of the program and the need for larger Facilities. Currently with the passage of the bond new facilities are in the design stage. Doubling both the classroom and facilities of the program. This is going to be a great benefit to the program.

The program was slated to be located at the satellite campus in the future, with the main program located on the main campus. With the new facilities the program would be offered in a very minor level at any other campus.

The educational master plan discusses the possibilities of a few other possible certificate programs, some were planned to be offered at the satellite campus. The educational master plan was reviewed by the Agriculture/Landscape Advisory committee approved the possibility of starting the other programs. However, without facilities and support these programs are not immediately planned.

Part II. STUDENT OUTCOMES

2.1 Expectations for student outcomes are clearly articulated and actual student outcomes are used in the assessment of course and program effectiveness.

Course student outcomes were developed from a national occupational competence document and by the new State Agriculture Curriculum. Current student outcomes are also reviewed with recent completers, their employers, and the Agriculture/Landscape Advisory Committee.

Attached: Appendix iii Program student learning outcomes

2.2 Student evaluations are an integral part of the assessment of course and program effectiveness.

A teacher evaluation and a class evaluation are administered for every course each semester to students. Fine-tuning of the class projects and the methods of presentations are adjusted to meet the recommendation of the students. Former students employed in the industry and one current student are members of the Agriculture/Landscape Advisory Committee and are encouraged to present to the Agriculture/Landscape Advisory Committee comments about the courses and program.

2.3 Job placement data are an integral part of the assessment of course and program effectiveness for vocational programs.

No formal process of collecting job placement data for the assessment of the program is currently happening. However, since most of the faculty has links with most of the employers or see recent graduates at industry activities informal conversations occur on what the program or classes needed or needed to spend more or less time in classes. This information is always used in adjusting class effectiveness.

Part III. PERSONNEL AND SUPPORT SERVICES

3.1 The ratio of full-time to part-time faculty provides students with a quality of instruction consistent with student needs and goals of the programs.

The program has traditionally operated by one full-time instructor (with overload), and one or two classes taught by part time faculty. This has seemed to be an appropriate process, continuity between classes and with in the program due to having one person as the primary educator. However, with a one or two adjunct faculty, varying opinions and methods are introduced which can benefit students.

An enlargement of the program, as projected in the Master Plans, would necessitate the hiring of additional personnel, however that is in the future.

3.2 The ratio of full-time to part-time faculty provides adequate personnel responsible for program evaluation and revision.

The full time faculty person maintains close personal contact with adjunct faculty. Periodic meetings are held for program evaluation and input comments are solicited from adjunct faculty. All adjunct faculty are also official members of the Agriculture/Landscape Advisory Committee and allowed to forward the observations and ideas to the entire Agriculture/Landscape Advisory Committee.

The hiring process is conducted objectively by the full time faculty and dean. Evaluations are conducted by the full time faculty and forwarded to the division dean for critique and completion.

3.3 There are adequate staff development opportunities to enhance the effectiveness of all staff in meeting the goals and objectives of the programs as well as the professional development of staff.

All faculty participates in numerous industry seminars and workshops, as well as teachers organizations such as California Agriculture Teachers Association (CATA) activities. The CATA offers several funding methods to attend their activities. The industry workshops keep us well informed about new trends in Horticulture and the CATA keeps us informed about new trends in teaching both new laws and regulations as well as teaching techniques.

3.4 Full-time faculty are actively involved in the process of hiring and evaluating instructors.

No new faculty were hired during the last review period. However, if new faculty were needed the existing faculty would be evolved in the hiring process. Adjunct faculty are usually evaluated by members of the faculty in the area of discipline of the adjunct faculty.

3.5 The evaluation of staff is systematic and conducted at appropriate intervals. Follow-up to evaluation is timely and systematic.

Formal faculty evaluations have not occurred lately. Student evaluations of instructors are completed every semester for all classes.

3.6 The evaluation processes assess effectiveness and encourage improvement.

Evaluations always accent the positive and point out areas on improvement in appositive manner.

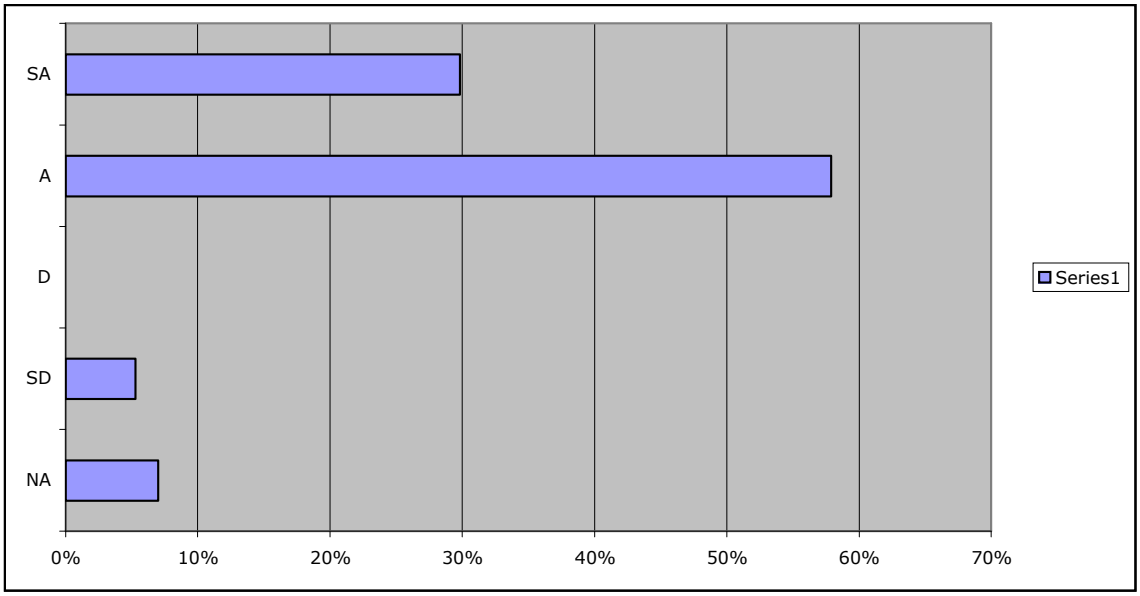
3.7 There are adequate full-time faculty to meet program needs.

The program has traditionally operated by one full-time instructor (with overload), and one or two classes taught by part time faculty. This has seemed to be an appropriate process, continuity between classes and with in the program due to having one person as the primary educator. However, with a one or two adjunct faculty, varying opinions and methods are introduced.

3.8 There are adequate support staff to meet program needs.

The support staff available at this time is not adequate. Currently, there is one 12-month technician for the program. Currently the support staff must maintain the facilities, help set-up and prepare lab assignments, assist in tool checkout and assist students. With most of the classes offered at night and the maintenance of the facility during the day it has been a awkward situation and takes a lot of give and take on both the staff and faculty. Faculty and occasional student volunteers must maintain the facilities during vacation times and any other time the support staff is unavailable. With the new facilities, which more than doubles our current facilities this problem is going to increase.

Department/program support staff are helpful and courteous.



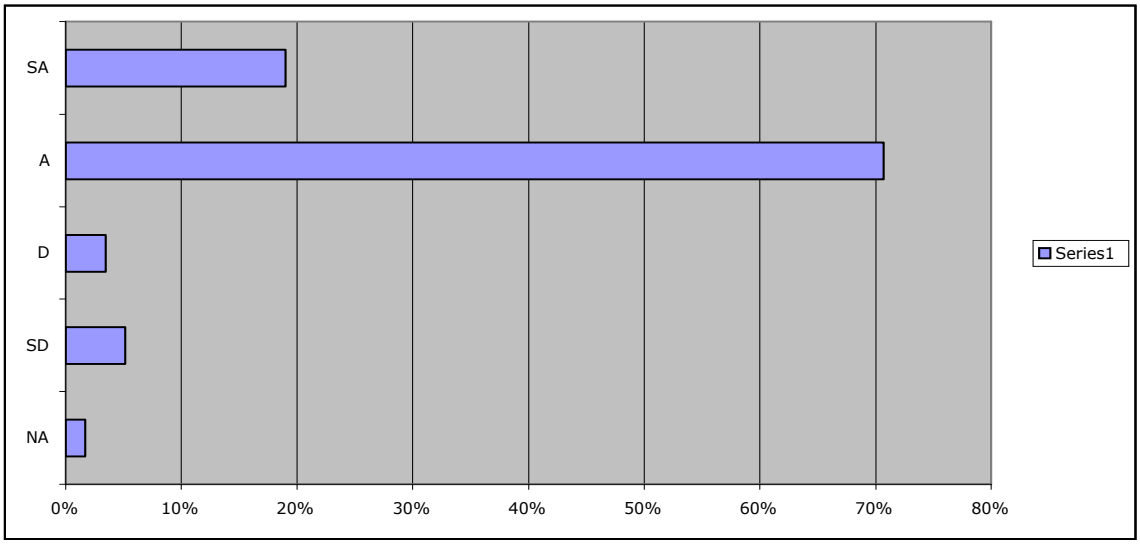
Part IV. FACILITIES AND EQUIPMENT

4.1 Instructional areas and facilities are appropriate for effective teaching and learning.

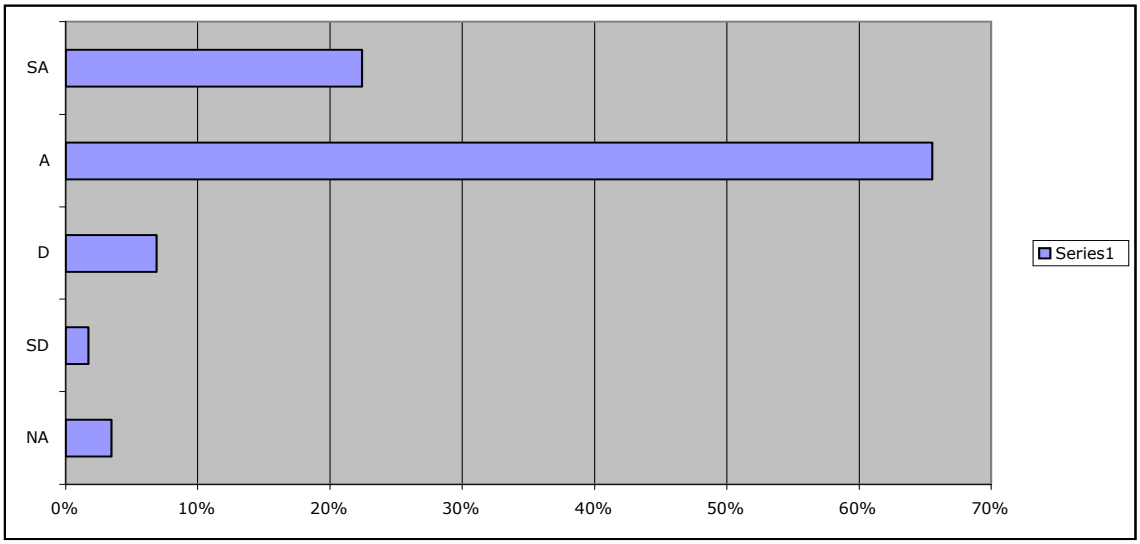
The strength of the current facility is the close proximity of the lecture/lab room with the outdoor facilities. The weakness of the instructional areas is the multi-use lab. The room

is used for both lecture and lab, for some classes this multi-use is great, for other classes the tables are too small and the room is crowded. This will probably always be a limitation of the program, due to the varied classes taught in the classroom.

Student survey: Lecture-type classroom facilities adequately meet my learning needs.



Student Survey: Laboratory facilities adequately meet my learning needs

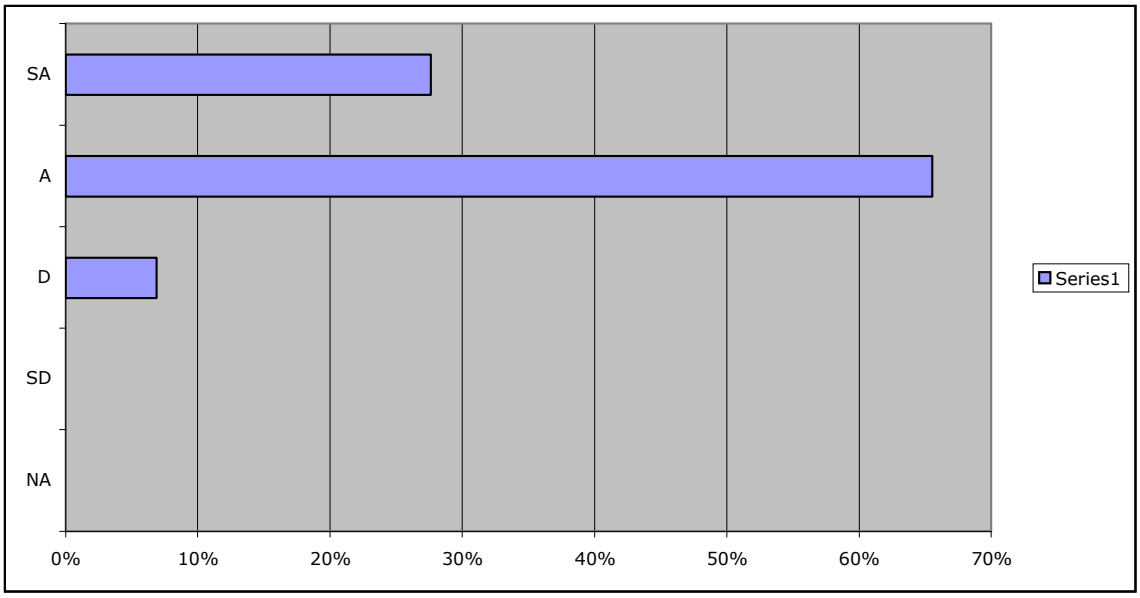


4.2 Equipment are appropriate for effective teaching and learning.

Most of our instructional equipment is over 25 years old. Tools and equipment used in many classes are not industry standard due to age and in some cases labs are limited due

to the lack of the equipment. Some new equipment was added with the use of VTEA funds, which has helped the classroom-learning environment.

Equipment and materials adequately meet my learning needs.



Comments: This survey was completed in classes that have very little equipment needs. If completed during another semester the results would be very different.

4.3 Program support space is adequate to ensure the effective operation of the educational program and related support activities.

The office space is adequate for both certified and classified staff. However, class prep space is very limited and often the classroom is used to complete projects.

Storage space of laboratory equipment and supplies is the biggest problem. Storage cabinets fill-up both classroom and office space, that should be devoted to student and staff workspace. Some equipment must be stored outdoors in areas that are not secure and not protected from the weather.

The design of the new facilities includes more secure and protected storage as well as lab and class prep areas. As the design of the new faculties continues classroom storage issues need be addressed.

4.4 The safety of the facilities and equipment are reasonable and adequate.

The safety of the facilities is constantly monitored by the faculty and staff, and students are encouraged to report unsafe equipment or situations. Since the facilities can be

crowded for some activities safety is stressed in class and non-class situations. Unsafe equipment is removed from service as quickly as observed.

Safety training is required and staff has attended several safety workshops. Pesticide safety training is required by law to occur yearly for staff and this has not been provided by the college.

Part V. FISCAL SUPPORT

5.1 During the period under review, resources have been used effectively to support programs and services.

Three types of funds are used to support this program; instructional or supplies, capital outlay, including VTEA and an auxiliary account. Until the last couple of years, the program received little to no capital outlay or instructional funding. The program tried to maintain supplies with auxiliary funds.

A minimal amount of new equipment has been purchased, mainly replaced old and worn equipment. Very little of the equipment can be considered state of the art. The program does not even have some of the basic equipment needed for an entry-level contractor.

During the last year, when more capital funds where made available, most of the money was spent on basic hand tools, specialized soils lab equipment, turf equipment and computers. For many lab projects there is only enough equipment to allow one or two students to be using the equipment at the same time.

Very little emphasis in the use of capital outlay funds was used in reference to the Educational Master Plan in to trying to bring the current program up to industry standards.

With the development of new facilities, new resources will be needed to both complete the facilities and to provide equipment to maintain the facilities. Most of the equipment used to maintain the facilities is also the equipment used to train students. In the design much of the outdoor lab is to be installed by classes, however, a commitment to provide the funding to purchase the materials and equipment must be made to the program. At current prices it costs about 3 dollars a square foot for landscape materials to install a residential landscape. With the new facilities approximately 90,000 square feet in space, an estimated cost of $180,000,00 dollars will be needed just for the outdoor lab space. This cost can be spread over a few years as classes install the landscape as part of their curriculum. This does not include equipment cost to maintain or install the facilities.

The program will need a funding source to complete the new facilities planned and will need a substantial increase in supply and capital outlay budget to bring the program up to industry standards and to increase to a new level of competence as technology and the industry evolves.

Attached:	Appendix iv	industry standards - Tool and Equipment Needs
	Appendix v	State of the Art – Tool and Equipment Needs

5.2 Current and anticipated funding is adequate to maintain high quality programs and services.

Current funding will not modernize the current program. In fact the current funding has not kept the program supplied with the basic equipment needed to operate the program. Current funding will not finish the planned new facilities.

5.3 Anticipated funding is adequate for the development of revised and new programs.

No new programs or classes are planned due to the lack of funding needed to maintain the current program.

Part VI. COMMUNITY OUTREACH AND PROGRAM AWARENESS

6.1 Staff maintains appropriate links with community.

The program maintains many links with the community. The program is well known in the community and surrounding areas. Presentations have been made to several community organizations and civil groups at their meetings. Also representation and presentations have been made to the community at events for the Palmdale Water District, Antelope Valley Fair, Antelope Valley Home and Garden Show, City of Lancaster, City of Palmdale, and Indian Wells Water District. It was stated at one meeting that "the Horticulture program at Antelope Valley College was the center of the horticulture universe in the Antelope Valley"

Currently the staff has working relations with City of Lancaster, offering continuing pesticide education, landscape consulting and serving on several city committees. The staff has also provided consulting to the City of Palmdale and the County of Los Angeles.

The staff is well known and has worked on projects with Congressman Buck McKeon office, Assemblywoman Sharon Runner, and State Senator George Runner.

One of the most important community links is the Agriculture/Landscape Advisory Committee, which is made up of members of the Antelope Valley Community.

Staff and faculty is know by all of the Agriculture teachers in the Antelope Valley, by visiting programs and for volunteering time at local events such as judging and speaking events. The program hosts at least one high school activity each year.

Faculty has both attended and coordinated the Antelope Valley Union High School District/ROP Salute to Youth "Agriculture Cluster" program for 14 years. This has helped inform students about the program and continues industry and community links with the organizations attending.

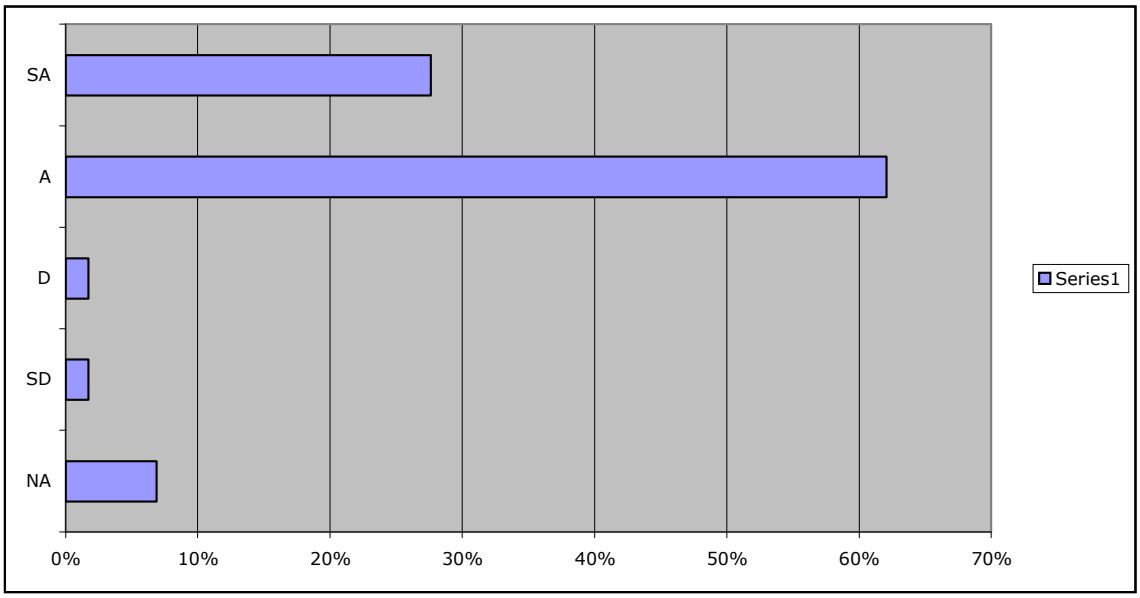
Another link is that the staff writes a weekly gardening column for the local newspaper. This gives prestige and exposure to potential new students.

6.2 Staff makes appropriate efforts to inform students about each program and facilitate student participation in those programs.

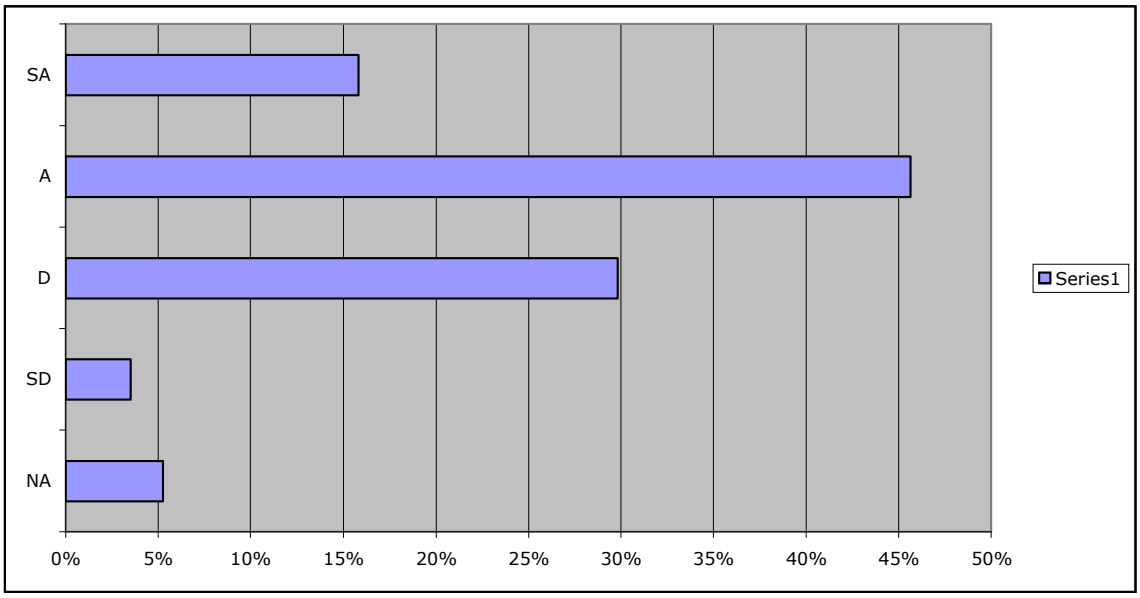
Presentations to inform students about the program have occurred at community events held at Palmdale Water District, Antelope Valley Fair, Antelope Valley Home and Garden Show, City of Lancaster, City of Palmdale, and Indian Wells Water District. Many presentations have been made at local civic organizations and at the Antelope Valley Union High School District/ROP Salute to Youth "Agriculture Cluster" program. Certificate handouts are given out at these events as well as class schedules. At long-term activities that last several days flyers classes are on display through out the event

Gardening columns and articles in the Antelope Valley Press and seminars at the home and garden shows have been very successful in recruiting new students in the program.

Student Survey: Advisement by instructors in this program regarding educational and career opportunities adequately meets my needs.



Student Survey: There is adequate publicity about this program in the community.



Comments: Many of the responses from the "disagrees" category were from students in the general education botany. The Botany class needs to be promoted to the general student population as a class that meets the general education requirements.

6.3 Where appropriate, advisory committees meet regularly and support the development of programs as well as promote student placement.

Formally the committee has not meant as often as it should, however the faculty is in contact with the members of the committee on a frequent basis. Many of the community members of the Agriculture/Landscape Advisory Committee and the Faculty of the Agriculture/Landscape Program sit on community committees together and discuss both the college's program and the community in general.

Phone surveys have been used in the past to collect information or obtain approvals on some requirements of the committee, i.e. curriculum. The current Agriculture/Landscape Advisory Committee is very excited about the new facilities and wants to be involved in helping develop the new facilities.

Two of the major park maintenance employers sit on the Agriculture/Landscape Advisory Committee, City of Lancaster and City of Palmdale, both have hired many of our graduates.

Part VII. COMPLIANCE WITH FEDERAL AND STATE REFULATION

State and Federal guidelines that are pertinent to the division have been reviewed and compliance issues addressed.

Summaries and Recommendations

For each part (I-VI) of the self-study, provide the following information and relate its impact to the Vision and Goals of the College' Strategic Plan.

A. A summary of the findings and their significance.

The program's strong points:

- ✓ Hands on curriculum based on industry needed skills (Part I),
- ✓ Actual landscape projects in commercial and residential settings (Part I),
- ✓ The programs strong link to the community (part VI) and,
- ✓ The program's community involvement Part (VI)

The program's area of improvement:

- ✓ Keeping the curriculum up-to-date with college's curriculum requirements (Part I)
- ✓ Although it is well known and publicized in the community, more information always helps. (Part I)
- ✓ Staffing of the facilities on a short-term situation such as when Lab technician is on vacation, injured or sick (Part III).
- ✓ Staffing of the new larger facilities will be difficult (Part III).
- ✓ The program is lacking in tools and equipment to efficiently operate the program (Part IV)
- ✓ Funding is lacking keeping the program from rising up to industry standards in tools and equipment (Part V)
- ✓ Using the Agriculture/Landscape Advisory Committee more efficiently (Part VI)
- ✓ Working with grounds for coordinating supplies, equipment and safety training (Part I)

B. A list of major recommendations which include:

-a plan of action for implementation of goals and objectives for improvement or enhancement of programs and associated costs.
-expected outcomes of goals and objectives.
-a reasonable timeline for attainment of goals and objectives.

- ✓ Develop a rotation of 1/3 of the classes to update or revise each year and take to APP to keeping the curriculum up-to-date with college's curriculum requirements (Part I).

- No Additional cost associated,
- Outcome: To keep class curriculum meeting College and State Requirements
- Process can be developed and attained within a year

✓ Determine and fund a way to staff/maintain the facilities on a short-term situation such as when Lab technician is on vacation, injured or sick (Part III).
- Cost will be variable according to solution.
- Outcome: To keep the facilities and classroom operating efficiently
- Process can be developed within two years, Funding?

✓ Develop a plan to provide resources to maintain the new larger facilities being planned, i.e. student assistance, volunteers, docents, industry assistance (such as in a water district would like a demonstration garden, they would also pay for maintenance) (Part III).
- Cost will be variable according to solution.
- Outcome: To keep the facilities and classroom operating efficiently
- Process can be developed within two years, Funding?

✓ Hold more Agriculture/Landscape Advisory Committee meeting (Part VII)
- Very low to no costs
- Outcome: To keep the program meeting industry standards. To help with obtaining tools, equipment and supplies through donations. To continue good community links.
- Process can start immediately (already has) Set one meeting in the fall semester on approximately the same date in order to have it on the calendar, and set a spring meeting date (cancel if not needed)

✓ The program is lacking in tools and equipment to efficiently operate the program (Part V)
✓ Develop a process to bring the program's tool and equipment up to industry standards. (Part IV)
- Cost – Landscaping new facilities approximately $180,000.00
  Tools and equipment approximately $75,000.00
  Outcome: To operate the program and classes efficiently
- Funding for facilities over 4 years, Develop a funding mechanism to purchase a % of equipment each year, and replace worn equipment

✓ Develop a process to bring the program up to "state of the art" status in the landscape field (Part IV)
- Cost – Tools and equipment approximately $60,00.00
- Outcome: The program will train for the future not the past.
- Develop a funding mechanism to purchase a % of equipment each year.

✓ Although the program is well know and publicized in the community, more information always helps. (Part I)

- Cost – Low for Handouts, fliers, travel to events to promote program
- Outcome: To promote the program and increase class size
- Provide funding for facilities over 4 years

C. A list of recommended changes in the Educational Master Plan, Facilities Master Plan or Vision and Goals of the College's Strategic Plan.

The Vision and Goals of the College's Strategic Plan, Educational Master Plan, and Facilities Master Plan for the programs under review should be reviewed and revised to: (1) meet student needs, (2) respond to institutional priorities, (3) adequately reflect changes in the disciplines as well as changes in educational methodology and technology, (4) address external mandates such as state requirements, industry and professional standards, etc.

I believe there are no needed changes to any of these plans, we have not completely met any of the existing goals, nor have they changed.

Appendix i

PARK AND LANDSCAPE

Tentative 2 year class schedule

	CLASS	Fall 04	Intr 05	Sprg 05	Fall 05	Sprg 06
AGRI 100	FRUIT AND NUT PRODUCTION					
AGRI 102	PLANT PEST CONTROL					
AGRI 104	NURSERY PRACTICES					
AGRI 110	BASIC LANDSCAPE DESIGN					
AGRI 112	PLANT AND LANDSCAPE MAINTENANCE					
AGRI 120	LANDSCAPE AND TURF EQUIPMENT					
AGRI 130	ENVIRONMENTAL GARDENING					
AGRI 132	TURF AND LANDSCAPE MAINTENANCE					
AGRI 134	PLANT IDENTIFICATION I					
AGRI 150	LANDSCAPE CONSTRUCTION					
AGRI 210	ADVANCED LANDSCAPE DESIGN	**IS**		**IS**	**IS**	**IS**
AGRI 212	INTERIOR PLANTSCAPE					
AGRI 220	LANDSCAPE IRRIGATION					
AGRI 230	SOILS AND PLANT NUTRITION					
AGRI 234	PLANT IDENTIFICATION II					
AGRI 250	LANDSCAPE MANAGEMENT					
AGRI 199	WORK EXPERIENCE					
BIO 103	INTRODUCTION TO BOTANY	**D**		**D**	**DE**	**D**

D **Day Class Only**
DE **Both Day and Evening Class**
IS **Independent Study**

Appendix ii

PARK AND LANDSCAPE

Tentative 2 year class schedule

	CLASS	Fall 06	Intr 07	Sprg 07	Fall 07	Sprg 08
AGRI 100	FRUIT AND NUT PRODUCTION					
AGRI 102	PLANT PEST CONTROL					
AGRI 104	NURSERY PRACTICES					
AGRI 110	BASIC LANDSCAPE DESIGN					
AGRI 112	PLANT AND LANDSCAPE MAINTENANCE					
AGRI 120	LANDSCAPE AND TURF EQUIPMENT					
AGRI 130	ENVIRONMENTAL GARDENING					
AGRI 132	TURF AND LANDSCAPE MAINTENANCE					
AGRI 134	PLANT IDENTIFICATION I					
AGRI 150	LANDSCAPE CONSTRUCTION					
AGRI 210	ADVANCED LANDSCAPE DESIGN	**IS**		**IS**	**IS**	**IS**
AGRI 212	INTERIOR PLANTSCAPE					
AGRI 220	LANDSCAPE IRRIGATION					
AGRI 230	SOILS AND PLANT NUTRITION					
AGRI 234	PLANT IDENTIFICATION II					
AGRI 250	LANDSCAPE MANAGEMENT					
AGRI 199	WORK EXPERIENCE					
BIO 103	INTRODUCTION TO BOTANY	**D**		**D**	**DE**	**D**

D **Day Class Only**
DE **Both Day and Evening Class**
IS **Independent Study**

Appendix iii

Environmental Horticulture Certificate

Program Student Learning Outcomes

1. Demonstrate the understanding of plant anatomy and physiology as it relates to the care and growing of indoor and outdoor plants

2. Create a functional landscape plan applying the principles, client needs, and elements of design.

3. Determine the best methods to install and maintain various plants according to the needs of the plant, landscape situation and to have the skills need to install and maintain a landscape.

Course	SLO 1	SLO 2	SLO 3
AGRI 100	ID	I	IDM
AGRI 102	ID		IDM
AGRI 104	IDM		ID
AGRI 110	I	IDM	I
AGRI 112	I		IDM
AGRI 130	I	I	I
AGRI 132	I	I	IDM
AGRI 134	ID	ID	ID
AGRI 212	IDM		ID
AGRI 220	I		I
AGRI 230	I		IDM
AGRI 234	ID	IDM	
BIO 103	IDM		

I = Introduced
D = Developed & Practical Feedback
M = Demonstrated at the Mastery Level Appropriate for Graduation

Landscape Construction Certificate
Program Student Learning Outcomes

1. Demonstrate the understanding of plant anatomy and physiology as it relates to the care and growing of indoor and outdoor plants
2. Create a functional landscape plan applying the principles, client needs, and elements of design.
3. Determine the best methods to install and maintain various plants according to the needs of the plant, landscape situation and to have the skills need to install and maintain a landscape.
4. Plan, design and construct irrigation systems as well as various hardscape applications in a landscape
5. Demonstrate an understanding of Federal, State and local contractor licenses, laws, regulations and permits pertaining to landscape businesses

Course	SLO 1	SLO 2	SLO 3	SLO 4	SLO 5
AGRI 100	ID	I	IDM	I	I
AGRI 102	ID		IDM		I
AGRI 104	IDM		ID		I
AGRI 110	I	IDM	I	ID	I
AGRI 112	I		IDM	ID	I
AGRI 130	I	I	I	I	I
AGRI 132	I	I	IDM	ID	I
AGRI 134	ID	ID	ID		I
AGRI 152		ID	ID	IDM	I
AGRI 155		ID	ID	IDM	I
AGRI 210		DM		ID	
AGRI 212	IDM		ID		I
AGRI 220	I		I	IDM	I
AGRI 230	I		IDM		I
AGRI 234	ID	IDM			I
AGRI 250				IDM	IDM
BIO 103	IDM			I	
BUS 111					ID
CA 103					ID
MGT 201					ID

I = Introduced
D = Developed & Practical Feedback
M = Demonstrated at the Mastery Level Appropriate for Graduation

Grounds Maintenance Certificate

Program Student Learning Outcomes

1. Identify and create a method to legally control weeds, diseases, vertebrate, and insects pest in a California Landscape.
2. Determine a method to propagate and develop the skills to propagate various indoor and outdoor plants
3. Determine the best method to install and maintain a landscape according to the needs of the plant, landscape situation and to have the skills need to install and maintain a landscape.

Course	Slo 1	Slo 2	Slo 3
AGRI 104		IDM	
AGRI 112	IDM		IDM
AGRI 130	I	I	I
AGRI 132	IDM		IDM

I = Introduced
D = Developed & Practical Feedback
M = Demonstrated at the Mastery Level Appropriate for Graduation

Appendix iv Industry Standards - Tool and Equipment Needs

TOOLS	TOTAL NEEDED	CURRENTLY HAVE	NEEDED	COST	TOTAL COST
100'tape measures	5	1	4	$30.00	$120.00
20' tape	12	3	9	$10.00	$90.00
200' tape	5	2	3	$50.00	$150.00
aerator	5		5	$500.00	$2,500.00
Alcohol burners	3	0	3	$15.00	$45.00
Autoclave	1	0	1	$1,500.00	$1,500.00
Auto mixers	3	0	3	$150.00	$450.00
Backpack Blower - gas	2	0	2	$200.00	$400.00
Backpack sprayer	2	3		$110.00	$0.00
Botany slides	600		600	$5.00	$3,000.00
Brad gun	1	0	1	$40.00	$40.00
Brick chisel	12	1	11	$10.00	$110.00
Brick trowel - large	12	6	6	$30.00	$180.00
Brick trowel - small	12	6	6	$20.00	$120.00
Bucket washer	1	0	1	$500.00	$500.00
Bulb auger	5		5	$30.00	$150.00
Bull float	2	1	1	$300.00	$300.00
Cement rake/jointer	12	6	6	$5.00	$30.00
Chainsaws	2	0	2	$300.00	$600.00
Chalk Lines	5	4	1	$5.00	$5.00
Channel locks	12	4	8	$25.00	$200.00
Circular saw	2	1	1	$50.00	$50.00
Claw hammers	12	12	0	$15.00	$0.00
Cleft tools	3	1	2	$30.00	$60.00
Come-along	3	4	0	$30.00	$0.00
Compound miter saw	1	0	1	$900.00	$900.00
Concrete mixer	1	0	1	$2,000.00	$2,000.00
Concrete saw	1	0	1	$1,000.00	$1,000.00

Concrete tamp (hand)	5	2	3	$20.00	$60.00
Concrete tamp (large)	2	2	0	$50.00	$0.00
Core aerator - gas	1		1	$1,500.00	$1,500.00
Crosscut saw	12	2	10	$20.00	$200.00
Crow bar	2	3	0	$20.00	$0.00
crown nailer	1	0	1	$50.00	$50.00
Demo-hammer	1	0	1	$900.00	$900.00
Digging bar	2	1	1	$50.00	$50.00
Digging spades - long	6	3	3	$35.00	$105.00
Digging spades - short	14	12	2	$30.00	$60.00
Digital scales	6	3	3	$400.00	$1,200.00
Digital tape	2	0	2	$100.00	$200.00
Disc grinder	3	1	2	$50.00	$100.00
Dishwasher	1	0	1	$500.00	$500.00
Drill bits - forester	2	0	2	$100.00	$200.00
Drill bits - metal set	2	1	1	$50.00	$50.00
Drill bits - wood/spade/set	2	2	0	$50.00	$0.00
Electric Drill - battery	3	1	2	$200.00	$400.00
Fence stretcher	1	1	0	$200.00	$0.00
Fencing pliers	3	0	3	$30.00	$90.00
Fertilizer spreader - broadcast	2	2	0		$0.00
Fertilizer spreaders - drop	2	2	0		$0.00
Finish Trowels	24	10	14	$30.00	$420.00
Forceps	3	0	3	$5.00	$15.00
Forester bit set	3	0	3	$150.00	$450.00
Fresno float	3	0	3	$125.00	$375.00
Glassware		0	1	$500.00	$500.00
Grafting knife	24	3	21	$25.00	$525.00
Grow chambers	1	0	1	$3,000.00	$3,000.00
Hacksaw/blades	3	1	2	$20.00	$40.00
Hammer drill - electric	2	1	1	$150.00	$150.00
Hand concrete edger	6	1	5	$30.00	$150.00
Hand digging Trowels	24	3	21	$15.00	$315.00

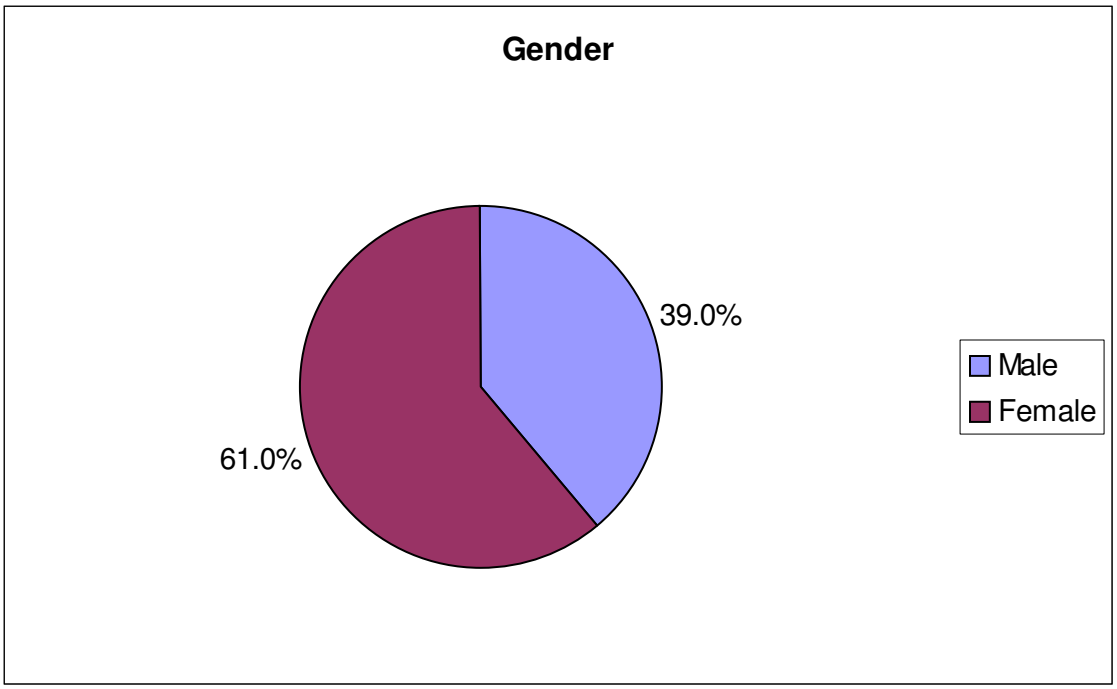
Hand mattocks	24	6	18	$25.00	$450.00
Hand pruning saw	6	0	6	$25.00	$150.00
Hand saws	5	4	1	$30.00	$30.00
Hand shears	24	7	17	$30.00	$510.00
Hand sprayers	5	2	3	$20.00	$60.00
Hatchets	5	3	2	$20.00	$40.00
Hedge shears - gas	2	0	2	$225.00	$450.00
Hot plates	6	3	3	$50.00	$150.00
Hydrometers	3	3	0	$50.00	$0.00
Label engraver	1	0	1	$1,000.00	$1,000.00
Label printer	1	0	1	$3,000.00	$3,000.00
Land levelers	5	2	3	$220.00	$660.00
Landscape rakes	14	7	7	$125.00	$875.00
Large channel locks	7	5	2	$50.00	$100.00
Laser level - construction	1	0	1	$2,500.00	$2,500.00
Laser Level - room	1	0	1	$500.00	$500.00
Lawn mower - reel	2	1	1	$500.00	$500.00
Lawn mower - rotary	3	1	2	$700.00	$1,400.00
Leaf rakes - small	8		8	$20.00	$160.00
Leaf rakes - wide	8	6	0	$50.00	$0.00
Levels	12	5	7	$20.00	$140.00
Levels (large)	6	5	1	$50.00	$50.00
Light benches	1	0	1	$2,000.00	$2,000.00
Lineman’s pliers	15		15	$35.00	$525.00
Loppers - 18	26	12	14	$35.00	$490.00
Loppers - 36"	26	4	22	$36.00	$792.00
Mason lines	24	3	21	$5.00	$105.00
Mattock	3	2	1	$50.00	$50.00
Metal cutoff saw	1	0	1	$300.00	$300.00
Misc. tools	1	0	1	$2,000.00	$2,000.00
Mortar hoes	3	1	2	$50.00	$100.00
One man post auger	1		1	$1,500.00	$1,500.00
Penetrometers	1	0	1	$189.00	$189.00
Pick	3	2	1	$50.00	$50.00
Pipe cutters	3	2	1	$100.00	$100.00
Pipe wrenches – set	3	1	2	$100.00	$200.00
Pitch Forks	4	1	3	$30.00	$90.00
Plant carts	3	3	0		$0.00

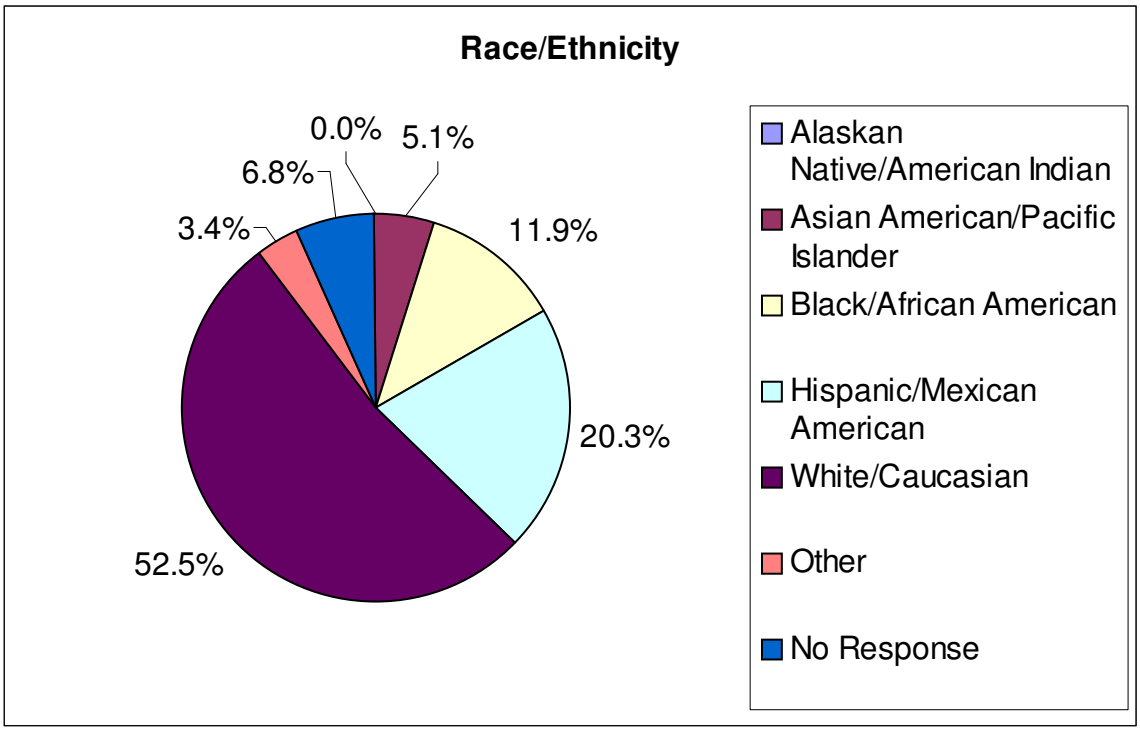
Plant tie Machine	2		2	$30.00	$60.00
Plate compactor	1	0	1	$1,000.00	$1,000.00
Pliers	12		12	$5.00	$60.00
Pneumatic pruning	1	0	1	$2,000.00	$2,000.00
Pocket weather station	3		3	$150.00	$450.00
Pole chain saw	2	0	2	$700.00	$1,400.00
Pole harvester	3	1	2	$50.00	$100.00
Pole saws	6	6	0	$200.00	$0.00
Portable air compressor	1		1	$200.00	$200.00
Post drivers	2	2	0		$0.00
Post hole diggers	6	1	5	$65.00	$325.00
Potting soil mixer	1	0	1	$500.00	$500.00
Push Brooms	3		3	$50.00	$150.00
PVC Cutters	6	1	5	$20.00	$100.00
Refractometer	1	0	1	$300.00	$300.00
Renovator	2		2	$500.00	$1,000.00
Rip saw	12	1	11	$20.00	$220.00
Rock Chisel	12		12	$10.00	$120.00
Rock rakes	12	8	4	$30.00	$120.00
Roller	2	2	0	$200.00	$0.00
Rolling tamp	1	0	1	$200.00	$200.00
Rolling wheel tape	5	1	4	$75.00	$300.00
Rototiller	2	1	1	$2,500.00	$2,500.00
Round point shovels	12	17	0		$0.00
Saber saw	6	1	5	$50.00	$250.00
Safety spill kit	1		1	$500.00	$500.00
Sawzall - battery	2		2	$100.00	$200.00
Sawzall - electric	1	1	0	$100.00	$0.00
Scalpels	3	0	3	$10.00	$30.00
Scoop shovels	6	3	3	$75.00	$225.00
Screwdriver set	24		24	$30.00	$720.00
Scuffle hoes	12	10	0	$30.00	$0.00
Sledge hammers (hand)	12	2	10	$30.00	$300.00
Small circular saw - battery	3		3	$50.00	$150.00
Socket sets	6		6	$50.00	$300.00
Sod cutter	1		1	$500.00	$500.00
Software			0	$800.00	$0.00
Soil mixers	6	3	3	$500.00	$1,500.00

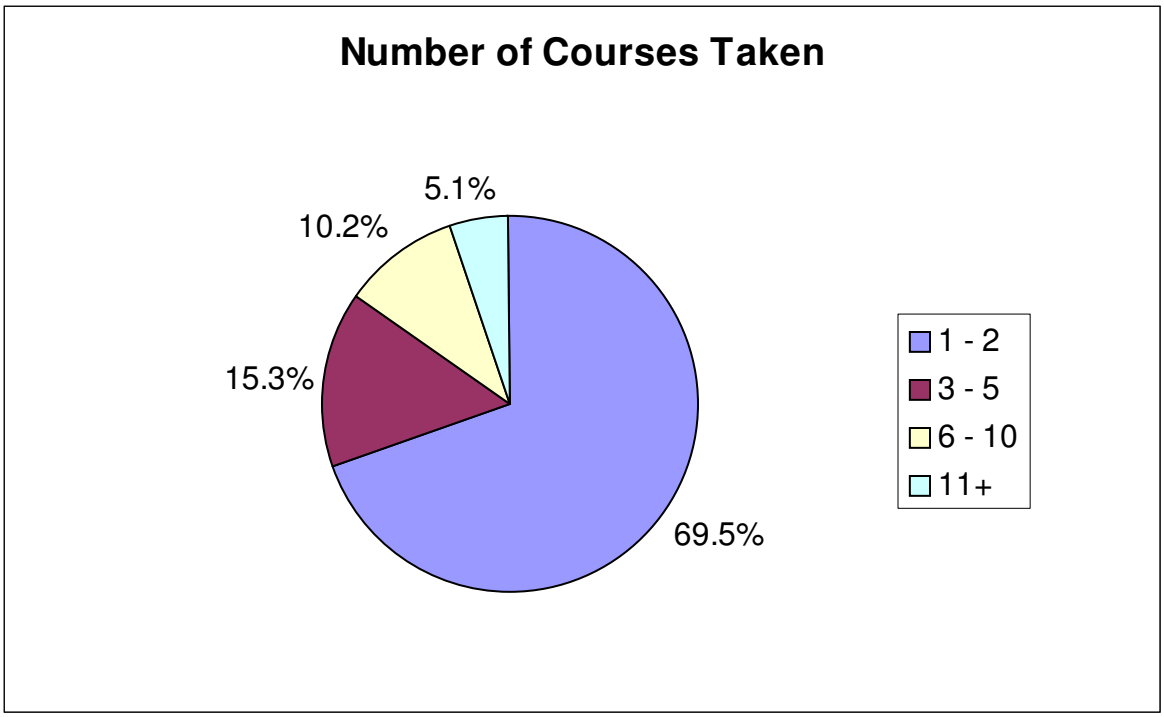
Soil tamp	3		3	$50.00	$150.00
Soil test cards	1	0	1	$400.00	$400.00
Special grafting tools	1	0	1	$200.00	$200.00
Square nose shovels	12	7	5	$35.00	$175.00
String levels	12		12	$3.00	$36.00
Tabletop diamond hone	1	0	1	$125.00	$125.00
Thermometer	12		12	$10.00	$120.00
Tile/brick saw	2	0	2	$500.00	$1,000.00
Tin snips	3	3	0	$30.00	$0.00
Topdressing spreader	3	2	1	$125.00	$125.00
Torpedo levels	24	3	21	$10.00	$210.00
Trencher	1	0	1	$5,000.00	$5,000.00
Trenching shovels	12	5	7	$50.00	$350.00
Trimmer/Edger	1		1	$300.00	$300.00
Turf infilrometers	1	0	1	$330.00	$330.00
Video tapes			0	$800.00	$0.00
Walking concrete edger	2		2	$50.00	$100.00
Weed cutter - gas	2	0	2	$200.00	$400.00
Wheelbarrow sprayer	1	0	1	$300.00	$300.00
Wheelbarrows	6	2	4	$75.00	$300.00
Wire cutter (small bolt)	3	1	2	$50.00	$100.00
Wood chisels (set)	6	1	5	$125.00	$625.00
Wood cutoff saw	1	0	1	$200.00	$200.00
Wood/magnesium/rough float	12		12	$50.00	$600.00
					$74,247.00

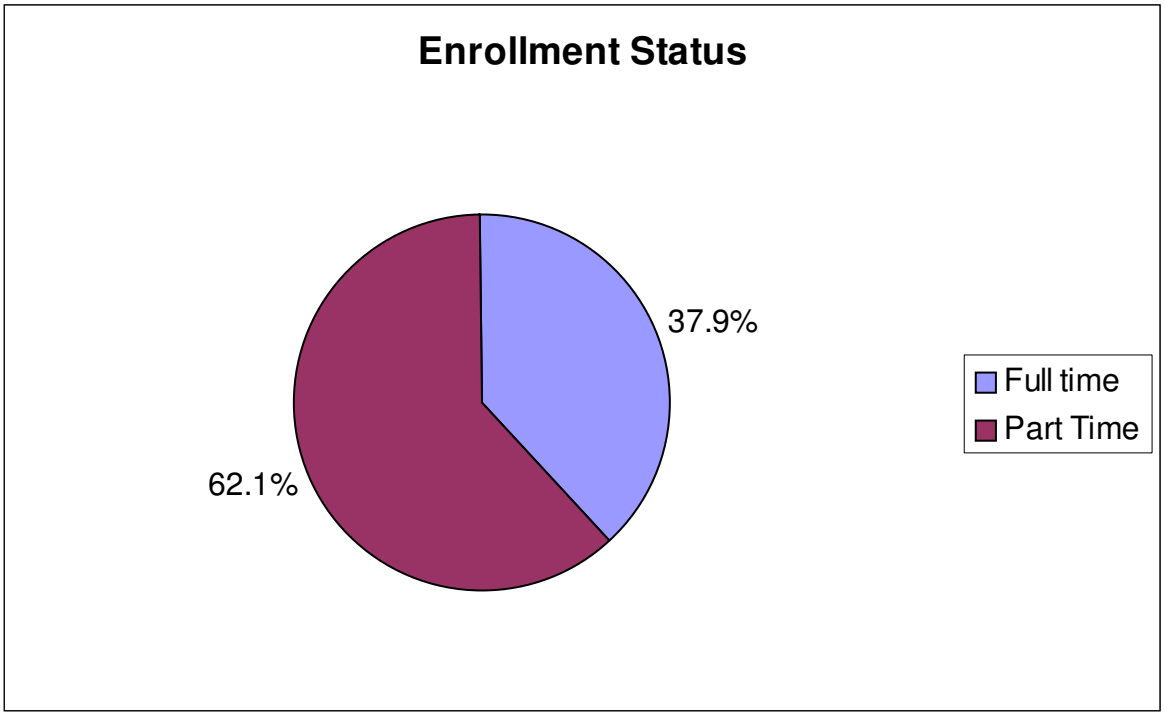
Appendix v State of the Art – Tool and Equipment Needs

TOOLS	TOTAL NEEDED	CURRENTLY HAVE	NEEDED	COST	TOTAL COST
Tractor	1	0	1	$12,000.00	$12,000.00
Dingo compact equipment	1	0	1	$24,000.00	$24,000.00
Skid steer	1	0	1	$15,000.00	$15,000.00
Trailer	1	0	1	$7,000.00	$7,000.00
					$58,000.00


Gender
39.0%
61.0%
Male
Female


Race/Ethnicity
0.0%
5.1%
6.8%
3.4%
11.9%
20.3%
52.5%
Alaskan Native/American Indian
Asian American/Pacific Islander
Black/African American
Hispanic/Mexican American
White/Caucasian
Other
No Response





PROGRAM REVIEW OUTLINE
Air Conditioning, Refrigeration and Ventilation (ACRV)

Part I. CURRICULUM

1.1 The curriculum supports the educational objectives of the program/discipline. New and revised courses address changes in the discipline or industry and specifically address student needs.

The courses offered by the ACRV program are vocational education based. A certificate program requiring 20 units has been established as a basic knowledge of Air conditioning or Refrigeration. A combination certificate requires the successful comp-letion of specified subject area containing 40 units.

The Associate degree requires a minimum completion of either the Air conditioning or Refrigeration Certificate plus the required 21 units of general education and elective units to fulfill the 60 unit minimum required for a AS Degree.

The program is not a transfer program. There are no 4 year institutions in California offering a degree in ACRV. The closest related major area is Mechanical Engineering.

1.2 Course requisites have been reviewed and are consistent with validation criteria.

The courses are continually updated as new materials and technologies become available. Additional courses have been added, with more short courses in the planning stages. Additional offerings are in the near future as increased lab space and program resources have increased.

New and revised courses developed during the period under review:
New Courses: ACRV – 100 Refrigeration Basics & ACRV 198A Ice Machines
Revised courses: Name changes throughout the program to clear up confusion, having three courses with identical names but different course outlines of record.

ACRV-112, ACRV-113 and ACRV-115, was updated with name changes. The name changes reflect the ACRV 112 Basic Refrigeration Systems as the first half of ACRV 115 Basic Refrigeration Systems and Controls. ACRV 113 Basic Refrigeration Controls as the second half of ACRV 115 Basic Refrigeration Systems and Controls.

ACRV-122, ACRV-123 and ACRV-125, was updated with name changes. The name changes reflect the ACRV 122 Residential Air Conditioning Systems as the first half of ACRV 125 Residential Air Conditioning Systems and Controls. ACRV 123 Residential Air Conditioning Controls as the second half of ACRV 125 Residential Air Conditioning Systems and Controls.
ACRV-212, ACRV-213 and ACRV-215 was updated with name changes. The name changes reflect the ACRV 212 Commercial Refrigeration Systems as the first half of ACRV 215 Commercial Refrigeration Systems and Controls. ACRV 213 Commercial

Refrigeration Controls as the second half of ACRV 215 Commercial Refrigeration Systems and Controls.

ACRV-222, ACRV-223 and ACRV-225 was updated with name changes. The name changes reflect the ACRV 222 Commercial Air Conditioning Controls as the first half of ACRV 225 Commercial Air Conditioning Controls & Systems, ACRV 223 Commercial Air Conditioning Systems as the second half of ACRV 225 Commercial Air Conditioning Controls & Systems.

Advanced courses had pre-requisites established which will eliminate the DROP IN anywhere format the program had over the last review period. Entry level courses where only offered every two years so many students started their program with commercial or advanced classes. It is now possible to offer an entry level course every year and this was all made possible by increased lab space, which will allow the extra classes to be taught. This makes it possible to offer entry level courses every calendar year, and in turn makes it possible to require a student progress thru the program taking entry level courses first. Pre-requisites make it possible to spend less review every course offering. This should give 4 weeks more instruction time per course on the advanced material that should be covered. The overall product should be improved and industry needs are more likely to be met.

The new and revised courses will make it possible to insure a smooth transition between basic and advanced courses. New course names will make it easier on students and counselors in course selection. Pre-requisites insure a student enters the program taking the entrée level courses. It enables instructors of advanced classes to expect students to have attained fundamental knowledge and skills necessary in the advanced course offerings.

Students completing the Refrigeration and / or Air Conditioning program are ready to enter the work force. Many only attain certificates. The industry is constantly changing and the need for a student / technician to further their career requires continuing education offered by industry, trade organizations or secondary and post secondary institutions. Trade organizations are seeing a decline in membership and participation from the technicians in the industry. More technicians are getting continued education offered by manufacturers at the vendor’s warehouses or trade seminars and short classes. The trend for continued education seems to be short duration, information specific course offerings. (4 to 16 hour programs) This is largely due to the shortage of qualified and trained personnel, and the inability to get time away from work, or to give up weekends or personal time.

Course proposals are presented by program instructors to advisory committee members for feedback. Involvement by the lead instructor in Advisory committees from several local community colleges and trade schools along with networking with instructors from ACRV programs across the country to get the feel for industry policies, trends and overall industry direction. In the past consideration of bringing on advanced courses or Certification preparatory courses was a mute point with space and resources being the

primary consideration that negated any further effort. However, with the new Technical Education facility and increased lab and lecture area, training aids and resources it is now possible to consider and even plan on the implementation of a program that will meet the needs of the industry and our students in the years to come.

Completion of the Basic Refrigeration and Air Conditioning courses prepare the student for entry-level positions. Upon gaining employment, the student can now attend classes in the evening taking advanced courses. Employers encourage students to continue at night, while working during the day. This allows the mentor or employer to offer on the job training in conjunction with a students' continuing education. This relationship enables the student to improve the quality of his continuance in the program, while earning a living and meeting the employers needs of filling entry level positions.

The ACRV advisory committee has advised of the need for continuing education with a focus on industry certification preparatory courses. The HVACR industry leaders in manufacturing have been pushing for voluntary technician certification programs and presently offer incentive programs to contractors and service companies that encourage technician certification. Presently ARI and ESCO offer Competency examinations for students exiting secondary and post secondary institutions. NATE offers Certification for technicians in the industry, and RSES offers the National Trade Certification (NTC), Certified Mechanic (CM), Certified Mechanic Specialist (CMS) and Technical Institute Master Technician examinations. All offer a certification on various specialties or areas of expertise in our industry. At present the advisory committee is discussing course material that may be eventually offered in the way of certification preparatory courses.

Advisory committee meetings with industry leaders, educators, students and contractors in our area keep industry abreast of program developments and the program current with industries needs and standards. Advisory Committee discussions led to the determination that in order to meet local industries needs, advanced courses needed to be offered and this in turn would be an avenue to bring back students that have already completed certificates or degrees.

1.2 Course requisites have been reviewed and are consistent with validation criteria.

Course requisites are advisory for entry level courses and prerequisites have been added to advanced classes. This will insure students entering the advanced courses have an understanding of basic principles of refrigeration, electricity and basic physics as it applies to the ACRV industry. (the laws of thermodynamics & gas laws)

1.25 Each course will be reviewed to determine which need to be <u>revised</u> and which need to be <u>updated</u>.

All courses are current having undergone revision and updating as of March 2005. The course outlines of Record where also accomplished at the same time.

	All Courses Revised 2005	Course Outline of record Revision Plan				
	2005	2006	2007	2008	2009	2010
ACRV 112	Mar-05	X				X
ACRV 113	Mar-05	X				X
ACRV 115	Mar-05	X				X
ACRV 122	Mar-05		X			
ACRV 123	Mar-05		X			
ACRV 125	Mar-05		X			
ACRV 212	Mar-05			X		
ACRV 213	Mar-05			X		
ACRV 215	Mar-05			X		
ACRV 222	Mar-05				X	
ACRV 223	Mar-05				X	
ACRV 225	Mar-05				X	

All courses will go through Course outline revision every 4 years.

3.1 Vocational Programs/Courses are in compliance with industry standards, advisory committee recommendations and state/federal funding guidelines.

The course follows Advisory committee recommendations whenever possible providing these recommendations are with in the parameters of the Antelope Valley College Mission statement and the goals set forth in the Educational Master plan.

1.4 Courses are taught within the parameters described in the outline of record.

Course outlines are followed closely with objectives changing only to reflect changes in technology and industry trends. Course Outlines of Record where recently made current showing SCANS competencies.

1.45 Divisional faculty have deleted courses from college catalogue which have not been taught in 3 years. If the course is not deleted it must be revised.

All courses have been offered in the past three years. All courses are offered at least every two years with the exception of ACRV 198A and ACRV 100. ACRV 198A is a 4 week course offered during intercession. (was last offered winter intercession of 2003) and ACRV 100 was recently added and not yet offered.

1.5 Where appropriate, courses address issues related to diversity and/or multicultural perspectives.

The courses are designed to stimulate a work atmosphere among the various ethnic and cultural backgrounds of the students. The diversity of the community is represented quite closely by the enrollment in the program. Soft skills including communication, customer relations and documentation are all included in course outlines and taught to increase potential for success by ESL students.

1.6 Course scheduling provides students with reasonable access to meet their educational objectives.

In the past, the program offered a 2 year completion during the day program and a 4 year completion evening program. This is still a reasonable expectation for our students though we have revised the program to allow students to join or return to the workforce in the ACRV industry within 1 year. This program allows for a student to gain fundamental skills to gain employment, and then take advanced classes in conjunction with On the Job Training. The student may then return to our evening program while being gainfully employed in the industry. This improves the quality of education a student will get from the advanced classes. The need to update students and prepare them for Industry Technical certifications is presently being explored by faculty with plans on bringing on short term mini courses to accommodate the need in local industry.

1.7 Course scheduling promotes strong enrollment patterns.

Course scheduling has been controlled by facilities available on the campus, and student work schedules. The typical day student is consistent, but the Evening program has been turning students away due to limited space and course offerings. The increased size of facilities available to the ACRV program has made it possible to start offering additional evening programs . We are presently offering 1 additional course per semester, which allows us to offer an entry level class every year during the evening. With Entry level Refrigeration and Residential Air conditioning offered every year, we have two feeders for our advanced classes that alternate, at present from Commercial Refrigeration to Commercial Air conditioning alternating every year.

We will bring on short duration specialty courses during the evening to supplement our program further meeting the needs of the student and industry.

With the revised program requiring pre-requisites for the advanced classes, and the traditional drop in anywhere being a thing of the past, entry points would be conceived as a program weakness. Lack of entry points would cause an inadequate number of students' eligible to take advanced classes having not completed the pre-requisites. This problem should only be a temporary issue as we phase in additional basic courses and will eventually smooth out as we have more students completing the basic course and meeting eligibility for the advanced courses.

Adding the evening basic program, and running it every year, there will be an entry point during the day program and the evening program every fall.

Therefore, there will be three programs graduating students from the Basic curriculum every spring which should ensure adequate students to fill the advanced classes. Advanced classes will be offered to meet the need of completers of the basic program. and when necessary, additional advanced classes can be added to meet the needs of the students.

1.8 Courses are articulated with local high schools and institutions of higher education.

There are, at present, no articulation agreements with local high schools or institutions of higher education. There are no entry level programs of this vocation available at the local high schools. The 4 year institutions do not offer a directly related major at this time. However, with increased classroom space, and empty chairs now showing up at the beginning of class, recruiting from the high schools will be necessary. We feel approaching students in the remedial math programs might generate interest from students that may be in the career path, decision- making process.

1.9 Faculty and staff have developed innovative instructional strategies to meet student needs and staff development supports the development of these strategies.

The program faculty are continually changing their instructional strategies in an effort to better serve the student and the employers in the industry. Faculty attend seminars and educational workshops available through various industry organizations. This aids in their capabilities of presenting the most current information available.

Our new facility has a 24 terminal computer lab that is networked. This lab allows for 100% student participation in computer labs on simulation software aimed at the various career paths in the ACRV industry. We also have Software packages that cater to the ESL student. This software allowing explanation of complex terminology in Spanish. This gives the ESL student the necessary help with technical terminology. Increased lab space offers more hands on with the tools and instructional aids. Lab projects can be worked on for longer periods without compromising lab space or materials for other classes.

Instructional assistants have not been available, but are in the near future. An instructional assistant in each lab environment would enhance the overall safety and progress that could be made. Much lab time is spent waiting on approval of the instructor before a student may continue with the assignment.. The period of waiting on the instructor allows students to drift from lab project, and fuels frustration among the students .With 24 students, it takes the best part of 1 hour to make one visit to all the student workstations. When working in hazardous situations (using torch, compressed gases, or electricity) students must work in larger groups due to the inability of the instructor to watch all the students all the time. This minimizes the actual hands on experience for the student, as more time is spent watching other students perform the assigned task.

1.10 Faculty and staff are familiar with and work closely with the student services and instructional support services staff in program development and student referral.

Counseling Center: Advisement, Orientation, Assessment

Counselors have had to advise students with course outlines that made it all but impossible to insure the right career path was chosen. This being noted, caused the ACRV program to review the course outlines and outline of records, to rename the courses allowing a clear path of progression to be easily seen by counselors and students.

Transfer Center: most of our students don't transfer. Primary focus form traditional student is an Associates In Science. Secondary focus would be on Certificates, to Increasing the students value with the employer. Non-Traditional students, or evening returning students primary focus is on Certificates in ACRV to increase value to employer, or to allow cross training form another field into the ACRV industry. This cross training is fueled by increased pay and job stability that has been the trend in the ACRV industry.

Career Center: Most of out students are career minded. The Career center has proven helpful for students needing to find career track information.

Extended Opportunity Program & Services
These services are helpful to many of the students. Students are retraining for a new vocation, while others are new entry level employees. Students referred by faculty are always taken care of given guidance and assistance.

Admissions and Records Office

Financial Aid Office: Many of our students receive student aid, and many have problems getting books at the beginning of the semester, due to not getting student aid check in time to purchase books. Perhaps funding for a handful of books to put on reserve in the library or even for checkout might help with this situation.(I'll check on this!)

Disabled Student Services Program: I have had several deaf students go thru our program. (1 successful) We used to rely on videos to teach some segments of our program, however due to the hearing impaired students we now rely more on powerpoint which we can better control the speed of the presentation, which helps with interpreters.

Matriculation Program

1.11 The programs meet one or more of the primary goals articulated in the College Mission Statement.

The ACRV program offers a vocational certificate, Associate degree, and / or educational curriculum which provided qualified, entry level individuals for business and industry.

1.12 The development of new and revised courses is consistent with the College Mission Statement.

The course offerings are designed to meet the college's philosophy of providing a given educational goal to a broad range of students. The faculty observe and react to diversity changes of the student population. The Associate degree and Vocational and technical curriculum requirements of the Antelope Valley College Mission statement are integral parts of the decision making process of the program faculty. New and/or revised courses are developed to best serve the students and their future employer as the need for changes occur.

1.13 Recent development in instructional technology have been incorporated into courses and student support services consistent with the objectives of the program and services.

VTEA funding made it possible to outfit our labs with current "state of the art" technology. Training aids and equipment with which to train on, tools to work with, and updated simulation software have been acquired and incorporated into the instructional methods of the instructors. Supplies and materials that insure students receive a productive lab along with the necessary work bench space are now a standard instead of a pipe dream.

1.14 The programs and courses are consistent with the development of programs, courses, and facilities articulated in the Educational Master Plan and Facilities Master Plan.

The Facilities Master Plan made possible this New Technical Education Facility. Already we seem to be overcrowded in our new home, but only because we have resources in industry that are sending equipment to be used in our new facility.
We have the available space to add course offerings in the future. We are presently working on several Certification Preparatory courses that will be offered on a recurring basis and encourage students to return for continuing education. There are no plans for expansion of the ACRV facilities in the facilities master plan. ACRV is included in the Educational Master Plan but it needs to be updated. The new "Palmdale Campus" may offer room for expansion of some programs, but could allow us (the ACRV Program) to spread our wings here on main campus.

Part II. STUDENT OUTCOMES

2.1 Expectations for student outcomes are clearly articulated and actual student outcomes are used in the assessment of course and program effectiveness.

The effectiveness of the ACRV program is best demonstrated by the number of people employed in this vocation and the number of certificates issued. Latest data of Spring 2005 shows nineteen (19) degrees or certificates issued during that year. Of the completing students for the program ending spring 2005 many students received employment opportunities in the immediate area. Some students relocated from the area for work. It's hard to determine actual success rates as follow up from completing students has not consistent.. We are at presently working on establishing a database to follow students through the program. It will watch completion rates and continuing education along with employment. This information is provided on a voluntary basis and therefore is only as accurate as program participation.

The faculty communicate with local employers. Critique is welcomed by faculty on the students transition into the workforce. This information is helpful in improving the program to insure the product is employable. Local employers make up a large part of the advisory committee.

Program SLO's (Desired Student Learning Outcomes)

1. Select proper hand tools and specialty meters, gauges and test instruments when installing, diagnosing and repairing Refrigeration and A/C equipment.
2. Choose proper refrigerant handling techniques in recovery, recycling and reclaim when installing, repairing and removing refrigeration equipment.
3. Estimate load and equipment size to meet the customers' requirements using load calculations.
4. Analyze customers' needs and make equipment recommendations that meet these needs, efficiently and reliably.
5. Determine proper installation requirements and use industry standard practices to layout and install equipment.
6. Analyze system and components for proper installation, operation and efficiency.
7. Analyze prints and drawings including mechanical and electrical schematics and pictorials for job specifications, equipment location and diagnostics.
8. Diagnose and facilitate repair to the smallest repairable unit on a Domestic and Light Commercial Refrigeration unit

I= Introduced (the student gains Knowledge of subject matter)

D-Developed & practiced with feedback (The student is able to apply Knowledge)

M=Demonstrated at the mastery level appropriate for graduation and entry level employment. (The Student comprehends and can make decisions based upon learned and practical experience)

Refrigeration Program

Course	SLO 1	SLO 2	SLO 3	SLO 4	SLO 5	SLO 6	SLO 7	SLO 8
ACRV 112	I	I	I			I	I	I
ACRV 113	I/D			I			I/D	I/D
ACRV 115	I/D	I	I	I		I	I/D	I/D
ACRV 212	D	D	I	D	I	D	D	D
ACRV 213	D/M	D/M	D/M	D/M	D	D/M	D	D/M
ACRV 215	D/M	D/M	D/M	D/M	I/D	D/M	D/M	D/M

Program SLO's (Desired Student Learning Outcomes)

1. Select proper hand tools and specialty meters, gauges and test instruments when installing, diagnosing and repairing Refrigeration and A/C equipment.
2. Choose proper refrigerant handling techniques in recovery, recycling and reclaim when installing, repairing and removing refrigeration equipment.
3. Design and layout an air handling system to meet health, safety and efficiency standards.
4. Estimate load and equipment size to meet the customers' requirements using load calculations.
5. Analyze customers' needs and make equipment recommendations that meet these needs, efficiently and reliably.
6. Determine proper installation requirements and use industry standard practices to layout and install equipment.
7. Analyze system and components for proper installation, operation and efficiency.
8. Analyze prints and drawings including mechanical and electrical schematics and pictorials for job specifications, equipment location and diagnostics.
9. Diagnose and facilitate repair to the smallest repairable unit on a Residential Air Conditioning System.

I= Introduced (the student gains Knowledge of subject matter)

D-Developed & practiced with feedback (The student is able to apply Knowledge)

M=Demonstrated at the mastery level appropriate for graduation and entry level employment. (The Student comprehends and can make decisions based upon learned and practical experience)

Air Conditioning Program

Course	SLO 1	SLO 2	SLO 3	SLO 4	SLO 5	SLO 6	SLO 7	SLO 8	SLO 9
ACRV 122	I / D	I / D	I		I	I	I		I
ACRV 123	D	D		I/D	D/M	D	D	I/D	I/D
ACRV 125	I / D	I / D	I	I/D	D/M	I/D	D	I/D	I/D
ACRV 222	D	D	D			D	D	D	D
ACRV 223	M	M	D/M	D/M		D/M	D/M	D/M	D/M
ACRV 225	D/M	D/M	D/M	D/M		D/M	D/M	D/M	D/M

2.2.1 Student evaluations are an integral part of the assessment of course and program effectiveness.

Student evaluations are administered once each semester to clarify the program effectiveness of both the courses and the instructor. Changes are made as necessary to insure student success. A specific program survey was administered in the fall of 2005 and results are noted in attached supplements.

2.3 Job placement data are an integral part of the assessment of course and program effectiveness for vocational programs.

Job placement of students is very difficult. However we have implemented a Work Experience program that works. There are two types of Work Experience students that take the program. First, employed students that sign up for work experience, and second, students that are unemployed or work in a different field. The first type of employed student sets objectives and is mentored and graded by the employer. The students progress toward the established objective is monitored objectively by the instructor.

The second type of student volunteers to go on scheduled ride along or work days. The student uses this opportunity to meet employers and contractors in the industry. The students get the opportunity to see the different type of work available in the industry, and introduces the student to the industry first hand. The student gains practical job experience, while the employer or contractor is introduced to the student and has the opportunity to first hand see the students work ethic and work potential.

The employer gives the Work Experience instructor feedback on the perceived students potential, strengths and weaknesses. This program to date led directly to the hiring of over 15 students. These students where hired before they completed the program, but where allowed to complete the program while working flex hours around school schedule.

This past year successful students from the ACRV program have gained employment opportunities with several government contractors *(Servicon and BAE Systems), Disney and, College of the Canyons along with local Air conditioning and Refrigeration Contractors and vendors.*

Part III. PERSONNEL AND SUPPORT SERVICES

3.1 The ratio of full-time to part-time faculty provides students with a quality of instruction consistent with student needs and goals of the programs.

This program has run over the last 15 years with 1 full time instructor and 2 adjunct instructors. The adjunct faculty are highly qualified and insure the quality of the program. Recent changes in curriculum and program layout have encouraged change in our methods and caused us to seek 2 additional adjunct instructors. These future instructors have been encouraged to submit resumes and documentation with human resources to accommodate using them in future course offerings. We have restructured our day program to offering only entry level courses (Basic Refrigeration and Residential Air Conditioning)

3.2 The ratio of full-time to part-time faculty provides adequate personnel responsible for program evaluation and revision.

The full-time faculty member maintains contact with the adjunct faculty. Periodic meetings are held for program evaluation and input comments are solicited from the adjunct faculty. All adjunct instructors and potential adjunct instructors are members of the advisory committee. Hiring process is conducted objectively by the full time faculty and division dean. Evaluations are conducted by the full time faculty and forwarded to the division dean for critique and completion.

3.3 There are adequate staff development opportunities to enhance the effectiveness of all staff in meeting the goals and objectives of the programs as well as the professional development of staff.

Professional development is available and used. The full-time and adjunct faculty tend to work of professional development through professional associations and workshops held locally and regionally. VTEA funds has made it possible for the full time instructor to take instructor workshops offered by the Air Conditioning and Refrigeration Institute (ARI) which is a professional organization whose main focus is on Education and training in the industry. They are backed by industry and are spearheading a movement to organize ACRV instructors across the country to work together toward improved training in the industry. The instructor workshops have made it possible for the full time instructor to gain insight on various instructional techniques, along with exposure to various programs and instructional institutions across the country.

Staff development offers opportunities for all program techniques, stay abreast of industry trends and *technological changes.* Faculty Academy and Flex allow instructors exposure to various teaching methodologies and instructional media.

3.4 Full-time faculty are actively involved in the process of hiring and evaluating instructors.

I have served on several hiring committee, Ty Mettler and Justin Shores. I am serving on one tenure committee - Justin Shores. I recognize the responsibility and commitment it takes to serve on these committees and make every effort to serve on these committees when needed.

3.5 The evaluation of staff is systematic and conducted at appropriate intervals. Follow-up to evaluation is timely and systematic.

I recognize the importance of staff evaluations, and the prompt evaluation feedback to the evaluee from the evaluator. These formal evaluations are accomplished when required.

3.6 The evaluation processes assess effectiveness and encourage improvement.

Assessment of instructional techniques to determine if the material presented is given in a manner that encourages questions and feedback.. Observation of both non-verbals and verbal communication is essential in a classroom environment. It should also include the ability of the instructor to motivate and encourage students while facilitating a fair and impartial scale for assessment.

3.7 There are adequate full-time faculty to meet program needs.

At present the one full time instructor is capable of handling the programs needs with the use of two adjunct positions. By Fall 2006 an additional adjunct instructor is going to be necessary. And if all goes as planned, a 4th adjunct position will be needed by the Fall of 2007. At that time, we might consider a full time evening position. Of course, we plan on bringing on additional short duration courses that would be offered during intercessions, and perhaps on weekends. We do, at present have a pool of several potential adjunct instructors waiting for the opportunity to teach at AVC.

3.8 There are adequate support staff to meet program needs.

Presently an Instructional Assistant / Toolroom monitor position is being filled. While the position will be shared with other programs in the division, the ACRV program would be the primary benefactor of this position. The instructional Assistant position would improve the quality and quantity of lab time by taking tool issue, material control and recycling of lab materials out of the instructors hands, making it possible for the instructor to dedicate more time to lab instruction.

Part IV. FACILITIES AND EQUIPMENT

4.1 Instructional areas and facilities are appropriate for effective teaching and learning.

We have dedicated labs for Refrigeration and Air Conditioning. We have storage for training aids and supplies. We have yard storage for industry donated equipment items that we use to augment our training program. Each lab has a dedicated lecture and lab area.

At present there has been no long term needs assessment, but there should not be any needs for change in the facility use in the next five years.

The present course curriculum offerings should lead to an increase in student offerings during the evening classes. As the quality of the program improves, and the increases in demand for our students grows, there should be an increase of potential students applying to take our program. Additional short term classes will be brought on to meet the needs of industry and fill our classrooms.

The day time program is now in competition with a strong electrical program. We used to be the only program offered during the day that was fueled by the residential and commercial construction boom. Now, students desiring entry into a career field that has anything to do with construction, or wishing to get away from construction and desiring to improve on their skills have a choice of Electrical or Air Conditioning. I feel the programs complement each other and we will find many students taking a combination of courses from the ACRV and Electrical programs. This would benefit them in seeking employment or advancement.

4.2 Instructional areas and facilities are appropriate for effective teaching and learning.

We are presently using the most current technology available for presentations. We are able to use overheads, VCR, DVD, and computer software driven presentations on projection screens. We use simulation software in the computer lab giving students first hand experience in the thought process of troubleshooting complex systems without leaving the classroom. While this is no replacement for hands on training, it does allow the student practical experience in the analysis and deductive reasoning process of troubleshooting.

At present the supply budget is not adequate for perishable supplies for the expanded course offerings. There are no long term plans to repair or replace any of the training aids or equipment items we use in our program, as most of our equipment is less than 3 years old. I feel that provided the equipment items are maintained, we should be able to get another 3 to 5 years out of all the audio-visual equipment, and as much as 8 more years out of training aids. If our operational and supplies budget were to be doubled

and Prop 20 money were to be available on a regular basis, gradual replenishment of training supplies would be possible, along with purchasing training aids that would improve quality of instruction as we attempt to keep pace with the everchanging trends in technology.

4.3 Program support space is adequate to ensure the effective operation of the educational program and related support activities.

Office space is marginal at best. (My walk in closet at home is roomier.)
Perhaps a storage room for archived grades and student papers. Presently I have 4 boxes under my desk, with two filing cabinets in my parts room. Perhaps some space for adjunct to store these records also. As you can see, we are finding ways to solve the problems of storage and space, but as future facilities are brought on line or built, it should be considered in the design to allow more room for storage of records, adjunct office space, (perhaps an extra office per program)
As we bring on more adjunct for the program an office or work place that could allow these instructors a place to do research, plan classes, perform clerical duties, and file papers would be in order.

4.4 The safety of the facilities and equipment are reasonable and adequate.

Again hindsight: We have eyewash stations with showers in each lab. We requested eyewash stations and got them. However, we did not request wash sinks or basins in the labs, though we should have. Students now must walk to the restroom in the hall with dirty, oil covered hands. This creates housekeeping issue that could have easily been resolved with a sink or basin in each lab. The showers are really not necessary and probably are more of a hindrance than help. (Waterless hand cleaner and hand towels would definitely help – I was only making comments that might help in any design considerations of future labs)

Part V. FISCAL SUPPORT

5.1 During the period under review, resources have been used effectively to support programs and services.

During the previous years since the last review, VTEA grants were utilized to purchase modern training aids, audio – visual equipment, computers and computer simulation software packages, of which several offer bilingual users or ESL users access to technical vocabulary translations. These technical terms may not exist in other languages and there fore the software offers explanations of complex terms in Spanish. All presentations using outdated slides and film strips were updated to CD and DVD formats. (basically, current presentations where purchased on newer formats) Interactive software involving simulation scenarios on ACRV equipment is now used offering electrical and mechanical training scenarios.

Initial goals with VTEA funding were to update old 286 processor computer systems to current Windows operating systems. Purchase software and site licenses to use the software on the new computer systems. These systems and software are used in all aspects of the educational program. From teaching fundamentals in electricity and refrigeration, to complex troubleshooting and system design scenarios we use them in building soft skills, such as invoicing, parts research and inventory control. Air handling system design and load calculations are taught on the new systems with the new software packages.

Evaluate the ability of the program to be maintained at the current academic level within the budgetary allowances of the last three years.

As the program has been in this new facility over the last two or three years, and VTEA money has helped with a complete refit and upgrade of the program, very little has been needed for maintenance or upgrades. Our supply budget needs have increased as we can now utilize our new lab space, and more students can actively work on projects at a time. We have found that we can now work 6 to 8 student projects at a time, so groups of 3 or 4 are formed into groups to work on a given project. This practice has caused us to use more perishable materials like copper, brazing materials, oxygen, acetylene and nitrogen. We are using more fittings, more vacuum pump oil, and more tools are needed. As we are now utilizing our increased lab space, we have increased our demand of supplies and perishables. Our present budget is augmented by prop 20 money and we are getting by. If Prop money is not available, our supply budget alone will not suffice.

5.2 Current and anticipated funding is adequate to maintain high quality programs and services.

As we bring on short specialty courses, we are hoping that industry will show support by donating training aids and materials that can be used in presentation, lecture and for hands on experience.

Manitowoc Ice has continued to offer support and equipment upgrades since we occupied the new tech facility. Scotsman Ice has jumped on the band wagon donating some equipment items for use in our refrigeration program. Danfoss has donated compressors (a pallet of 60) for use in compressor training.

There has been discussion with several other equipment manufacturers for equipment donations of modern state of the art equipment that will benefit our educational and training program.

Instructional supplies budget has increased over the years to 4K this year. This adequately covers copper tubing, brazing supplies, refrigerant gases, welding and inert gases, electrical relays, transformers, contactors and thermostats. It may also cover the replacement of refrigerant hoses, seals, broken gauges and broken hand tools and batteries.

We have been getting a Prop 20 allocation of 3K which helps with equipment repair and or replacement as needed of tool items. However it is not adequate to keep refrigerant recovery units, vacuum pumps, brazing and welding regulators, hoses, and tanks, nitrogen regulators, leak detectors, electrical multi meters, transducers, thermocouples, manifold gauges, mini gauges, anemometers, flow meters, flow hood, manometers, micron gauges, specialty tools (tubing cutters, swedging tools, flaring tools, tubing benders, fin combs and the list goes on…..) and measurement devices in good repair or replaced as needed. And if the 3K isn't available, we are really in the hurts.

We have been fortunate to have had many new tools and equipment items to work with over the last three years. However, as time passes the equipment is gradually (and will continue further) getting older and showing signs of wear.

Recovery equipment has an expected life of 3 to 5 years with minimum maintenance. However after 5 years, parts can usually not be found, and the units become uneconomical to maintain. The manufacturers have been changing and updating equipment so fast that models change so fast, part become scarce.

5.3 Anticipated funding is adequate for the development of revised and new programs.

With the plan to gradually bring on specialty equipment in the near future we would need to acquire some specialty equipment to train on. We are situated with equipment and training aids in many areas but very weak in the ability to train Heat Pumps, Hydronics and Boilers. Our labs were built to accommodate this equipment in the future. Normal supply budgets would not accommodate the requisition of these equipment items. Approximately 20K would make these training aids possible. At present I'm not sure of a funding stream, but a grant would probably accommodate.

Part VI. COMMUNITY OUTREACH AND PROGRAM AWARENESS

6.1 Staff maintains appropriate links with community.

Separate from articulation, what efforts have been made to create educational links between the program under review and the community?

I have been working closely with industry and local contractors trying to develop a functional mentor program. WE students are teamed up with local business and technicians for ride alongs and work experience. Many of the WE (most) students end up being employed by one of the Contractors or Vendors. We don't hurt on the exit of the program, but we do hurt getting good potential candidates to enter our program. I have been and am constantly involved with community service projects that offer me the chance to talk to young people and invite them to take a look at our program.

Weakness: This method does not give me a link for getting in contact with these students in the future for follow-ups.

6.2 Staff makes appropriate efforts to inform students about each program and facilitate student participation in those programs.

Our Technical Education Brochures highlight our program with current picture of active students, involved in lab in our new facility. The public relations office, the graphics department and our division dean have kept our Department and program brochures current and interesting.

In the past we have not recruited for our program, as there was inadequate space to take on all new students. Tech Ed brochures have been printed and are distributed at local trade association meetings. The students that are enrolled are instructed of the career path options we offer here at AVC.

6.3 Where appropriate, advisory committees meet regularly and support the development of programs as well as promote student placement.

Advisory committee meetings are held every semester. Members who are invited to attend vary from former students, active students, vendors, contractors, educators and technicians employed in facility maintenance, along with school district maintenance techs, employers and manufacturers representatives. Of those in attendance, usually students, (past and present) contractors and vendors most are involved in the Work Experience program. and offer ride alongs.

All invited members will receive a copy of the agenda and the minutes upon completion of the meeting. All advisory committee members are familiar with our program and its objective. New members are made aware of the programs objectives and given copies of Course outline of record for all courses. Advisory board members are invited to voice opinions of program , program direction, and where the program is successful or where it fails.

The biggest complaint over the past 5 years has been, the students that complete the program need more work on the fundamentals. They felt that while knowing advanced complex design and load calculations was nice, the entry level position was not required to know this, and that time would be better spent improving a students confidence with his tools performing basic procedures.

Adjunct instructors that teach evening classes felt that students entering into advanced programs should be better prepared, or meet minimum standards to allow more time to cover complex technical material and less time in review.

Upon review of our program as it was, it was determined that to much time was spent indoctrinating new students every semester, so less time was spent with practical hands

on skills that needed to be mastered. We implemented course prerequisites for the advanced classes, and now have two basic classes running with all beginning students. We can now train them, together on the same level.

On the same note the advanced classes will now not require teaching fundamental skills in an advanced class improving the overall quality of the presentation and the program.

Advisory Committee members, as employers and contractors work with my WE students in offering them hands on experience and the ride along program.

At present I am selective of WE students and wont allow a student to take WE if I feel he/she is not ready to venture into the working world. This is for various reason including work ethic, immaturity, attitude or even aptitude.

To date our program has been successful and gives the student from our program , actual experience while the employer gets to see the student first hand in a working environment. This gives them the opportunity to evaluate the students weakness and strengths and advise us how we might better improve our training to meet the needs of industry. Of course employers snap up the good students that show potential as quick as they hit the job market. Students that lack confidence in personal ability and skills are advised to refrain from taking WE as we want all first impressions to be good ones.

Part VII. COMPLIANCE WITH FEDERAL AND STATE REFULATION

State and Federal guidelines that are pertinent to the division have been reviewed and compliance issues addressed.

(not sure)

Summaries and Recommendations

For each part (I-VI) of the self-study, provide the following information and relate its impact to the Vision and Goals of the College' Strategic Plan.

A. A summary of the findings and their significance.

B. A list of major recommendations which include:

-a plan of action for implementation of goals and objectives for improvement or enhancement of programs and associated costs.
-expected outcomes of goals and objectives.
-a reasonable timeline for attainment of goals and objectives.

C. A list of recommended changes in the Educational Master Plan, Facilities Master Plan or Vision and Goals of the College's Strategic Plan.

The Vision and Goals of the College's Strategic Plan, Educational Master Plan, and Facilities Master Plan for the programs under review should be reviewed and revised to: (1) meet student needs, (2) respond to institutional priorities, (3) adequately reflect changes in the disciplines as well as changes in educational methodology and technology, (4) address external mandates such as state requirements, industry and professional standards, etc.

PROGRAM REVIEW OUTLINE
Aircraft Fabrication and Assembly Program

Part I. CURRICULUM

1.1 The curriculum supports the educational objectives of the program/discipline. New and revised courses address changes in the discipline or industry and specifically address student needs.

The program is designed to give students skills in aircraft structure and composite fabrication and assembly necessary for entry-level employment in the aerospace industry. Students who complete this program will have the necessary skills to be employed by aircraft manufacturers and subcontractors in a variety of positions.

The Aircraft Fabrication and Assembly program is a new program that began in the Fall of 2003. Both an advisory committee a needs assessment using Labor Market Data were used to develop the program.

Previously the program was run by adjunct, a full-time faculty was hired in 2004, and with this new addition the program will gain more structure and direction. The full-time faculty member has regular advisory meetings to ensure the program is meeting industry and student needs.

1.2 Course requisites have been reviewed and are consistent with validation criteria.

AFAB 110 Basic Blueprint Interpretation is the corequisite to both the AFAB 115 Aircraft Structures and AFAB 120 Composite classes. AFAB 110 and AFAB 130 Aerospace Work Issues and Ethics have no requisites.

1.25 Each course will be reviewed to determine which need to be <u>revised</u> and which need to be <u>updated</u>.

Courses are to be reviewed an updated on a 3-year basis. Revision schedule is as follows:

	2003/2004	2004/2005	2005/2006	2006/2007	2007/2008	2008/2009
AFAB 110			X			X
AFAB 115			X			X
AFAB 120			X			X
AFAB 130			X			X

Revisions to the Program will be completed at the end of the 2005/2006 fiscal school year.

1.3 Vocational Programs/Courses are in compliance with industry standards, advisory committee recommendations and state/federal funding guidelines.

Program was created and revised in the early states according to advisory committee recommendations. VTEA funds were used to start up the program and are still being utilized; the program is still in its early stages of development.

1.4 Courses are taught within the parameters described in the outline of record.

All instructors follow the course outline of record. They also collaborate on grading and teaching methodology to assure consistency.

1.45 Divisional faculty have deleted courses from college catalogue which have not been taught in 3 years. If the course is not deleted it must be revised.

N/A

1.5 Where appropriate, courses address issues related to diversity and/or multicultural perspectives.

The program attracts students from all ethnic and socio-economic backgrounds. All students are treated with respect and dignity. All educational and promotional materials feature students from diverse backgrounds. The new instructor hired for the program is a woman.

1.6 Course scheduling provides students with reasonable access to meet their educational objectives.

Both day and evening classes are scheduled. A day student could complete the program in one semester, and evening students, who are usually working adults, can complete the program in two semesters.

1.7 Course scheduling promotes strong enrollment patterns.

As discussed above both day and evening classes are offered. Those individual with a strong desire to seek employment or pursue their Associates degree can complete the program in one semester. Instructor and Dean go over the schedule at the start of every semester to ensure the scheduling pattern is meeting the needs of the students as well as to address enrollment numbers for the program. As the program grows and the local aviation industry begins hiring the program should grow and more classes can be offered at different times.

1.8 Courses are articulated with local high schools and institutions of higher education.

There are no Aircraft Fabrication Programs within the Antelope Valley Union High School District. However there is an Aviation Electronic program at Lancaster High School and an Engineering program at Mojave High School. The instructor intends on coordinating guest speakers and other activities to encourage communication between these programs.

1.9 Faculty and staff have developed innovative instructional strategies to meet student needs and staff development supports the development of these strategies.

The faculty pool for this program has come from the local aerospace industry, Lockheed, Northrop and other aerospace companies. Each brings their unique experience to the classroom as well as providing students with a different aerospace cultural experience. Both the composite and structures lab are equipped with state-of-the-art equipment, student who successfully complete the program create carbon fiber B-2 models and aluminum alloy airfoils. The classroom and lab instruction encourage teamwork, cooperation, and quality workmanship.

1.10 Faculty and staff are familiar with and work closely with the student services and instructional support services staff in program development and student referral.

There is no special role between the Aircraft Fabrication Program and Student Services. Students are encouraged to access all student services that can benefit them. The full time instructor does have Student Services that are being offered to the students posted on the lab bulletin board as well as making announcement of those services.

1.11 The programs meet one or more of the primary goals articulated in the College Mission Statement.

The Aircraft Fabrication Program is a Vocational and Technical program that awards Certificates and Associate Degrees. Two certificates are provided a Local and State Certificate; the local Aerospace companies recognize both.

This is consistent with the College Mission Statement related to Vocational and Technical Education which states in part, “occupational course designed to enhance students’ knowledge and skills leading to employment, career advancement, certification and state and federal licensure.”

1.12 The development of new and revised courses is consistent with the College Mission Statement.

The goal of the Aircraft Fabrication and Assembly program is to provide students with the opportunity to begin a career in the aerospace industry related to the fabrication and development of modern aircraft and space vehicles.

Regularly scheduled advisory committee meetings provide input on the needs of the community and local aviation industries, this input will be used to develop new course as well as input from Space Tec, and the development of new aircraft technology.

1.13 Recent development in instructional technology have been incorporated into courses and student support services consistent with the objectives of the program and services.

Now that the program has a full-time instructor, new technologies can be incorporated into the program. One goal of the instructor is to have a website with information related to the program so that student have access to more information. Related links will also be incorporated from the local aerospace industry.

1.14 The programs and courses are consistent with the development of programs, courses, and facilities articulated in the Educational Master Plan and Facilities Master Plan.

The program is housed in the new Technical Education building. The program has a state-of-the-art composites lab and structures lab.

Part II. STUDENT OUTCOMES

2.1 Expectations for student outcomes are clearly articulated and actual student outcomes are used in the assessment of course and program effectiveness.

Course objectives as stated in the course outline of record define and address the student learning outcomes for each course. Assignments, tests, and grading assess the student mastery of these student learning outcomes.

Program Student Learning Outcomes

1. Plan, design, and construct aircraft structures to industry standards using sheet metal and composites materials.

2. Analyze and evaluate critical aspects of the aerospace industry related to safe work practices, standards and tolerances, standard shop practices, and proper use of tools, power equipment and personal protective equipment.

3. Use, read, and interpret industry standard blueprints to construct aircraft components.

4. Assess aerospace work ethics, issues, and human factors directly related to proficiency level degradation in the work environment.

Course	Outcome 1	Outcome 2	Outcome 3	Outcome 4
AFAB 110			I, D	
AFAB 115	I, D, M	I, D, M	M	I
AFAB 120	I, D, M	I, D, M	M	I
AFAB 130				D, M

I= Introduced D-Developed & Practiced with Feedback
M=Demonstrated at the Mastery Level Appropriate for Graduation

2.2 Student evaluations are an integral part of the assessment of course and program effectiveness.

Student evaluations are conducted whenever a faculty member is being evaluated. The full-time instructor is in her 2nd year of Tenure review, so her student evaluations are done on a yearly basis. The student evaluations and peer input evaluations are reviewed and changes made were applicable. Students are also asked to give a class critique at the end of the semester at times.

Review of the Student Survey for Systematic Program Review indicated that most of the students were very satisfied with the program. However a couple of students were unhappy with the cancellation of a couple classes, due to low enrollment. Another remarked about the Ethics class only being offered at night, they wanted to see a day class being offered. And many of them felt that the program was not being advertised enough, there wasn't enough publicity.

The main reason that most of the students sought this program was the employment opportunity.

2.3 Job placement data are an integral part of the assessment of course and program effectiveness for vocational programs.

There are no objective statistics regarding job placement available. The college does not conduct follow-up surveys of former students or graduates as this would be very costly and the participation rate is typically very low. The only job placement information available are those given by the students who report back that they have gotten a job or by our advisory committee members from local industry inform us about newly hired students and their productivity.

Employers who employ our students are: Lockheed, Scaled Composites, Northrop, Boeing, and NASA as well as other relation contractors and subcontractors. Scaled Composites and Lockheed Martin representatives have both expressed the desire to hire our students, because of the training they receive from the aircraft fabrication program.

The program is seeking internships. NASA has agreed to form an internship (STEP program) with students from the program, and Lockheed is also looking at stating an internship with the program as well.

State and Local Certificate Data

Academic Year	AWARD TYPE	Program Type	Award Count
2004/2005	Certificate requiring 18 to fewer than 30 units	Aircraft Fabrication (095050)	10

Part III. PERSONNEL AND SUPPORT SERVICES

3.1 The ratio of full-time to part-time faculty provides students with a quality of instruction consistent with student needs and goals of the programs.

There is one full-time instructor and four adjunct instructors. The full-time instructor is responsible for course revisions, course development and leadership of the program. Now that the program has a full-time instructor it can grow and proceed in a defined direction with the help of the advisory committee recommendations.

The students now have a central point of contact in the program, as well as a diversified faculty pool, that enhances the program, because of the various technical backgrounds of all the instructors involved with the program.

3.2 The ratio of full-time to part-time faculty provides adequate personnel responsible for program evaluation and revision.

As state above the full-time instructor for the program is responsible for curriculum development, course revisions and other related materials. The full-time instructor receives input from the advisory committee as well as all the adjunct instructors when developing or revising course material.

3.3 There are adequate staff development opportunities to enhance the effectiveness of all staff in meeting the goals and objectives of the programs as well as the professional development of staff.

All staff in the program have access to VTEA funds for professional development. The program is also involved with Space Tec and uses NSF funds as well to help supplement some of the program cost generated from hosting composite course for Space Tec as well as the local industry. Staff develop money is available as well as attending Flex presentations.

3.4 Full-time faculty are actively involved in the process of hiring and evaluating instructors.

There is a full-time instructor for the use of evaluating the part-time faculty in the program.

3.5 The evaluation of staff is systematic and conducted at appropriate intervals. Follow-up to evaluation is timely and systematic.

All the adjunct in the program have been evaluated at least once by the Dean. The full-time instructor is under Tenure review and is evaluated once a year.

3.6 The evaluation processes assess effectiveness and encourage improvement.

The evaluation process is effective and encourages improvement. Especially for new instructors, constructive criticisms are always helpful and welcomed in a learning environment.

3.7 There are adequate full-time faculty to meet program needs.

Yes, the full-time faculty member maintains an effective and vital program that meets the needs of the students and the industry.

3.8 There are adequate support staff to meet program needs.

An instructional assistant/tool room position is open for both the air conditioning and aircraft fabrication program. This individual will take care of the tool cribs in the TE7 building.

Part IV. FACILITIES AND EQUIPMENT

4.1 Instructional areas and facilities are appropriate for effective teaching and learning.

It is a new program housed in a new facility. VTEA funds have been used to help purchase tooling and equipment needed for the program. At the present time the facilities are adequate.

Both labs have new equipment related to composite and sheet metal fabrication.

4.2 Instructional areas and facilities are appropriate for effective teaching and learning.

As stated above the program is new along with the equipment. VTEA funds are being used to help develop and equip the program with the necessary items needed.

4.3 Program support space is adequate to ensure the effective operation of the educational program and related support activities.

Division offices could be increased across the campus.

4.4 The safety of the facilities and equipment are reasonable and adequate.

The facilities are safe and secure.

Part V. FISCAL SUPPORT

5.1 During the period under review, resources have been used effectively to support programs and services.

Again, the program is new and VTEA funding along with monies supplied to build the building were used to equipment the classroom/labs.

The current budget is sufficient at this time, however we do receive VTEA funding still, as well as the NSF grants for Space TEC. The program looks to industry for additional support, such as donations, internships, and supplies at a reduced cost.

The program utilizes state-of-the-art equipment and facility. The composite lab has downdraft benches, oven, freezer to store advanced composite materials, as well as a ventilation system. The structures lab is also very well equipped with state-of-the-art sheet metal equipment and tooling.

5.2 Current and anticipated funding is adequate to maintain high quality programs and services.

The program is new and operating costs are still being evaluated. The funding may need to increase. Once VTEA funds are no longer available, will have to look at possible grants, industry donations for composite supplies, as they are very costly.

5.3 Anticipated funding is adequate for the development of revised and new programs.

None at this time, maybe additional personnel if the program begins to grow rapidly.

Part VI. COMMUNITY OUTREACH AND PROGRAM AWARENESS

6.1 Staff maintains appropriate links with community.

This is a new program with a new instructor. A link between the community and the program needs to be established. The instructor does community events and is in the process of developing close working relationships.

6.2 Staff makes appropriate efforts to inform students about each program and facilitate student participation in those programs.

Instructor attend job fairs, welcome booths, Math Science Odyssey, and other community events to encourage student enrollment and success. Instructor meets with local advisory committee to arrange guest speakers, as well as internships with industry for students in the program.

6.3 Where appropriate, advisory committees meet regularly and support the development of programs as well as promote student placement.

Advisory committee meets at least once a year, maybe twice, once per semester, they are the programs links to aerospace community. The committee informs the instructor of the recently hired students progress and provides feedback as well as the possibly of internships.

Part VII. COMPLIANCE WITH FEDERAL AND STATE REGULATION

State and Federal guidelines that are pertinent to the division have been reviewed and compliance issues addressed.

Summaries and Recommendations

For each part (I-VI) of the self-study, provide the following information and relate its impact to the Vision and Goals of the College' Strategic Plan.

A. A summary of the findings and their significance.

As stated above this is a new program with a new full-time instructor, both are going through growing pains. The facility and equipment are efficient and encourage student learning. As the local industry grows then the program will need to be revised to meet these new growth requirements.

B. A list of major recommendations which include:

None at this time.

C.

None at this time.

PROGRAM REVIEW OUTLINE
Auto Body Technology

Part I. CURRICULUM

1.1 The curriculum supports the educational objectives of the program/discipline. New and revised courses address changes in the discipline or industry and specifically address student needs.

All Auto Body courses were revised and updated in the spring of 2003. Revisions/updates were processed through the AP&P committee at that time. All course objectives are written broadly enough to allow for minor changes in course content to occur on a semester basis. Outlines of record are updated as major automotive technology changes occur, with each course being reviewed and revised on a three-year rotation.

Course review/ revision schedule:

	2003	2004	2005	2006	2007	2008
Abdy 112	X				X	
Abdy 113	X				X	
Abdy 115	X				X	
Abdy 212	X				X	
Abdy 213	X				X	
Abdy 215	X				X	
Abdy 122	X			X		
Abdy 123	X			X		
Abdy 125	X			X		
Abdy 222	X			X		
Abdy 223	X			X		
Abdy 225	X			X		

Review of the course curriculum by the auto body advisory committee as to the relevance of the course content and suggestions for improvement of the program are done on a regular basis. In addition, with the full-time faculty being involved with business, industry, and trade associations, and with one adjunct instructor being a local business owner, and the other adjunct instructor being involved with I-CAR (Industry Conference on Auto Collision Repair) and the I-CAR Education Foundation, changes in technology and repair processes are recognized early, with minor course content revised on a semester basis.

The advisory committee has suggested new courses for the program. The need for short term courses in estimating vehicle damage, VOC (volatile organic compounds) calculation and tracking, frame/structural computer aided measuring, paint matching and

blending, and welding instruction/certification have all been suggested by the committee, however lack of an appropriate facility and staff limitations have not allowed any new courses to be developed.

Recent consultation with Plant 42 staff at Lockheed Martin has provided another potential employment route for graduates of the automotive refinishing program. Agreement has been reached with Lockheed Martin to grant the one-year of work experience required for employment to college students satisfactorily completing the Automotive Refinishing Certificate. Minor modifications to the existing curriculum will be made to address the needs of Lockheed Martin for Aircraft Painters.

The Auto Body Program supports the objectives of Antelope Valley College and the Technical Education Division of training entry-level technicians for an expanding workforce.

1.2 Course requisites have been reviewed and are consistent with validation criteria.

Course requisites are advisory for first semester students. These advisory requisites inform the student of the rigor of the class without blocking their entry into the program with many prerequisites. Sequential courses have a prerequisite of satisfactory completion of the prior semester course to assure student success in advanced courses.

1.25 Each course will be reviewed to determine which need to be revised and which need to be updated.

All outlines of record are revised/updated on a three-year rotation with the last revision/update being done in the Spring 2003 adopting the integrated course of record form. All objectives are stated in measurable terms and contain SCANS competencies that are in compliance with vocational education and NATEF (National Automotive Technician Education Foundation) guidelines.

1.3 Vocational Programs/Courses are in compliance with industry standards, advisory committee recommendations and state/federal funding guidelines.

All courses are in compliance with industry standards and state/federal vocational program guidelines. The advisory committee reviews course content on a regular basis.

The Auto Body Certificate Programs were modified in the spring 2000 as a result of recommendations from the advisory committee.

1.4 Courses are taught within the parameters described in the outline of record.

Course outlines of record are written broadly enough to allow minor changes in curriculum to be adopted each semester to reflect technological changes. The outlines and objectives are followed closely in every class.

1.45 Divisional faculty have deleted courses from college catalogue which have not been taught in 3 years. If the course is not deleted it must be revised.

The Body Shop Management course has been deleted from the catalog, as it had not been offered for several years. The Antique and Classical Car Restoration class remains in the catalog in the hope that the summer intersession would be extended to allow this course to be offered. This course has not been offered for over three years, but was updated/revised in the Spring 2003.

1.5 Where appropriate, courses address issues related to diversity and/or multicultural perspectives.

Courses are designed to stimulate the importance of teamwork and ethics in the workplace, yet encourage the expression of individualism. Ethnic diversity of the community is represented in the program; however, the lack of female enrollment is obvious. The collision repair industry is comprised mostly of males; strategies should be developed to overcome this inequity.

1.6 Course scheduling provides students with reasonable access to meet their educational objectives.

Classes are offered in both the day and evening**.** Certificate requirements can be completed in three or four semesters depending upon the certificate, attending the day courses. Certificate requirements can be completed in six or eight semesters depending upon the certificate, attending the evening courses.

1.7 Course scheduling promotes strong enrollment patterns.

Enrollment patterns have been strong for many years. All auto body classes close early during the registration period. Scheduling of classes during the morning and evening hours allows for differing employment schedules for the students. This schedule also allows for students to participate in a four hour per day Cooperative Work Experience Program.

Course offerings are organized in a block-scheduling format, which provides the student with a combination of lecture and laboratory experiences. This type of format is well suited for this particular discipline. In addition, overlays of classes provide for strong enrollments and for interactive learning among beginning and advanced students. The overlays can create a challenge for instructors, however computer aided instruction and a qualified lab assistant can eliminate many of the problems associated with overlays.

Due to limited classroom and laboratory space only half of the auto body courses are offered during the day schedule on a rotating semester basis. The automotive collision repair courses are offered in the fall semester and the automotive refinishing courses are offered during the spring semester. This scheduling may create a barrier for the students

wishing to complete their certificate requirements in a shorter time. Automotive collision repair and automotive refinishing courses are offered each semester during the evening schedule.

1.8 Courses are articulated with local high schools and institutions of higher education.

No articulation agreement exists at the present time. Full-time faculty has worked with the local high school district to establish a 2+2 program, however no auto body instruction is offered at the local high schools.

With the emphasis on college preparatory courses at the secondary level, vocational programs have become rare, if at all existent at high schools.

1.9 Faculty and staff have developed innovative instructional strategies to meet student needs and staff development supports the development of these strategies.

The program faculty are frequently modifying their instructional methods in an effort to better serve the students that are continually changing in their preparation for college. All faculty are members of trade associations and attend industry sponsored conferences and expositions. All program faculty attend and support various flex activities. Program faculty are aware of the changing needs, expectations, and ill preparedness for college level courses of the students.

Since the previous program review, computers have been purchased and installed in TE2-128, which serves as a computer lab for the auto body and welding programs. Software has been developed, purchased, and obtained through donations to integrate computer-aided instruction into the program. At the writing of this report, most of the computers are inoperable and have been inoperable for over eight months. Lack of support from ITS (Information Technology Services) has created problems for the instructors to rely on the computer lab to be operational to support the learning experience that CAI can offer to the students.

As of the writing of this review, the day-shift auto body instructional assistant has been chronically ill and absent from work for approximately one year. The division has obtained an “hourly as needed” employee for this time span, however the need for a permanent classified employee for this position needs to be addressed. In addition, an instructional assistant for the evening courses has the unreasonable job of serving both the welding program and the auto body program. With full enrollments and overlays being offered in the evening, a qualified full-time classified employee is urgently needed for the late afternoon and evening hours to serve the auto body program.

Student assistant are not available for the program. Money for student assistants has not been budgeted for the Technical Division in a number of years. The full-time faculty

attempts to hire federal work study students as instructional aids for the program, however limitations of knowledge and lack of dependability have resulted in many of these students not being of much help to the instructors.

1.10 Faculty and staff are familiar with and work closely with the student services and instructional support services staff in program development and student referral.

The Career Center is useful to our students in exploring possible careers in the automotive collision repair industry and related fields.
EOPS, Financial Aid, and DSS are very helpful to the auto body students. Many students have been referred to the program through these departments, with many of the students being successful in their pursue of a career in the industry.

The Learning Center has been a valuable asset to the program. Linking with the Writing Center to provide assistance and guidance with student research paper assignments has helped to provided the students with the necessary skills required to maintain currency in the profession once the students graduate and become part of the work force.

The Library maintains a reasonable amount of references sufficient for the students to access additional information pertinent to their studies. Most specialized references (service manuals, collision manuals and on-line procedures) are available in the auto body facility.

1.11 The programs meet one or more of the primary goals articulated in the College Mission Statement.

The Auto Body Program offers an associate degree and three levels of certificates. The program has two distinct phases; automotive collision repair and automotive refinishing. Three levels of certificates are offered; Automotive Collision Repair Specialist, Automotive Refinishing Specialist, and a combination Automotive Collision Repair and Automotive Refinishing Specialist.

The certificate program was modified in 2000 as a result of the recommendation given by the Auto Body Advisory Committee.

These offerings fulfill part of the mission of Antelope Valley College, that being: Vocational and Technical certificate and degree programs comprised of business, technical and occupational courses designed to enhance students' knowledge and skills leading to employment, career advancement, certification, and state and federal licensure. Both Locally Approved and Chancellor's Office Approved certificates are awarded.

1.12 The development of new and revised courses is consistent with the College Mission Statement.

The auto body courses offered will continue to reflect the philosophy and mission statements of Antelope Valley College: to train qualified people to enter the workforce. New and revised courses will be developed as technology changes and continue to replicate the philosophy and mission of the college.

1.13 Recent development in instructional technology have been incorporated into courses and student support services consistent with the objectives of the program and services.

The extensive use of the computer lab (when operational), development and purchase of software for student self-paced instruction, and assignments requiring student research on the Internet, have integrated instructional technology into the program.

The purchase of the Chief Genesis™ computerized measuring system, the donation of DuPont™ computerized paint mixing/matching system and the purchase of electronic testing equipment has kept the program current with the modern workplace as well as incorporated technology into the program.

1.14 The programs and courses are consistent with the development of programs, courses, and facilities articulated in the Educational Master Plan and Facilities Master Plan.

Most of the short-term goals listed in the Educational Master Plan have been implemented since the previous Program Review. Medium range goals (6 – 10 years) list expansion of the program with more course offerings, additional equipment purchases and the hiring of additional faculty. These goals cannot be reached until the auto body facility is expanded and modernized.

The Facilities Master Plan has documented the heavy impaction of the auto body program and the dire need for a larger, appropriate facility for approximately the past twenty years. The plan has preliminary drawings to expand the present automotive technology building with a north wing dedicated and designed for the auto body program. The timeline for construction has been postponed each time the Facilities Master Plan is reviewed.

The Auto Body Program is “boxed in” and cannot grow to offer more courses nor serve more students in the present, antiquated facility.

Part II. STUDENT OUTCOMES

2.1 Expectations for student outcomes are clearly articulated and actual student outcomes are used in the assessment of course and program effectiveness.

Student outcomes are used in the assessment of course and program effectiveness. Satisfactory completion of the stated course objectives, both written tests and "hands-on" performance objectives, provide for immediate student assessment. Job placement is the best measure of the program effectiveness, however an accurate procedure to measure job placement is impossible to achieve. Informal feedback from graduate students and local business owners show a good placement rate.

Certificate and associate degree awards are also used to measure student outcomes. Reports from the State Chancellor's Office list six award counts for 2002-2003, six awards for 2003-2004, and 18 awards for 2004-2005.

2.2 Student evaluations are an integral part of the assessment of course and program effectiveness.

A "student evaluation of instructor" instrument is administered each semester. Faculty member of the program are open to constructive criticism given by the students and are used for improvement of the program, as well as improvement of the instructional techniques employed by the instructors.

2.3 Job placement data are an integral part of the assessment of course and program effectiveness for vocational programs.

As mentioned earlier, job placement is the best measure of the program effectiveness, however, an accurate procedure to measure job placement is impossible to achieve. Informal feedback from graduate students and local business owners show a good placement rate. 100% placement of course completers will never be accomplished since many students enroll for personal development rather than job training, while other students are currently employed in the industry and enroll to upgrade job skills.

The implementation of the Job Placement Center has been beneficial to many of the program's students. The EDD statewide link provides information where jobs are currently available throughout the state. Prior local rulings prohibit faculty from actively participating in the process of job placement. The program faculty do receive requests from local employers for referrals of good students, however these requests must be, and are forwarded to the Job Placement Center.

See Appendix A: Summary of Student Surveys.

Automotive Collision Repair Technology

Program Student Learning Outcomes

1. Analyze, evaluate, and apply critical aspects of the collision repair industry related to safe work practices, standards and tolerances, standard employer practices, and proper use of tools, power equipment, hazardous materials and personal protective equipment.

2. Use oxyacetylene, MIG (metal inert gas) and plasma arc welding/cutting equipment to join automotive sheet metal/structural panels in a variety of joints/configurations common to automobile body construction.

3. Evaluate, analyze, and repair damaged automotive body panels/structures using body solder, fiberglass, and plastic composite materials.

4. Evaluate, categorize, analyze, repair, replace and align automotive panels/structures to meet industry specifications and standards.

5. Evaluate, analyze, and prepare, mask, and spray automotive panel(s) using current technology paint coatings to industry standards.

Automotive Collision Repair Certificate Requirements

Course	Outcome 1	Outcome 2	Outcome 3	Outcome 4	Outcome 5
ABDY 112	I, D	I, D	I, D	I, D	
ABDY 113	D	D	D	D	
ABDY 115	I, D	I, D	I, D	I, D	
ABDY 212	D	D	D	D	
ABDY 213	D, M	D, M	D, M	D, M	
ABDY 215	D, M	D, M	D, M	D, M	
ABDY 122	I, D				I, D
ABDY 123	D				D
ABDY 125	I, D				I, D

I = Introduced.
D = Developed & Practiced with Feedback
M = Demonstrated at the Mastery Level Appropriate for Graduation and Entry Level Employment.

ABDY 112 and 113 equivalent to ABDY 115
ABDY 212 and 213 equivalent to ABDY 215
ABDY 122 and 123 equivalent to ABDY 125

Automotive Refinishing Technology

Program Student Learning Outcomes

1. Analyze, evaluate, and apply critical aspects of the collision repair industry related to safe work practices, standards and tolerances, standard employer practices, and proper use of tools, power equipment, hazardous materials and personal protective equipment.

2. Use, read, and interpret industry standard specifications for production-type spray equipment, coating materials, masking materials, and color matching procedures.

3. Evaluate, analyze, replace and repair damaged automotive body panels using welding equipment, body solder, fiberglass, and plastic composite materials.

4. Evaluate, analyze, and prepare, mask, and spray automotive panel(s) using current technology paint coatings to industry standards.

5. Evaluate, analyze, color-sand, polish, and final detail a vehicle for customer delivery meeting industry standards.

Automotive Refinishing Certificate Requirements

Course	Outcome 1	Outcome 2	Outcome 3	Outcome 4	Outcome 5
ABDY 122	I, D	I, D		I, D	
ABDY 123	D	D		D	I
ABDY 125	I, D	I, D		I, D	I
ABDY 222	D	D		D	D
ABDY 223	D, M	D, M		D, M	D, M
ABDY 225	D, M	D, M		D, M	D, M
ABDY 112	I, D		I, D		
ABDY 113	D		D		
ABDY 115	I, D		I, D		

I = Introduced.
D = Developed & Practiced with Feedback
M = Demonstrated at the Mastery Level Appropriate for Graduation and Entry Level Employment.

ABDY 122 and 123 equivalent to ABDY 125
ABDY 222 and 223 equivalent to ABDY 225
ABDY 112 and 113 equivalent to ABDY 115

Part III. PERSONNEL AND SUPPORT SERVICES

3.1 The ratio of full-time to part-time faculty provides students with a quality of instruction consistent with student needs and goals of the programs.

One full-time faculty and two adjunct faculty staff the program at the present time. With the current course offerings and limitations of the present facility the numbers and ratio are sufficient. If the facility is expanded and more courses are offered the need of one additional full-time faculty and two additional adjunct faculty are anticipated.

3.2 The ratio of full-time to part-time faculty provides adequate personnel responsible for program evaluation and revision.

The full-time faculty maintains a close working relationship with the adjunct staff. Consultation and idea sharing is done periodically through informal meetings, contact at trade association meetings, and advisory committee meetings. We even have lunch together occasionally. With all responsible personnel maintaining a compatible working relationship, program improvement and effectiveness is smoothly maintained.

3.3 There are adequate staff development opportunities to enhance the effectiveness of all staff in meeting the goals and objectives of the programs as well as the professional development of staff.

Adequate staff development opportunities exist for all faculty members to meet the goals of the program. Membership in trade associations and attendance at many industry-sponsored functions are done by all faculty members. The auto body program has an honorary membership in the local chapter of the California Autobody Association (CAA) due to the faculty's support and activity in this association.

College flex credit for attendance at these different functions has provided staff the opportunity to receive professional acknowledgement for these activities. Attendance at Institutional Flex presentations has also proven beneficial to the auto body staff.

The implementation of VTEA professional development funds have provided the staff the opportunity to attend professional functions that otherwise could not have been done.

3.4 Full-time faculty are actively involved in the process of hiring and evaluating instructors.

Full-time faculty has served on several screening committees for the hiring of additional full-time staff, and has served on several Tenure Review Committees for the evaluation of probationary faculty. In addition, the full-time faculty is actively involved in the recruitment, process of hiring, mentorship, and evaluation of adjunct faculty members for the program.

3.5 The evaluation of staff is systematic and conducted at appropriate intervals. Follow-up to evaluation is timely and systematic.

The college's evaluation policy is followed during the evaluations of staff. These evaluations are conducted at appropriate intervals and are consistent with timelines established by the evaluation policy.

3.6 The evaluation processes assess effectiveness and encourage improvement.

Assessing effectiveness and encouraging improvement is the foundation of the college's evaluation policy and procedures. Evaluation reports are written addressing these important criteria. The program faculty also recognizes the benefits of positive reinforcement and encourages the adjunct faculty to develop and enhance their own pedagogical styles.

3.7 There are adequate full-time faculty to meet program needs.

At the present time there are adequate full time faculty to meet the needs of the program. If expansion of the program occurs, there will be a need for additional staff.

3.8 There are adequate support staff to meet program needs.

There is not adequate support staff to meet the needs of the program. One full-time instructional assistant working the morning and afternoon shift has existed for many years. This staff member is vital to the function of the daytime program, and as mentioned earlier in this report, has been absent from work due to a chronic illness for approximately one year. The position has been temporarily filled by an "hourly as needed" employee whom has filled the position more than adequately for this time span. This position needs to be filled by a permanent employee to provide continuity and stability in serving the program's students.

The evening courses do not have an instructional assistant dedicated for the auto body program. The current evening instructional assistant has the unreasonable job of serving two programs simultaneously, the welding and auto body programs. The auto body program is very "hands on" intensive and requires the students to use specialized tools and equipment that is provided by the college. Checking out and checking in of the tools is done in a very haphazard fashion due to the lack of a qualified instructional assistant to perform this duty, as well as inventory and maintenance of the tools and equipment. Many tools, and some equipment is lost or stolen due to the lack of proper control of the tool room. This problem is magnified by the fact the evening courses are overlaid with four classes. The evening instructors do the best job they possibly can while being handicapped without the aid of an assigned instructional assistant.

Part IV. FACILITIES AND EQUIPMENT

4.1 Instructional areas and facilities are appropriate for effective teaching and learning.

A major strength of the auto body program is the laboratory's resemblance of a modern collision repair shop. The classroom, tool room, laboratory, and computer lab being in close proximity is an excellent feature of the facility.

One weakness of the current facility is the distance from the main facility to the paint spray booths. A modern spray booth and garage to house the booth was constructed in1999 (the greatest improvement to the program this writer has witnessed during my tenure) and installed in the only space that existed. Due to the limitation of space near the main facility the spray booth was installed outside the entrance gate of the body shop facility. This location does hinder the instructors to supervise both locations (the main lab and booth) at once.

The Facilities Master Plan calls for the existing maintenance facility to be demolished and the new science building constructed at this site. The spray booth is located next to the maintenance building, and there is not a plan to relocate the spray booth. Will the spray booth and garage be demolished also? A defining plan needs to be established to relocate this facility prior to demolition of the maintenance building.

A major weakness of the facility is the lack of a storage area for lab projects. The existing storage area is not sufficient to store student projects, and what area exists impedes the movement of vehicles into the shop area and into the spray booth. An additional area exists east of the present storage area, however this area is fenced to secure electrical panels. Reconstruction of this fence could be done to provide additional storage for the auto body program and still provide security for the electrical panels.

The greatest weakness of the program is the size of the facility. Self-Studies, Space Utilization Reports, Educational Master Plans, and previous Program Reviews have all identified the auto body program as being heavily impacted and having one of the highest facility utilizations on campus. Impacted identification first occurred in the mid 1980's. The Facilities Master Plan listed the construction of a new facility adjacent to the existing automotive technology building for 1990-91, but has been consistently postponed. The existing Master Plan still shows construction of a new facility and lists demolition of the existing TE-2 building, but no timeline has been established.

A timeline for the construction of a new auto body facility needs to be established and preserved.

4.2 Instructional areas and facilities are appropriate for effective teaching and learning.

Access to state-of-the-art equipment is another strength of the program. The purchase and installation of modern equipment such as the Spray Bake™ spray booth, Genesis™ computerized analyzation system, DuPont™ computerized paint mixing/matching system, Pro-Spot™ electronic spot welder, and the upgrade of the computer lab have occurred since the previous Program Review. These purchases have kept the program technologically current with the industry.

A weakness of the program is the limitations of the quantity of equipment for students use. This discipline requires students to develop skills to be proficient. Proficiency is attained by instruction and practice. The lack of sufficient numbers of specialized equipment limits the students from obtaining the needed practice. The lack of ample space in the current facility prohibits the installation of any additional equipment. With the current enrollment of the program, one additional spray booth is needed. Two additional E-Z-Liner™ frame machines and two additional Genesis™ analyzation systems, six additional MIG welders, two additional spot welders, and twelve additional work stations.

The program faculty has not applied for any capital outlay or VATEA funds for several years, as the present facility cannot house any additional equipment. Only funds needed to repair or replace existing equipment will be needed until the auto body facility can be expanded.

4.3 Program support space is adequate to ensure the effective operation of the educational program and related support activities.

The addition of the TE-7 building has greatly improved the division office space, workroom, classified work area, and full-time faculty offices. Adjunct office space does not exist in the TE-7 building. Program adjunct faculty uses a storage area in the TE2-134 laboratory as an office, but is not designed for this purpose.

The preliminary drawings of the new auto body facility contained within the Facilities Master Plan include office spaces that would be appropriate for adjunct faculty as well as full-time faculty offices.

4.4 The safety of the facilities and equipment are reasonable and adequate.

The faculty and staff constantly monitor safety of the facility and equipment. Safety training and testing is done to assure a safe and hazard-free environment for the students and staff. The cramped size of the laboratory for full classes (24 students) does compromise safety somewhat. The laboratory is best suited for twelve students within this discipline.

Part V. FISCAL SUPPORT

5.1 During the period under review, resources have been used effectively to support programs and services.

Since the previous program review, substantial equipment purchases have been made with capital outlay funds. Meeting the 3 – 5 year goals of the Educational Master Plan, equipment purchases have been made for equipment such as the Spray Bake™ spray booth, Genesis™ computerized analyzation system, DuPont™ computerized paint mixing/matching system, Pro-Spot™ electronic spot welder, and the upgrade of the computer lab. These purchases have kept the program technologically current with the industry.

Ample supply budgets are always in jeopardy. A supply budget of $6000.00 has been allotted to the program for the past three years, this amount has been augmented with Proposition 20 monies to provide a sufficient allotment, however Proposition 20 funds are always a question from year to year. The college district needs to allot a sufficient supply budget each fiscal year without the reliance on Proposition 20 funds. Also, this allotment needs to be increased from year to year to allow for increases in supply costs.

5.2 Current and anticipated funding is adequate to maintain high quality programs and services.

As has been repeated throughout this section until a larger facility is available, growth of the program is impossible. Once a larger facility is available, categorical funding can be obtained to provide the facility with much needed additional equipment and workstations.

A repair/replace budget will be needed to keep the program at its current level. Equipment in present use does wear out and becomes broken; the college district must continue to maintain this equipment in a safe and functioning condition.

Supply budgets need to be consistent from semester to semester without reliance upon questionable funds such as Proposition 20 funds. The supply budget needs to be increased as supply costs escalate from year to year.

5.3 Anticipated funding is adequate for the development of revised and new programs.

A weakness of the program is the limitations of the quantity of equipment for students use. The lack of ample space in the current facility prohibits the installation of any additional equipment. With the current enrollment of the program, one additional spray booth is needed, two additional E-Z-Liner™ frame machines and two additional Genesis™ analyzation systems, six additional MIG welders, two additional spot welders, and twelve additional work stations. No funding is anticipated.

The Facilities Master Plan calls for the existing maintenance facility to be demolished and the new science building constructed at this site. The new spray booth is located next to the maintenance building, and there is not a plan to relocate the spray booth. Will the spray booth and garage be demolished also? No funding has been identified to relocate the existing paint spray booth.

A major weakness of the facility is the lack of a storage area for lab projects. The existing storage area is not sufficient to store student projects, and what area exists impedes the movement of vehicles into the shop area and into the spray booth. An additional area exists east of the present storage area, however this area is fenced with no access. No funding is anticipated for additional storage areas.

The greatest weakness of the program is the size of the facility. Self-Studies, Space Utilization Reports, Educational Master Plans, and previous Program Reviews have all identified the auto body program to being heavily impacted and having one of the highest facility utilization on campus. Impacted identification first occurred in the mid 1980's. The Facilities Master Plan listed the construction of a new facility adjacent to the existing automotive technology building for 1990-91, but has been consistently postponed. The existing Master Plan still shows construction of a new facility and lists demolition of the existing TE-2 building, but no timeline has been established. No funding is anticipated for a new facility.

The faculty has not applied for any capital outlay or VATEA funds for several years, as the present facility cannot house any additional equipment. Only funds needed to repair or replace existing equipment will be needed until the auto body facility can be expanded.

Part VI. COMMUNITY OUTREACH AND PROGRAM AWARENESS

6.1 Staff maintains appropriate links with community.

Faculty's involvement with industry associations is the strongest link to the community. The faculty's (both full-time and adjunct) involvement with I-CAR has established strong links with the greater Antelope Valley and the Southwestern United States. Most businesses affiliated with the collision repair industry (insurance companies, suppliers, other community colleges, dealerships, and body shops) are aware of Antelope Valley College's Auto Body Program.

6.2 Staff makes appropriate efforts to inform students about each program and facilitate student participation in those programs.

Program faculty participates in the annual AVC "Open House", and annual "Automotive Career Day" with information and tours of the facility given to prospective students. I-CAR training seminars and meetings of the local chapter of the CAA (California Autobody Association) have been held in the body shop facility. The AV Antique Car Club holds their monthly meetings in the body shop facility with faculty occasionally

giving presentations and demonstrations to the group. Program brochures are available for distribution with a new brochure being created during this past year.

"Word of mouth" appears to one of the best advertisements of the program. Present or previous students of the program help to "sell" the program to new, prospective students.

6.3 Where appropriate, advisory committees meet regularly and support the development of programs as well as promote student placement.

The auto body advisory committee is made up of local business owners and program faculty. The committee has formal meetings on a regular basis, and has informal contact approximately monthly. The committee is used to review the program curriculum, make recommendations for the program certificate, make recommendations for equipment purchases, and suggest new courses to be offered.
The committee makes the recommendations about what the entry level technician needs to know and what jobs they are expected to perform to be successful. The committee members may also contact faculty or the Job Placement Center for assistance in locating qualified entry-level personnel.

Part VII. COMPLIANCE WITH FEDERAL AND STATE REGULATION

The program is in compliance with all applicable State and Federal guidelines.

Summaries and Recommendations

A. A summary of the findings and their significance:

The Auto Body Program fills an important need by providing students with the knowledge and skills necessary to confidently seek employment in the auto collision repair industry. Auto collision repair and automotive refinishing technicians are important occupations in the United States, California, and the Antelope Valley. More technicians are leaving the occupation due to retirement and attrition than are entering the field. An extreme shortage of qualified technicians is being experienced nation wide as well as in the Antelope Valley. Hopefully, Antelope Valley College, and more specifically the Auto Body Program can help to fulfill this need. Recent investments in tools and equipment have enhanced the program and will aid in serving the students to obtain skills and knowledge to enter the industry.

B. A list of major recommendations which include:

1. Develop strategies to foster cooperation with the Information Technology Services department and to emphasis their importance in supporting student instruction. This strategy needs to be developed immediately with the result being the computer lab TE2-128 being operational and maintained.

2. Hire a day-shift permanent classified employee to fill the instructional assistant position. This position needs to be filled for the 2006/07 year. No financial impact anticipated.

3. Hire a permanent classified employee for the afternoon and evening instructional assistant position. This position needs to be filled for the 2006/07 year and should be included in any SPBC requests.

4. Develop strategies to establish cooperation and communication with the Counseling staff. An ongoing effort for establishment of communication and cooperation needs to be developed for the 2006/07 year. No financial impact anticipated.

5. Continue to emphasize the need and importance of expanding the auto body facility to meet the needs of the community and the collision repair industry. An ongoing effort needed.

6. Establish communication with the maintenance department and facilities department and attempt to resolve a workable solution to the limited storage area adjacent to the auto body facility. Immediate effort needed to solve this problem. Limited financial impact.

7. Establish communication with the facilities department to determine the relocation of the existing spray booth before demolition of the current maintenance building and leveling of the surrounding area. Immediate effort needed to establish a plan for the relocation of the existing spray booth and garage. Moderate financial impact.

8. The Instructional Supplies budget needs to be increased by $6,000 to maintain adequate supplies for the program. The reliance on Proposition 20 funds to augment the supplies budget is not reliable. The supplies budget should be increased from year to year to compensate for the increased cost of supplies. This increase for supplies should be included in any SPBC requests for the 2006/07 year.

9. The Advisory Committee should review the current curriculum and the Auto Body Certificate Program on a yearly basis. Recommendations should be considered and the curriculum revised as needed. Changes in technology should be anticipated by the VTEA Planning Committee (I believe the committee does), and fund the program to maintain currency with industrial changes. Costs could be moderate.

C. A list of recommended changes in the Educational Master Plan, Facilities Master Plan or Vision and Goals of the College's Strategic Plan.

1. The Educational Master Plan should be modified to reflect attainable goals for the program. Most short-term goals have been reached and long-term goals appear to be unobtainable.

2. The Facilities Master Plan should be revised to state a timeline for the construction of a new auto body facility.

Appendix A

Part II. Student Surveys

Students were administered the Program Review student survey instrument during the Fall 2005 semester. Fifty-eight students completed and returned the surveys.

- Class gender is 90% male and 10% female.
- Race/ethnicity makeup: 4% Asian American/Pacific Islander; 9% Black/African American; 26% Hispanic/Mexican American; 55% White/Caucasian; 6% other.
- 67% have taken 1-2 courses in the program. 28% have taken 3-5 courses in the program, and 6% have taken 6-10 courses in the program.
- 35% of the students listed their enrollment status as full-time, while 65% listed their enrollment status as part-time.

Most of the survey questions received a strongly agree or agree response. Five of the survey questions received a higher percentage of disagree or strongly disagree responses. Those questions were:

- #9 – Courses in which I am interested are offered frequently enough - 7%.
- #11 – Lecture-type classroom facilities adequately meet my learning needs - 12%.
- #12 – Laboratory facilities adequately meet my learning needs - 14%.
- #13 – Equipment and materials adequately meet my learning needs - 33%.
- #18 – There is adequate publicity about this program in the community - 21%.

PROGRAM REVIEW OUTLINE

Automotive Technology

Part I. CURRICULUM

1.1 The curriculum supports the educational objectives of the program/discipline. New and revised courses address changes in the discipline or industry and specifically address student needs.

The Automotive Technology program is a vocational program designed to provide the future and working technician with a strong foundation in automotive repair, including knowledge and skill development in the most up-to-date and advanced technology. This is a rapidly changing program and is in a constant state of development and expansion.

This two year program is offered in four major sections, engines, electrical, fuel/emissions, and chassis, which includes curriculum from basic automotive to advanced level technician upgrading courses. The core program is offered primarily during the day, but can be taken in smaller increments pieces during the evening.

There are currently two certificates available, one in chassis and powertrain, the other in driveability emissions and electrical. Each certificate requires 26 units of instruction. The certificate combined with additional units of general education and electives will lead to an Associate of Science Degree for a total of 60 units.

The goal of the automotive technology program is to provide pre-employment instruction in the manipulative skills, technical knowledge and related trade information that will prepare the student for employment in the automotive industry. Our automotive courses provide students with an experience level to successfully enter the current automotive job market. The Automotive program is not a transfer program however some universities such as CSU Fresno and CSU Long Beach will accept our classes for lower division work, leading to an Industrial Technology or similar degree. The Automotive program provides training for new students as well as update training for industry technicians on new technologies and training for recertifying in State programs.

The content of our automotive courses are constantly being updated when changes in technology in the automotive industry occur. Some of the changes are required by the Bureau of Automotive Repair (BAR) brought on by changes in the State emissions program. Some new courses are written and offered first as seminars, then as information and technology grows developed into a full course.

Auto 198H “Advanced Emissions Diagnostics Training Seminar” and Auto 190 “Auto Parts Specialist” have been added to the Automotive Program since the last program review in 1998.

Input from our Automotive Advisory Committee and our contacts with technicians and their supervisors from local automotive shops help us keep our instruction and students current.

Future new courses that may be offered subject to Advisory Committee approval are:

1. Alternate Fuels including Hybrid, Fuel cells, Hydrogen, Compressed Natural Gas, and Electrical vehicles.
2. Automotive Management including Service Writer, Shop Manager and Sales.
3. New Smog Check Update Course.

2.1 Course requisites have been reviewed and are consistent with validation criteria.

Most of the courses have advisories instead of prerequisites in order that all students may enter our program. Students have direct input to instructors for advisement and long term planning of career goals.

1.25. Each course will be reviewed to determine which needs to be revised and which needs to be updated. (Three year revision and update plan through the year 2014.)

Course	05/06	06/07	07/08	08/09	09/10	10/11	11/12	12/13	13/14
Auto 100	M			M			M		
Auto 101	M			M			M		
Auto 102	M			M			M		
Auto 105	C			C			C		
Auto 110		M			M			M	
Auto 111		M			M			M	
Auto 112		M			M			M	
Auto 113		M			M			M	
Auto 125			M			M			M
Auto 126			M			M			M
Auto 127			M			M			M
Auto 128			M			M			M
Auto 130	C			C			C		
Auto 150	K			K			K		
Auto 151	K			K			K		
Auto 152		M			M			M	
Auto 153			M			M			M
Auto 175		K			K			K	
Auto 176		K			K			K	
Auto 177		K			K			K	
Auto 190	J			J			J		
Auto 198A			M			M			M
Auto 198B	K			K			K		
Auto 198C	K			K			K		
Auto 198D	K			K			K		
Auto 198E	K			K			K		
Auto 198F		K			K			K	
Auto 198G	K			K			K		
Auto 198H			K			K			K
Auto 198J			K			K			K
Auto 198L		K			K			K	
Auto 198N			C			C			C
Auto 199	K			K			K		
Auto 200	K			K			K		
Auto 210	K			K			K		
Auto 231	C			C			C		
Auto 232		C			C			C	

Auto 276		K			K			K	
Auto 277		C			C			C	
Auto 278			C			C			C

M=Kevin Mawhorter K= John Knapp C=Chuck Capsel J=Leonard Johnson

All of the automotive courses need to be revised to the AP&P template. Within the next three years all of the automotive courses will be reviewed to determine which need to be revised and updated in measurable terms and to reflect SCANS competencies.

1.3 Vocational Programs/Courses are in compliance with industry standards, advisory committee recommendations and state/federal funding guidelines.

The course syllabus are updated and followed with allowances made for technological changes. Many revisions have been made in the last several years to modify courses due to changes in the industry and Advisory Committee recommendations.

1.4 Courses are taught within the parameters described in the outline of record.

All courses are taught within the parameters described in the syllabus and outline of record. Instructors also collaborate on grading and teaching methodology to assure consistency.

1.45 Divisional faculty have deleted courses from college catalogue which have not been taught in 3 years. If the course is not deleted it must be revised.

Within the next three years all of our courses will be reviewed, revised or deleted from the college catalogue.

1.5 Where appropriate, courses address issues related to diversity and/or multicultural perspectives.

Students of many different ethnic and cultural backgrounds are represented in our program. Courses are designed to stimulate a work atmosphere in both classroom and hands-on projects in the laboratory. The diversity of the community is closely represented by the program enrollment.

1.6 Course scheduling provides students with reasonable access to meet their educational objectives.

Classes are scheduled where we see a need by keeping a waiting list for most of our popular courses and scheduling them as soon as there is sufficient demand. Classes are offered from eight in the morning until after ten every evening, except Friday, Saturday and Sunday when classes are not normally offered. During the day program, depending on rotation of classes, within a year a certificate may be earned in one of the following areas: Engine and Drive Trains or Driveability, Emissions and Electrical. Our tool room personnel help in contacting potential students and coordinate enrollment procedures.

1.7 Course scheduling promotes strong enrollment patterns.

The automotive program is offered during the morning in a five hour block, four days a week. Smaller course increments are offered during the afternoon and evening. Usually in a three or four hour class two times a week and occasionally on a Saturday.

Two major barriers exist that inhibit the student's access to a full certificate and associate degree program. The first is the number of full-time instructors (2). Five years ago we received a California Automotive Technician Training Certification (CATTS). In this certification the certifying team criticized us for having only two full time teachers covering a full automotive program. It was felt that the needed depth of instruction and momentum in each area of instruction could not be effectively maintained. Classes are not available due to lack of qualified adjunct instructors during the afternoon, on Fridays and Saturdays. The second barrier is the minimum class size of fifteen students for our advanced courses. Advanced course offerings and state smog technician citations classes require specialized expensive equipment and more individualized personal instruction. The possibility of class cancellation due to low enrollment is generally caused by needed prerequisite course offerings.

1.8 Courses are articulated with local high schools and institutions of higher education.

Approximately ten years ago automotive teachers and administrators from the college and high schools signed an articulation agreement. Now there seems to be a concern as to its validity. A meeting with the local high school automotive teachers during our 2005 October Auto Career Day activities showed interest in renewing the automotive articulation agreement.

Once a year in October we host the Automotive Career Day in our automotive shop. All of the local high schools, students, teachers, counselors, administrators, and board members are invited.

Automotive instructors visit local high schools as well as participate in evaluating high school senior projects.

1.9 Faculty and staff have developed innovative instructional strategies to meet student needs and staff development supports the development of these strategies.

Instructors in the program belong to many professional organizations such as the North American Council of Automotive Teachers (NACAT), California Automotive Teachers Association (CAT), International Mobile Air Conditioning Association (IMACA), Mobile Air Conditioning Society (MACS), and the Automatic Transmission Rebuilders

Association (ATRA). All of our instructors are Automotive Service Excellence (ASE) certified in their area of instruction or certified as Master Automotive Technician.

Recertification occurs every four years. Two instructors are certified by the State of California as Enhanced Emissions Instructors in the Smog Check Program.

1.10 Faculty and staff are familiar with and work closely with the student services and instructional support services staff in program development and student referral.

Except for registration and involvement in our Automotive Career Day the involvement of the counseling center is minimal for the automotive program. Students are encouraged to seek counseling and career advisement. Most guidance for this program comes from the automotive faculty. Those who counsel vocational students need to get into the programs and physically visit shops on a regular basis to really learn what is needed. EOPS, Financial Aid and Disabled Student Services are willing to work with students who qualify.

The Math and Reading Labs are a big help for those students needing additional assistance.

There are very few students available to tutor automotive students.
The condition of the automotive building continues to be unsatisfactory with heating and air conditioning constantly in need of repair and there exists an extremely long time between repair requests and the repair. As an example, a roll-up door has not been useable for two years. The maintenance staff does a good job of trying to maintain the facility in safe working order.

The grounds around the automotive facility are unkempt. Weeds along the entry and along the edge of the building with old storage containers greet the students and visitors as they enter the automotive compound.
The Student Bookstore has done a good job of keeping up with needed books and materials.

1.11 The programs meet one or more of the primary goals articulated in the College Mission Statement.

The Vocational Automotive Program meets many of the goals of the College Mission Statement through the following:

Associate of Science Degree program.

Certificate program providing the automotive industry with qualified in technicians. Provides the essential base for a vocational degree through critical thinking and problem solving in laboratory courses.

Provides the opportunity for the individual to profit from the College's educational offerings – most of our students leave the college program and start working in the automotive field.

A non credit educational program to assist adults in maintaining competencies – all of our courses may be taken for credit/no credit. A large number of our students during the evening program are maintaining or upgrading competencies to become Automotive Service Excellence (ASE) certified and or California State emissions certified. Community service programs addressing specific educational needs – are offered through various seminar courses on specialized topics.

1.12 The development of new and revised courses is consistent with the College Mission Statement.

New and revised courses will be developed and offered to meet the current and future needs of our students and the automotive community. This program will continue to reflect the philosophy and mission statement of Antelope Valley College.

1.13 Recent developments in instructional technology have been incorporated into courses and student support services consistent with the objectives of the program and services.

Two LCD projectors, one over head camera and two DVD/VCR players have provided the instructors with new avenues for class presentations. Teacher created power point presentations as well as professionally created interactive programs are now being used. "AllData" and "Michael on Demand" information retrieval programs as well as the Internet are now being used by students researching repair information. As more classes are held during the same time period more technology equipment is needed for each instructor. All of the automotive shop computers need to have a wireless connection to a printer and the Internet.

1.14 The programs and courses are consistent with the development of programs, courses, and facilities articulated in the Educational Master Plan and Facilities Master Plan.

The automotive building was built in 1976 and there is no replacement in future plans. Repairs and improvements are needed. The heating and air conditioning systems haven't worked properly since the building was new. The toolroom and automotive library room need to be enlarged. A half wall with windows and a door is needed to separate the engine and transmission repair areas.

Part II. STUDENT OUTCOMES

2.1 Expectations for student outcomes are clearly articulated and actual student outcomes are used in the assessment of course and program effectiveness.

STUDENT LEARNING OUTCOMES
Certificate in Engine and Drive Trains

1. Analyze, evaluate, troubleshot and repair automotive engines to meet the standards of the automotive industry.

2. Analyze, evaluate, troubleshoot and repair automotive chassis, brakes and suspension systems to meet the standards of the automotive industry.

3. Analyze, evaluate, troubleshoot and repair automotive transmissions and related systems to meet the standards of the automotive industry.

4. Analyze and evaluate critical aspects of the automotive industry related to safe work practice standards, tolerances, standard shop practices, proper use of tools, power equipment and personal protection equipment.

5. Evaluate State and Federal automotive standards, guidelines and technical reference data from the manufacturer to effect quality repairs in accordance with proper maintenance and safety standards.

6. Examine automotive industry standards for work ethics, quality workmanship, customer satisfaction and determine those traits that are acceptable or unacceptable in the work environment.

Course	Outcome 1	Outcome 2	Outcome 3	Outcome 4	Outcome 5	Outcome 6
Auto 110 or 111 and 112	I,D			I,D	I,D	I,D
Auto 125 or 126, 127 and 128		I,D		I,D	I,D	I,D
Auto 130			I,D	I,D	I,D	I,D
Program Elective - One or two courses required (4-6 units)				M	M	M

I = Introduced
D = Developed and Practiced with Feedback
M = Demonstrated at the Mastery Level Appropriate for Graduation

STUDENT LEARNING OUTCOMES
For
Certificate in Driveability, Emissions and Electrical

1. Define, discuss, test and solve accurately common electrical problems of all components related to automotive repair.

2. Identify, diagnose and repair emissions systems, fuel injection systems, and carburetor systems to meet California Bureau of Automotive Repair and industry standards.

3. Evaluate, translate, interpret and apply state and federal laws, regulations and guidelines set forth by the state and federal government.

4. Analyze and evaluate work ethics, customer satisfaction, workmanship and distinguish acceptable and unacceptable traits in the automotive industry.

5. Assess and employ safe work practices, standard shop practices, proper use of tools including power equipment and personal protective equipment.

Course	Outcome 1	Outcome 2	Outcome 3	Outcome 4	Outcome 5
Auto 150 or Auto 151, 152 & 153	I,D			I,D	I,D
Auto 175 or Auto 176,177 & 276		I,D	I,D	I,D	I,D
Program elective - One or two courses required (4-6 units)			M	M	M

I = Introduced
D = Developed and Practiced with Feedback
M = Demonstrated at the Mastery Level Appropriate for Graduation

2.2 Student evaluations are an integral part of the assessment of course and program effectiveness.

A teacher and class evaluation are administered for every course each semester to students. If feasible the subject matter and methods of presentations are adjusted to meet the recommendation of the students. Some of the Automotive Advisory Committee members are former students employed in the automotive industry.

2.3 Job placement data are an integral part of the assessment of course and program effectiveness for vocational programs.

No formal process of collecting job placement data for the assessment of the program is currently in place. However, since most of the faculty have links with prospective employers and have informal conversations with graduate students working in the automotive industry, information is used in adjusting class effectiveness.

Part III. PERSONNEL AND SUPPORT SERVICES

3.1 The ratio of full-time to part-time faculty provides students with a quality of instruction consistent with student needs and goals of the programs.

The ratio of full-time to part-time instructors is two full-time and two part-time. With the amount of new material added each year and the firm recommendation from the California Automotive Technician Training Standards (CATTS) certifying team, a third full-time instructor would enable the program to provide more student access.

3.2 The ratio of full-time to part-time faculty provides adequate personnel responsible for program evaluation and revision.

See 3.1 above. Since the last Program Review one part-time instructor was added to the automotive faculty teaching a new class in Auto 190 – Automotive Parts specialist and assisting with Auto 100 and 101 – Basic Automotive.

3.3 There are adequate staff development opportunities to enhance the effectiveness of all staff in meeting the goals and objectives of the programs as well as the professional development of staff.

There are considerable number of staff development opportunities to enhance the effectiveness of the staff. Currently instructors pay out of their own pocket for most of the cost of attending seminars, workshops, trade meetings, conferences, and schools. In addition, instructors cover their own costs to keep up licenses (Bureau of Automotive Repair Smog Check licenses) and Automotive Service Excellent (ASE) Certifications,

and California State committees. The automotive staff attends a minimum of two California Automotive Teachers (CAT) conferences, one in northern California and one in southern California. Also one North American Council of Automotive Teachers (NACAT) conference, held at various locals around the United States and Canada, and specialized workshops through Automatic Transmission Association (ATA), Mobil Air Conditioning Society (MACS), held at various locals around the United States are attended.

3.4 Full-time faculty are actively involved in the process of hiring and evaluating instructors.

Full-time and adjunct faculty members are involved in hiring of new faculty. Full-time faculty is involved in evaluating instructors as per Board Policy.

3.5 The evaluation of staff is systematic and conducted at appropriate intervals. Follow-up to evaluation is timely and systematic.

The evaluation of staff is as per notification and is performed in a timely manner. Follow-up to evaluation is timely and systematic as per Board Policy.

3.6 The evaluation processes assess effectiveness and encourage improvement.

The evaluation policy currently used seems effective and provides avenues for change and improvement. However this policy could be better tailored to the vocational programs.

3.7 There are adequate full-time faculty to meet program needs.

As per our California Technician Training Standards (CATTS) Program Certification, it is strongly recommended to increase the number of fulltime instructors to more effectively cover instructional areas and provide our students with more options and a higher quality program.

3.8 There is adequate support to meet program needs.

Currently the instructor has no student aids or assistants during time in the laboratory to assist students. Some labs have over twenty-four students and they must wait long time to get help. Students normally work on many makes of vehicles at one time in a shop area with a large square footage. Most of the tools and equipment are very old and in poor shape requiring a lot of maintenance. This requires loss of time while students wait and share the equipment that does work.

Part IV. FACILITIES AND EQUIPMENT

4.1 Instructional areas and facilities are appropriate for effective teaching and learning.

The automotive program is taught in a building that has one small classroom and one large classroom with two lab areas. This arrangement limits the number of classes that can be taught without disruption from noise from the other classes. What is needed is a third classroom near the automotive shop. The Agriculture/Landscape program will be leaving TE 140 and TE 141 for their new classroom areas. These two rooms (TE 140 & TE 141) with their close proximity to the automotive shop would provide for a better instructional environment, and would allow for more class offerings during the same time period.

Storage of equipment and teaching aids, that are not being used for a particular class, has created a problem using up valuable floor space in the lab areas. The storage area in TE 141 would help provide more valuable floor space in the lab.

4.2 Equipment is appropriate for effective teaching and learning.

Most of our equipment is in need of repair or replacement from over use, breakage or the tool is out dated.

4.3 Program support space is adequate to ensure the effective operation of the educational program and related support activities.

There is a large need for storage of tables, chairs, and equipment not used in class being taught. The same classroom during the day needs to be rearranged for the next class which usually teaches a different subject entirely.

4.4 The safety of the facilities and equipment are reasonable and adequate.

We have trouble getting and keeping the automotive facility up and running at a 100%. Heating and air conditioning are in a constant need of repair. Large roll–up doors take a lengthy period for repair. In fact we are still waiting for the finish work to be performed on a recently repaired roll-up door. (This door creeps down when in the open position.) Several requests have been made to finish this repair.

Part V. FISCAL SLUPPORT

5.1 During the period under review, resources have been used effectively to support programs and services.

VETA funds were used to buy an engine powered transmission dynometer which is used not only in transmission classes but in a good number of our other classes such as basic, fuels, ignition and emissions automotive classes.

Funds from the Smog Referee Program have allowed us to buy two LCD projectors, an Onboard Diagnosis Two (OBD-II) trainer aid, and two automotive computer trainers. The supply budget is used for the most part to replace or repair broken tools and equipment, buy cleaning materials, and consumable supplies and repair manuals.

At this time there is no category specifically listed as capital outlay. However the above funds are used to provide the student with a program that offers experiences with updated equipment that will better prepare them for the job market.
The automotive instructors have had a very hard time trying to keep old equipment up and running while at the same time trying to balance the cost of supplies and other shop needs.

5.2 Current and anticipated funding is adequate to maintain high quality programs and services.

The supply budget is not able to adequately provide for necessary supplies and equipment repair. Consideration should be given to increasing the supply budget for 2006/07.

5.3 Anticipated funding is adequate for the development of revised and new programs.

There is some money available through VATEA, supply budget, and the smog referee program. Available funds are not enough to keep up with technology updates, wear and tear on equipment, replacement and up-grade of equipment, service manuals and information retrieval systems, teaching aids, software and delivery systems and new tools.

We have fifteen computers in the automotive shop available for student use. The newest computer is approximately six years old with no internal network and three working printers. Only two computers are hooked to the internet and no computers have DVD capability nor have the memory needed for our informational retrieval systems such as AllData and Mitchell on Demand.

An additional classroom near the automotive repair shop (like the Ag. Room TE 140) is needed to prevent disruptions between different lab and lecture classes that are being taught at the same time.

The desire is to expand the automotive repair offerings to our students by adding more adjunct instructors to our pool of instructors and there by adding classes on Fridays and Saturdays.

Part VI. COMMUNITY OUTREACH AND PROGRAMS AWARENESS

6.1 Staff maintains appropriate links with community.

The staff maintains communication with the automotive industry through the advisory committee and instructor visitations with community automotive businesses. Additionally the automotive community is invited to participate in the Automotive Career Day that is held at the AVC automotive shop.

6.2 Staff makes appropriate efforts to inform students about each program and facilitate student participation in those programs.

The staff reviews the next semester offerings at the beginning and end of each semester. Through out the semester students are advised as to their progress in the program.

6.3 Where appropriate, advisory committees meet regularly and support the development of programs as will as promote student placement.

The Automotive Advisory Committee meets a minimum of twice a year to review programs and work on student placement.

STUDENT SURVEY FOR PROGRAM REVIEW '05 –'06

Background Information:

Gender of responders. Male - 67 Female – 8

Race/Ethnicity.

4% - Alaskan Native/American Indian
6% – Asian American/Pacific Islander
8% – Black/African American
17% – Hispanic/Mexican American
62% – White/Caucasian
3% - Other

Number Of Courses Taken In This Program

64% – 1 to 2
26% – 3 to 5
7% - 6 to 10
4% - 11 or more

Enrollment Status This Term

36% – Full Time (12 or more units)
64% – Part time (less than 12 units)

Have You Completed This Survey in Another Class
19% – Yes
81% – No

Rating scale for the following responses is as follows:

SA – Strongly Agree
A – Agree
D – Disagree
SD – Strongly Disagree
NA – Not applicable/no opportunity to observe

CURRICULUM:

1. The course offerings in this program meet my learning needs.
   56% – SA
   33% – A
   6% – D
   2% – SD
   3% – NA

2. I would like to see the following classes offered.

Advanced Engine Performance –	13 request
Turbochargers/Blowers -	1 request
More Lab Classes	1 request
Creative Writing	1 request
Automotive Design	1 request
Fiberglass	1 request
Rotary Engines	8 requests
Trouble shooting	1 request
Anti-Brake Skid	1 request
Large Truck Repair	2 request
Mig and Tig Welding	1 request
Motorcycle Mechanics	2 request
Automotive Restoring and Custom Design	1 request
Automotive Service Excellence Classes	1 request
More Engine Rebuilding Classes	3 requests
More Transmission Classes	2 requests
More Brakes Classes	1 request

3. The pattern of courses for certificate or associate degree majors are presented in a clear manner.

35% – SA
55% – A
5% – D
0% – SD
5% – NA

4. The pattern of courses for certificate programs or associate degree majors contributes to my personal and/or professional development.

37% – SA
51% – A
7% – D
0% – SD
5% – NA

5. The course offerings in this area of study are relevant and up to date.

40% – SA
52% – A
7% – D
0% – SD
1% – NA

6. This program adequately prepares me for my future career/occupation.

39% – SA
49% – A
7% – D
1% – SD
4% – NA

SCHEDULING:

7. Scheduling of class meeting days/times meets my needs.

43% – SA
39% – A
17% – D

1% – SD
0 – NA

8. If you responded DISAGREE or STRONGLY DISAGREE please explain how class scheduling can be improved.

More daytime classes ---------- 6 students
More night classes ---------- 1 student
Longer classes ---------- 1 student
Offer more and different classes in the same area at different times. ---------- 3 students
I have to work and jobs are hard to get in the afternoon., not convenient with my schedule. ---------- 3 students
Classes during the day ---------- 1 student

9. Courses in which I am interested are offered frequently enough.

30% – SA
54% – A
12% – D
3% – SD
1% – NA

10. If you responded DISAGREE or STRONGLY DISAGREE please list which courses need to be offered more frequently.

More engine building classes. ---------- 3 students
Classes offered more frequently. ---------- 1 student
More engine electronic controls classes. --- 1 student
More suspension and alignment classes. --- 1 student
More brakes classes. ---------- 1 student
The classes I need to take or retake are not offered again for a long time. (usually three semesters) ---------- 2 students
Auto 175 – Fuels and emissions. ---------- 1 student
Only at night one day a week. ---------- 1 student

FACILITIES

11. Lecture-type classroom facilities adequately meet my learning needs.

31% – SA
58% – A
9% – D
1% – SD
1% – NA

12. Laboratory facilities adequately meet my learning needs.

39% – SA
44% – A
8% – D
5% – SD
4% – NA

13. Equipment and materials adequately meet my learning needs.

28% – SA
39% – A
21% – D
8% – SD
4% – NA

14. If you responded DISAGREE or STRONGLY DISAGREE to 11, 12, or 13 please tell us how facilities can be improved.

Equipment out dated or badly worn. ---------- 16 students
Need more tools and equipment. ---------- 7 students
Need more classroom space. ---------- 1 student

14. cont.)

Need more lab time ---------- 2 student
Tools and facilities need to be properly fixed and if broken repaired. For example the rollup door by one of the lifts is broken. ---------- 1 student

STUDENT SUPPORT SERVICES/INSTRUCTION SERVICES

15. Advisement by instructors in this program regarding educational and career opportunities adequately meets my needs.

50% – SA
41% – A
7% – D
1% – SD
1% – NA

16. If you responded DISAGREE or STRONGLY DISAGREE please suggest ways in which advisement can be improved.

Advise student to go to some seminar or where to get ASE certified.
Give a little more advisement to students.

17. Department/program support staff (clerks secretaries, etc.) are helpful and courteous.

46% – SA
44% – A
8% – D
1% – SD
1% – NA

18. There is adequate publicity about this program in the community.

28% – SA
43% – A
20% – D
0% – SD
9% – NA

19. How were you attracted to this particular program? (Please describe).

Likes to work on cars. ---------- 6 students
Knowledge to fix cars. ---------- 9 students
Recommended by a friend ---------- 2 students

19. (cont.)

Certificate program. ---------- 2 students
AVC course guide. ---------- 3 students
High school. ---------- 3 students
Just wanted to do it. ---------- 2 students
More training. ---------- 2 students
Become a technician. ----------1 student
I do off road racing and want to know more about cars. --------- 1 student
My older brother got me started because I cannot afford
to pay to get my car fixed. ---------- 1 student
I love cars. ---------- 1 student
General interest in automotive. ---------- 1 student
Always liked engines. ---------- ---------- 1 student
Automotive. ----------1 student
Self interest. ---------- 1 student
College needs more work in this area. ----------1 student
I love automotive and wanted to know how to repair my car. ----1 student
Needed 48 units in automotive for my job. ---------- 1 student
I've always like hands on work. ---------- 1 student
I like to work on cars, ---------- 1 student

GENERAL COMMENTS

Great for basic knowledge.

Make the classes shorter.

I would like to see motorcycle classes of any kind.

Good general knowledge. For lecture, newer tapes would be more helpful.

Teachers and instructors could be a little nicer about questions and interaction with students. Even if it is a stupid question, we are here to learn and sometime we just don't know.

RECOMMENDATIONS

1. Increase automotive supply budget by $15,000.
2. Develop a certificate in Automotive Management, Service Writer, Shop Management and Sales. (Recommended by Advisory Committee in December '05)
3. Start reviewing and revising courses as per 1.25 of this document.
4. Explore scheduling classes during the afternoon, Fridays and Weekends.
5. Continue to offer and expand Automotive Career Day to the local High Schools.
6. Explore and renew the Automotive Articulation Agreement between AVC and the local High Schools.
7. Continue to encourage AVC Automotive Instructors to participate in professional organizations and training from the automotive industry.
8. Buy more audio/visual equipment to enable more instructors teaching in the facility at the same time.
9. Buy more tables and chairs that are conducive to building and collapsing a classroom.
10. Develop a more aggressive, working approach and follow thru to facility repairs.
11. Work on a plan to enlarge the Toolroom and Automotive Library. Advisory Committee's recommendation is to explore the possibility of using the Agg. Portable building as a classroom and library when it becomes available. (Dec.'05)
12. Work on a plan to divide the engine and transmission room into two rooms.
13. Replace and update worn out tools and equipment.
14. Replace all outdated cleaning equipment.
15. Replace and expand the welding capability of the Automotive Shop.
16. Expand engine program by replacing old worn out equipment and by adding new equipment to keep up with requirements of the automotive industry.
17. Build a pool of adjunct automotive teachers.
18. Expand automotive offerings for students.
19. Work on more VETA grants.

PROGRAM REVIEW OUTLINE
Clothing and Textiles

Part I. CURRICULUM

1.1 The curriculum supports the educational objectives of the program/discipline. New and revised courses address changes in the discipline or industry and specifically address student needs.

CT 112 – Speed Tailoring and CT 115 were added to the Clothing curriculum in 2002. The classes with the exception of CT120 Wearable Art and CT Introduction to Sergers were revised in 2005.
The entire transfer and certificate program in Clothing & Textiles was revised in 2005.

1.2 Course requisites have been reviewed and are consistent with validation criteria.

Course requisites have been revised and are consistent with validation criteria.

1.25 Each course will be reviewed to determine which need to be <u>revised</u> and which need to be <u>updated</u>.

Wearable Art and Introduction to Sergers are currently in the process of revision.

1.3 Vocational Programs/Courses are in compliance with industry standards, advisory committee recommendations and state/federal funding guidelines.

The full time instructor is currently in the process of finding individuals in the community to serve on an advisory committee and to find a time when individuals can be available for advisory group meetings. At the present time the members of the group are employed in their own businesses and are not able to take time off for advisory group meetings. Communication with each individual is either by telephone or on a personal basis.

1.4 Courses are taught within the parameters described in the outline of record.

The course outline is followed closely.

1.45 Divisional faculty have deleted courses from college catalogue which have not been taught in 3 years. If the course is not deleted it must be revised.

No courses have needed to be deleted.

1.5 Where appropriate, courses address issues related to diversity and/or multicultural perspectives.

The program attracts students from all ethnic, socio-economic, and gender backgrounds.

1.6 Course scheduling provides students with reasonable access to meet their educational objectives.

All class are taught both day and evening or rotate between day and evening every other semester so both day and evening students can attend all classes.

1.7 Course scheduling promotes strong enrollment patterns.

Currently there more day students than evening students in our program and we have experienced some difficulty in filling evening classes. This fluctuates with the type of students that are currently enrolled in the program and their personal needs.

1.8 Courses are articulated with local high schools and institutions of higher education.

At the current time there are no clothing classes in the local high schools. At the State meeting in January 2006 in San Francisco discussions indicated that there are current attempts being made to bring clothing classes back to the high schools.

1.9 Faculty and staff have developed innovative instructional strategies to meet student needs and staff development supports the development of these strategies.

Each of our instructors has both vocational and educational backgrounds that add to their wealth of knowledge that they bring to the classroom. Two of our instructors are Spanish speaking.

We currently do not have any student assistants in our classes/ program. Student assistant help is desperately needed when funding is available to support it.

1.10 Faculty and staff are familiar with and work closely with the student services and instructional support services staff in program development and student referral.

Counseling Center: Advisement, Orientation, Assessment
Transfer Center
Career Center
Extended Opportunity Program & Services

Admissions and Records Office
Financial Aid Office
Disabled Student Services Program
Matriculation Program

In the past our department met with the counselors to improve communications with the counselors and develop support for our program. Due to an increase in work load, counselors no longer have time available to meet with our instructors. This is a loss for both the instructors and the students.

Learning Center
- Math Lab
- Writing Center
- Reading Lab
- Tutoring Center

Library
Instructional Media Center
ESL Support Program

We currently employ advanced students from our classes in the learning center for tutors for our beginning students. We currently have two sewing machines in the learning center for our student use. When advanced students are not available, we are not able to offer this service.

1.11 The programs meet one or more of the primary goals articulated in the College Mission Statement.

The Clothing and Textiles is a transfer and a vocational program that awards Associate Degrees and Certificates. Therefore, it most closely aligns with that aspect of the College Mission Statement. However, the program also embraces the philosophy stated by this part of the Mission Statement as well:

"At AVC we take pride in providing a quality comprehensive education for a variety of learners. We are committed to student success, offering
value and opportunity for all members of the community."

1.12 The development of new and revised courses is consistent with the College Mission Statement.

Our classes are designed to offer both opportunities for transfer to other institutions and opportunities for employment. At the current time most of our students are transfer students. Students that do not transfer usually start their own business in the community.

At the present time there are no clothing businesses in the Lancaster – Palmdale area. Students would need to commute to the Los Angeles area to find employment.

Our "Student Survey for Systematic Program Review" indicates that there are students that are seeking employment in the industry. After talking with instructors from community colleges throughout out the State, I have become aware that we need to add classes several classes to our program. Industry requires experience in computer pattern drafting; design analysis and fashion illustration. Our students need to transfer to Los Angeles Trade Technical to gain these skills.

1.13 Recent development in instructional technol0gy has been incorporated into courses and student support services consistent with the objectives of the program and services.

To assist students in finding employment, the program needs to convert more sewing machines to industrial machines and provide equipment consistent with industrial use.

1.14 The programs and courses are consistent with the development of programs, courses, and facilities articulated in the Educational Master Plan and Facilities Master Plan.

As far as I know, there are no plans to convert our classroom to an industrial classroom. There also in not adequate space for cutting tables additional equipment. An evacuation system, sinks, and a storage room for chemicals is needed for testing for textiles.

Our washer and dryer were placed in the child development facility when we moved to our current location and due to security issues for child development facility, our students no longer have this equipment available to them. The hours the child development center is open also makes it impossible for students to have access to this equipment.

Part II. STUDENT OUTCOMES

2.1 Expectations for student outcomes are clearly articulated and actual student outcomes are used in the assessment of course and program effectiveness.

Course objectives as stated in the course outline of record define and address the student learning outcomes for each course. Assignments, tests, and grading assess the student mastery of these student learning outcomes.

Each course requires students to develop a notebook that covers the material covered in the course. Each of these notebooks build on the skills developed in previous classes. Information must be presented precisely and clearly so it can be used to outline construction methods meeting industry standards.
Students also construct garments in each class demonstrating construction techniques required at each skill level. Garments are graded following industry standards.

2.2 Student evaluations are an integral part of the assessment of course and program effectiveness.

Above.

2.3 Job placement data are an integral part of the assessment of course and program effectiveness for vocational programs.

There are no objective statistics regarding job placement. The college does not conduct follow-up surveys on former students or graduates as this would be very costly and the participation rate is typically very low.

Former students are employed at the local fabric stores, clothing stores, dry cleaners, bridal and evening ware shops. Many of our former students operate business offering a variety of sewing skills.

Part III. PERSONNEL AND SUPPORT SERVICES

3.1 The ratio of full-time to part-time faculty provides students with a quality of instruction consistent with student needs and goals of the programs.

There is one full time instructor in the program and four adjunct instructors in the clothing and textiles program.

3.2 The ratio of full-time to part-time faculty provides adequate personnel responsible for program evaluation and revision.

Since the full time position requires full time instruction in the program in addition to program development, student counseling, training new faculty, instructor evaluations, State and local meetings, serving on the advisory committee for CSUN, flex attendance, community involvement, etc., etc.,

There is little time left for anything additional.

3.3 There are adequate staff development opportunities to enhance the effectiveness of all staff in meeting the goals and objectives of the programs as well as the professional development of staff.

Since all of our part time instructors are employed outside of the college, they are only available to participate in the above activities except on a very limited basis.

3.4 Full-time faculty are actively involved in the process of hiring and evaluating instructors.

Yes.

3.5 The evaluation of staff is systematic and conducted at appropriate intervals. Follow-up to evaluation is timely and systematic.

Staff evaluation was conducted by the one full time instructor in the past. Currently, since we have been moved from Fine Arts to Technical Education, staff evaluations are completed by the Dean of Technical Education.

3.6 The evaluation processes assess effectiveness and encourage improvement.

3.7 There are adequate full-time faculty to meet program needs.

No. At least one additional full time instructor is needed to meet the program needs.

3.8 There are adequate support staff to meet program needs.

At the current time there is no support staff for the program.

Part IV. FACILITIES AND EQUIPMENT

4.1 Instructional areas and facilities are appropriate for effective teaching and learning.

The strength of the current program is that all classes are taught in the same classroom so program related materials are stored in one room.

The location of the office for the full time faculty at a distant location makes it impossible to have access to needed materials located in the classroom when working with students.

Restroom locations at a distance pose a security issue. Student may not be left in thee classroom without instructor supervision.

4.2 Instructional areas and facilities are appropriate for effective teaching and learning.

The lack of equipment for student use was mentioned in the "Student Survey". All of the sewing machines need to be serviced following each semester. There is not sufficient money in the budget to cover machine maintenance and repair. We also need to look at replacing more of the classroom machines with industrial machines.

The chairs for the sewing machines need to be replaced. The current chairs came from surplus material that had been donated for auction. Many chairs are broken and dangerous. Currently there are not enough chairs in good repair for each machine.

The chairs that were purchased for the tables are dirty and need to be dry cleaned.

4.3 Program support space is adequate to ensure the effective operation of the educational program and related support activities.

The most important area that we need to add to the program is the need for a computer aided pattern design lab. Most industry jobs require computer skills in basic computer skills, computer aided pattern making, fashion illustration, photo shop, and Adobe Illustration.

At the State meeting in San Francisco 2006, State Colleges emphasized the need for students to have these skills before they transfer to a four year institution.

Students frequently express the need for an open sewing lab with instructional assistance available on a weekly basis. Many of the students do not have any equipment available outside of the classroom.

4.4 The safety of the facilities and equipment are reasonable and adequate.

Classroom safety is an issue when students need to be left in the classroom to work when an instructor needs to leave the classroom for a short time.

Students need consistent security available when classes end in the evening. The college security needs a time schedule when classes end and need to provide security for all students leaving the building. Many students will not attend evening classes due to security issues.

Part V. FISCAL SUPPORT

5.1 During the period under review, resources have been used effectively to support programs and services.

We do not have clerical assistance in our program. With the new "MyAVC,AVC" faculty do not have access to computers and have not had adequate training to use the program.

The Mac computer that is in the classroom for faculty use is no longer working and needs to be replaced.

Instructional supply is used to support instructor needs in each area of the program. In the past VATEA funds were not available to our program.

Funds are not available to replace chairs and some of the old equipment that is needed in the classroom.

5.2 Current and anticipated funding is adequate to maintain high quality programs and services.

Many of our new textbooks have Power Point Presentations included with the text. CD-ROM features tutorials using Adobe Photoshop and Illustrator techniques. This computer equipment is not available in our classroom.

5.3 Anticipated funding is adequate for the development of revised and new programs.

Computers & software is needed to provide needed support for the program. AUTO-CAD is not suitable for the Clothing program for computer aided pattern making. One of the programs used in the industry like Gerber, Tukatech, Or Pad is needed for computer aided pattern making. Macintosh also provides greater support for use in the clothing field due to the graphic capabilities available for the system.

Some of the existing classroom equipment needs to repaired or replaced.

Part VI. COMMUNITY OUTREACH AND PROGRAM AWARENESS

6.1 Staff maintains appropriate links with community.

The full time instructor is a member of the Antelope Valley Quilt Guild. We are currently offering three $500.00 scholarships for AVC students majoring in Clothing, Textiles or Interior Design.

I am also a member of Wearable Art Connection of Southern California. That organization has also donated funds to the Clothing program.

I maintain contact with all of the fabric stores in the Antelope Valley.

6.2 Staff makes appropriate efforts to inform students about each program and facilitate student participation in those programs.

The student survey indicated that students did not feel that appropriate efforts were made to inform them about the clothing major at AVC.

6.3 Where appropriate, advisory committees meet regularly and support the development of programs as well as promote student placement.

The members of the current advisory group are very supportive of the students in the clothing program. Group members have donated materials for the students to use in their classes. Many of them have provided part time positions for students during their enrollment at the College.

Part VII. COMPLIANCE WITH FEDERAL AND STATE REFULATION

State and Federal guidelines that are pertinent to the division have been reviewed and compliance issues addressed.

Safety standards required by OSCEA are enforced in the class room. Materials that needed to be removed, have been removed from the classroom.

<u>Summaries and Recommendations</u>

For each part (I-VI) of the self-study, provide the following information and relate its impact to the Vision and Goals of the College' Strategic Plan.

A. A summary of the findings and their significance.

The full time clothing instructor is currently participating in the IMPAC State Plan to improve articulation between the Community Colleges, the UC and CSU institutions. The program is establishing curriculum requirements and procedures that may impede the smooth progress of a transferring student. The meetings provide a forum where faculty may review and reconcile the prerequisites of course work both within the particular disciplines and between disciplines. Flash, the California Community College Family and Consumer newsletter is also focusing on developing assessment tools that can be used to measure student success. Both of these projects will be helpful in improving the current Clothing program.

Since most of our students are transfer students, articulation planning should be helpful to them.

B. A list of major recommendations which include:

-a plan of action for implementation of goals and objectives for improvement or enhancement of programs and associated costs.
-expected outcomes of goals and objectives.
-a reasonable timeline for attainment of goals and objectives.

C. A list of recommended changes in the Educational Master Plan, Facilities Master Plan or Vision and Goals of the College's Strategic Plan.

The Vision and Goals of the College's Strategic Plan, Educational Master Plan, and Facilities Master Plan for the programs under review should be reviewed and revised to: (1) meet student needs, (2) respond to institutional priorities, (3) adequately reflect changes in the disciplines as well as changes in educational methodology and technology, (4) address external mandates such as state requirements, industry and professional standards, etc.

No change is needed in this area at the current time that I am aware of.

PROGRAM REVIEW OUTLINE
Drafting/Computer Aided Design

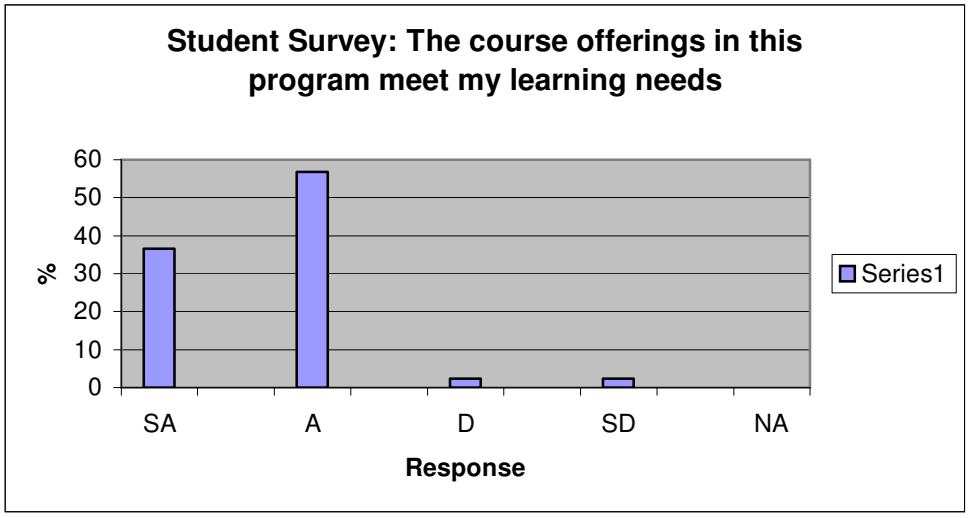
Part I. CURRICULUM

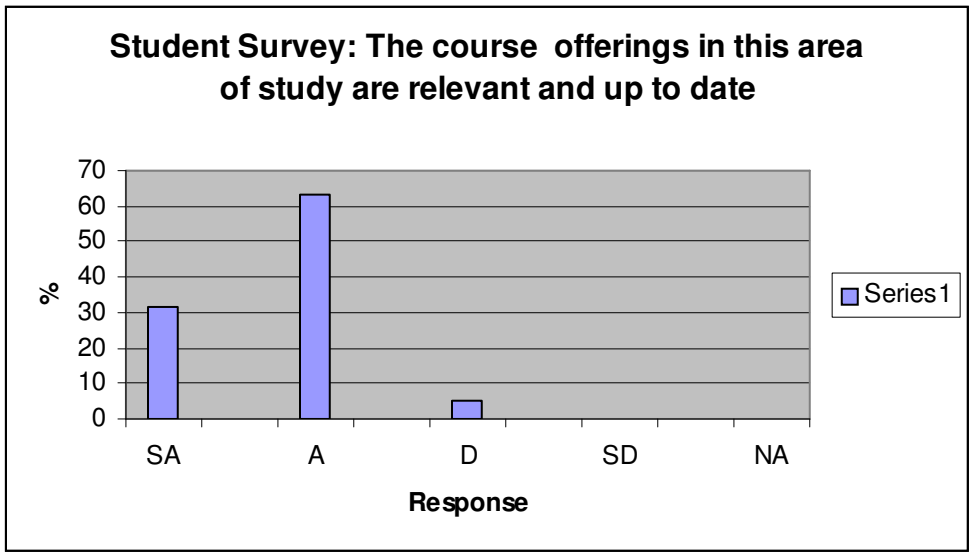
1.1 The curriculum supports the educational objectives of the program/discipline. New and revised courses address changes in the discipline or industry and specifically address student needs.

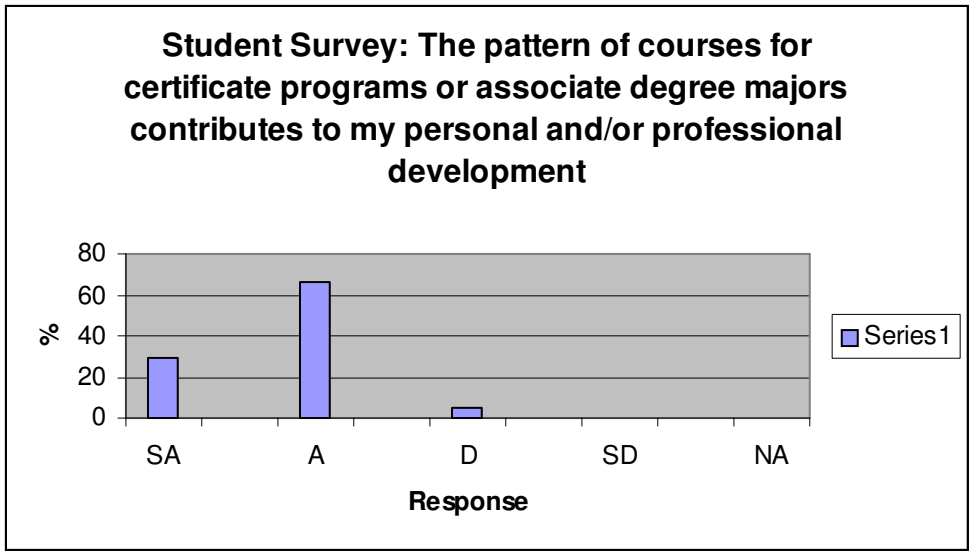
The CAD/ Drafting program has an engineering transfer component and a vocational component. The ENGR 115 and120 courses serve both vocational and the engineering transfer component to the California State system and are recommended in the University of California system. The courses with DRFT prefixes serve mostly as the vocational component. The drafting certificate meets the requirements of an entry-level drafts person. The drafting/Cad program includes a pencil and compass board class to cover drafting fundamentals followed by a beginning Cad class that is prerequisite to more advanced Cad courses specializing in mechanical, architectural and electronic drafting areas.

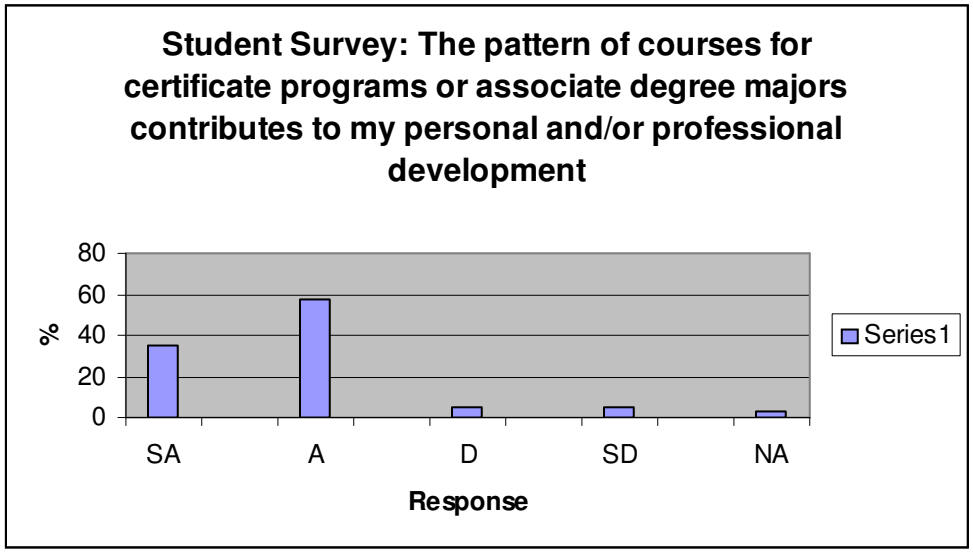
The drafting certificate has remained has remained unchanged since the last program review except for the deletion of a math requirement. From an educational point of view the program could be enhanced by the addition of a technical math course and / or the inclusion of algebra and trigonometry. From an enrollment point of view the math course would more in likely hurt the program. The certificate was reviewed by an advisory group the week of October 16, 2005. The conclusions of the advisory group were that mechanical drafting should include Inventor or Solidworks for 3d drafting. Note: we already own 20 Inventor station licenses.

In addition the AutoCAD architectural software should be used in the architecture classes. Both software programs represent the direction that the industry has already moved in most instances.


Student Survey: The course offerings in this program meet my learning needs
60
50
40
30
20
10
0
%
SA
A
D
SD
NA
Response
Series1


Student Survey: The course offerings in this area of study are relevant and up to date
70
60
50
40
30
20
10
0
%
SA
A
D
SD
NA
Response
Series1





Comments: Many students take the classes to investigate possible fields and some take the courses although they have entirely unrelated majors.

1.2.1 Course requisites have been reviewed and are consistent with validation criteria.

The requisites are in good order. The prerequisites have been considered many times by the advisory body. The program has been set up with a minimum of prequisites and corequisites some students strive to avoid the prerequisites.

They do not understand that Cad in itself does not make one a competent Cad operator. Cad draws the lines but it is still the drafter's responsibility to understand where the lines should be drawn. Basic concepts of drawing orthographic projection, section views, auxiliary views, and dimensioning are still necessary in order to make a meaning drawing. The latter material is covered in the board class.

1.25 Each course will be reviewed to determine which need to be <u>revised</u> and which need to be <u>updated</u>.

All the drafting/Cad (including ENGR 120,115) courses are scheduled to be revised in the fall of 2006. An expansion of the content into more advanced 3d courses, architectural courses, and civil courses may occur before then depending on enrollment.

1.3 Vocational Programs/Courses are in compliance with industry standards, advisory committee recommendations and state/federal funding guidelines.

The advisory committees that we have had seem to indicate we are covering appropriate material. Also other drafting programs at community colleges have been considered for content.

1.4 Courses are taught within the parameters described in the outline of record.

The official outlines are followed. We make an attempt to see that the courses follow a prescribed group of topics and are sequential to each other regardless of the instructor .

1.45 Divisional faculty have deleted courses from college catalogue which have not been taught in 3 years. If the course is not deleted it must be revised.

We have taught all drafting courses in a 3 year cycle and thus they have not been deleted. The electronics math course has been deleted from the drafting program because this course had been discontinued.

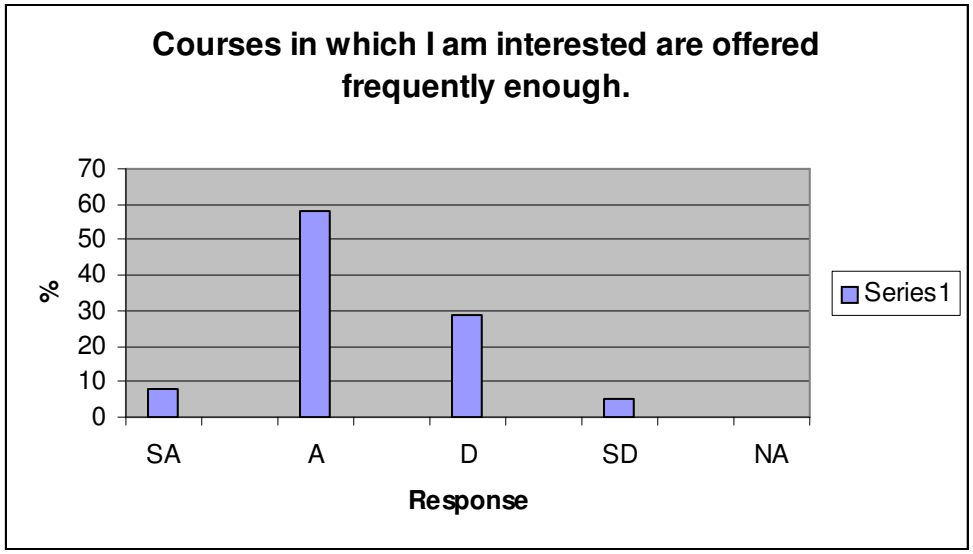
1.5 Where appropriate, courses address issues related to diversity and/or multicultural perspectives.

I do not think that this pertains to drafting/cad.

1.6 Course scheduling provides students with reasonable access to meet their educational objectives.

A day program would augment the program possibly expanding it. Some students have complained that they need a day program in order to complete the drafting certificate. So for these students the program has not been adequate. For example the day program has students with responsibilities in the evening who cannot attend evening classes (mothers with children , people with night jobs etc.).

The night program makes use of adjunct instructors to teach specialized disciplines . Even the night program has been difficult to staff with qualified instructors.



1.7 Course scheduling promotes strong enrollment patterns.

Evening scheduling has been utilized due to obtaining qualified instructors. At least two full architectural classes have been dropped due to a lack of qualified instructors.

A full time drafting instructor would further scheduling of classes in the day time where the stronger enrollments are now occurring. It is impossible to get qualified adjuncts to teach in the day time.

See section 3.7 for more insight into this issue.

1.8 Courses are articulated with local high schools and institutions of higher education.

We had made agreements with local high schools to transfer in a class for engr115. This agreement got squashed by local red tape. A new possibility exists to try another agreement with Lancaster and Highland high schools.

The universities recommend or require ENGR 120 and ENGR 115 for their engineering bachelor's degree program.

1.9 Faculty and staff have developed innovative instructional strategies to meet student needs and staff development supports the development of these strategies.

For the ENGR 120 class (CADD) we have developed a workbook to supplement the textbook. This adds more advanced and interesting real world applications.

1.10 Faculty and staff are familiar with and work closely with the student services and instructional support services staff in program development and student referral.

The Counseling Center has been counseling the drafting students adequately as far as what courses to take.

The Transfer Center does not counsel our drafting students because most of the classes are vocational and do not transfer.

I am not aware of the activities of the Career Center with our students.

Extended Opportunity Program & Services

The problem with Admissions and Records Office or possibly ITS is that students are not allowed to enroll concurrently in ENGR 120 and ENGR 115.
The computer has a tendency to allow this to happen, probably based on the whether 115 or 120 is entered first into the computer.

The students using the Financial Aid Office always seem to be late getting their supplies and books. The drafting classes start with work the first day and these student seem to take weeks to get their materials. I do not really know how much of these excuses are legitimate.

Occasionally, Disabled Student Services Program gets involved in looking over our facilities to make our equipment suitable for special needs individuals this usually involves special chairs , mice and monitors.

Matriculation Program

The Learning Center seldom gets involved with our students.

The Library continuously refuses to carry trade magazines which might be of use in our drafting / cad program

The Math Lab does not apply to our courses since we do not have math courses in our certificate.

The inter action with Instructional Media Center has been used twice. I have needed their assistance for two issues the first was recommendations on what to buy. They were ok with that. The other service that would have helped was repair. They only repair their stuff.

The Writing Center is of no major use in drafting.

ESL Support Program does not interact with drafting

1.11 The programs meet one or more of the primary goals articulated in the College Mission Statement.

Because of out vocational program many students do get jobs. They often get jobs and skip the certificate.

As one of my students recently commented that, "Where else can one take only one class (AutoCAD class ENGR 120 needs ENGR 115) and go get a new full time career paying $ 9 –15/hour. "

1.12 The development of new and revised courses is consistent with the College Mission Statement.

We do consider new vocational courses based on employment opportunities. However enrollment and qualified instructors especially in a day program has been a stumbling block.

1.13 Recent development in instructional technol0ogy have been incorporated into courses and student support services consistent with the objectives of the program and services.

New technology to allow the taking over of student computers by the instructor has been stifled by ITS not having enough personnel to implement this software. I have been reluctant to engage then in this effort. The ITS system seems to be working better now. I am not sure if I should try chancing there help.

1.14 The programs and courses are consistent with the development of programs, courses, and facilities articulated in the Educational Master Plan and Facilities Master Plan.

Part II. STUDENT OUTCOMES

2.1 Expectations for student outcomes are clearly articulated and actual student outcomes are used in the assessment of course and program effectiveness.

Course outlines spell out exactly what students will cover and be expected to master. I have encouraged this type of process in our adjuncts with varying degree of success. Our students need to be tracked after exiting the program.

2.2 Student evaluations are an integral part of the assessment of course and program effectiveness.

Some results of student comments: The main problem the program has had lately is the cancellation of key courses that the students need for the certificate.

From the more advanced classes there has been a demand for Inventor to be taught.

2.3 Job placement data are an integral part of the assessment of course and program effectiveness for vocational programs.

The students tell us they get jobs in an antedotal manner especially the evening students. A more rigorous assessment should be conducted.

Part III. PERSONNEL AND SUPPORT SERVICES

3.1 The ratio of full-time to part-time faculty provides students with a quality of instruction consistent with student needs and goals of the programs.

The introductory program has been taught by one full time instructor with the more advanced specialized courses taught by adjuncts with real time work experience. There have been as many as 5 different adjuncts teaching in a school year.

3.2 The ratio of full-time to part-time faculty provides adequate personnel responsible for program evaluation and revision.

In order to get competent adjunct instructors we have tried to get referrals. This process has worked for many years, but is not working now.

3.3 There are adequate staff development opportunities to enhance the effectiveness of all staff in meeting the goals and objectives of the programs as well as the professional development of staff.

Adjunct instructors can keep up by just doing their full time jobs in industry. Also Tom Paton Assoc. gives classes on AutoCAD that I and some instructors have availed themselves of.

3.4 Full-time faculty are actively involved in the process of hiring and evaluating instructors.

3.5 The evaluation of staff is systematic and conducted at appropriate intervals. Follow-up to evaluation is timely and systematic.

The dean or myself evaluate adjuncts. I am teaching classes during the adjuncts classes making it difficult to be in both places.

3.6 The evaluation processes assess effectiveness and encourage improvement.

3.7 There are adequate full-time faculty to meet program needs.

Over the last 25 years the drafting program has had the largest enrollment at night. There has been a trend towards a larger day than night program as far as initial enrollments. The day students unless they can take courses at night have no where to go.

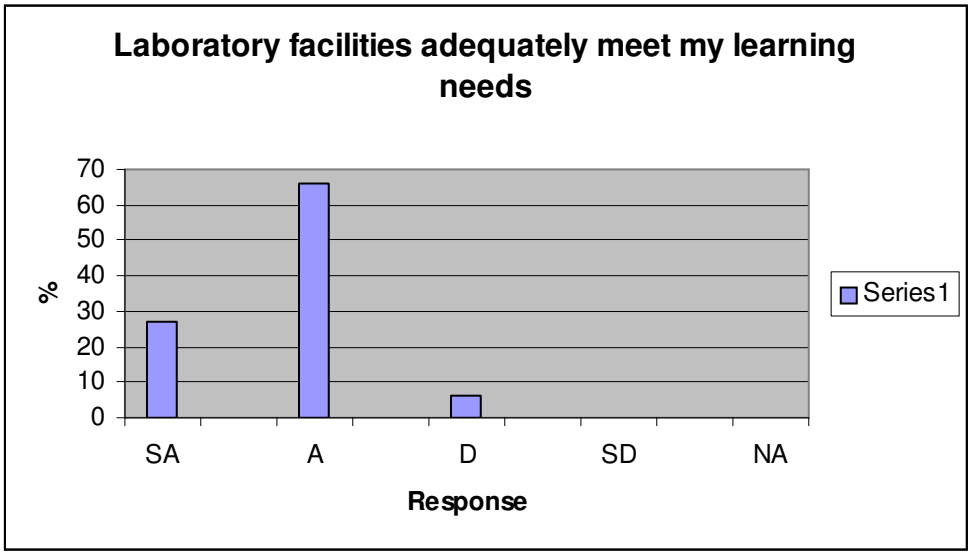
It is not possible to open up a day program and often impossible to staff evening classes because of a lack of qualified instructors. While this has been going on there has been a push to generate more engineering student in the high schools and thus there is a surge of engineering students into the physics classes and in the drafting classes. This surge should find its way into Cad/drafting classes especially among students that find engineering too difficult, but would like to get into a technical area.

3.8 There are adequate support staff to meet program needs.

The major problem has been the maintenance of the Cad labs. We have lost typically one week of class per year in each Cad section due to the computers being inoperable. Also expansion of new technologies into the Cad lab has been stifled. For example the large plotter has been inoperable for several years and still does not work .

Part IV. FACILITIES AND EQUIPMENT

4.1 Instructional areas and facilities are appropriate for effective teaching and learning.



4.2 Equipment are appropriate for effective teaching and learning.

Our computers in Apl204a and especially in APL 204B are getting tired and dated. But the computers are just meeting our needs. The problem is that the new software: Inventor clearly would not run in APL 204B. AutoCAD 2006 the next release(version) we will need for our classes may be a significant problem in both rooms especially APL 204B. We will need to get new machines in a few years.

The plotter needs to be repaired or software drivers updated. AutoCAD needs a new service pack installed. I get afraid to attempt to involve ITS in these issues due to implementation problems. However ITS seems more responsive now. But its chancy to get involved with ITS when the essential equipment just gets by most of the time. You run the risk of getting the labs in such a state where they just do not work at all and weeks of class time get lost. In the past we have experienced all our CADD classes losing a week of computer down time. The obvious solution: repairs during break times, are impossible to implement no matter how hard I have tried.

4.3 Program support space is adequate to ensure the effective operation of the educational program and related support activities.

We do not have appropriate storage for the software packages. When AutoCAD is updated we end up with a huge storage problem. You can not just put the software packages anywhere due to the possible theft of expensive software.

4.4 The safety of the facilities and equipment are reasonable and adequate.

I do not believe there is a hazard in the computer rooms. In ME 104 the room that the board classes are taught in, has a floor with encapsulated asbestos tiles.

Part V. FISCAL SUPPORT

5.1 During the period under review, resources have been used effectively to support programs and services.

We have been able to update AutoCAD just barely keeping up with necessary upgrades. The problem is that if we do not keep up with the upgrades we run the risk of having software which is too old to upgrade. Thus we would have to startfrom scratch monetarily to keep abreast with technical changes. This could be a very expensive mistake.

5.2 Current and anticipated funding is adequate to maintain high quality programs and services.

Section 5.1 explains that better. We just barely keep up. We have had VTEA and other funding. In a couple of years we will need about $11000 for the AutoCAD updates and, roughly 30000- 40000 dollars for about 40 new computers.

5.3 Anticipated funding is adequate for the development of revised and new programs.

I am not sure what the future funding look like. We will need all new computers and new software in about 2 years.

Part VI. COMMUNITY OUTREACH AND PROGRAM AWARENESS

6.1 Staff maintains appropriate links with community.

More links need to be made.

6.2 Staff makes appropriate efforts to inform students about each program and facilitate student participation in those programs.

We do have brochures and all new drafting students are advised of the programs. Additional time and money needs to be spent creating partnerships with the schools.

6.3 Where appropriate, advisory committees meet regularly and support the development of programs as well as promote student placement.

The committee does help with curricula but not placement.

Part VII. COMPLIANCE WITH FEDERAL AND STATE REFULATION
State and Federal guidelines that are pertinent to the division have been reviewed and compliance issues addressed.

Summaries and Recommendations

For each part (I-VI) of the self-study, provide the following information and relate its impact to the Vision and Goals of the College' Strategic Plan.

A. A summary of the findings and their significance.

A new full time drafting instructor was is in the works this. The teaching responsibilities will be rather easy. Making the program expand through community outreach and possible changes in course offerings is the interesting part.

B. A list of major recommendations which include:

A change in ENGR 115 and ENGR 120 to an all cad program would help enrollment at possible detriment to educational content, a trade off will have to be considered.

The addition of a work study program where students volunteer their services in industry and receive college credit to waive a course in the drafting certificate.

Increased visibility in the local high schools.

To get program moving:

1. Hire a teacher with a good architectural background.
2. This instructor should send time making alliances with high schools, usually involves transfer agreements.
3. Encourage work study arrangements in industry
4. Aggressively search for instructors with backgrounds in Inventor and AutoCAD experience in the mechanical and civil areas
5. Explore possibilities of including Catia training into the program
6. To maximize enrollments remove the board classes and redo the CADD program
7. Try experimenting with course work in the day time

Try advertising on radio/TV/ newspapers .

C. A list of recommended changes in the Educational Master Plan, Facilities Master Plan or Vision and Goals of the College's Strategic Plan.

The Vision and Goals of the College's Strategic Plan, Educational Master Plan, and Facilities Master Plan for the programs under review should be reviewed and revised to: (1) meet student needs, (2) respond to institutional priorities, (3) adequately reflect changes in the disciplines as well as changes in educational methodology and technology, (4) address external mandates such as state requirements, industry and professional standards, etc.

PROGRAM REVIEW OUTLINE
Electrical Technology

Part I. CURRICULUM

1.1 The curriculum supports the educational objectives of the program/discipline. New and revised courses address changes in the discipline or industry and specifically address student needs.

There has been several changes to the Electrical Technology program sent through AP&P. We took ELEC 210 and made it ELEC 130 and made it required when we expanded our required credit from 27 to 34 units.

the program is in the process of being reviewed by the Chancellor's office for accreditation as a training facility for Electrical trainees. Upon completion of a crosswalk, where we have to match the classes we offer with what the state wants the trainee to know, we will be added to a list of fifteen colleges statewide as a training facility.

The Associate degree requires completion of the certificate program plus the required general education units to fulfill the 60 unit minimum.

Previously the program was run by adjunct, a full-time faculty was hired in 2004, and with this new addition the program will gain more structure and direction. The full-time faculty member has regular advisory meetings to ensure the program is meeting industry and student needs.

1.2 Course requisites have been reviewed and are consistent with validation criteria.

Course requisites are Advisory for the benefits of the students. There awareness as to the level of difficulty of the materials will be focused by the requisites.

1.25 Each course will be reviewed to determine which need to be <u>revised</u> and which need to be <u>updated</u>.

Several courses in the Electrical program need to be reviewed for the prerequisites or advisories. Several new electives are planned to be added.

1.3 Vocational Programs/Courses are in compliance with industry standards, advisory committee recommendations and state/federal funding guidelines.

Vocational Programs/Courses are in compliance with industry standards, advisory committee recommendations and state/federal funding guidelines.

1.4 Courses are taught within the parameters described in the outline of record.

Courses are taught within the parameters described in the outline of record.

1.45 Divisional faculty have deleted courses from college catalogue which have not been taught in 3 years. If the course is not deleted it must be revised.

N/A

1.5 Where appropriate, courses address issues related to diversity and/or multicultural perspectives.

The courses are designed to stimulate a work atmosphere among the various ethnic and cultural backgrounds of the students. The diversity of the community is represented quite closely by the enrollment in the program.

1.6 Course scheduling provides students with reasonable access to meet their educational objectives.

Course scheduling provides students with reasonable access to meet their educational objectives. With the implication of our new daytime program our students can now complete the required courses in as little as five semesters, two semesters full time in the day and the following three at night. Students can also complete the curriculum at night, but it will take more semesters.

1.1 Course scheduling is controlled by work schedules of the students and facilities on the campus. This year, morning classed were scheduled and the finished enrollment averaged twelve students. For this being the first time day classes were offered this enrollment was viewed as good. The day time enrollment did not draw away from the night classes.

With the upcoming enforcement of Electrical Journeyman certification through the state, the enrollment should see a substantial increase.

1.2 There are no Electrical programs within the Antelope Valley Union High School District.

1.3 The faculty pool for this program has come from the local Electrical industry. Each brings their unique experience to the classroom as well as providing students with a different work experience. We have instructors from the industrial/commercial side as well as residential. New software has been added to help the student develop their critical thinking and diagnostic ideas.

1.4 There is no special role between the Electrical Program and Student Services. Students are encouraged to access all student services that can benefit them. The full time instructor does have Student Services that are being offered to the

students posted on the lab bulletin board as well as making announcement of those services.

1.5 The Electrical Program is a Vocational and Technical program that awards Certificate and Associate Degrees. Therefore, it most closely aligns with that aspect of the College Mission Statement.

1.6 The goal of the Electrical program is to provide students with the opportunity to begin a career in the electrical industry. This is consistent with the College Mission Statement related to Vocational and Technical Education which states in part, "occupational course designed to enhance students' knowledge and skills leading to employment, career advancement, certification and state and federal licensure."

1.7 Now that the program has a full-time instructor, new technologies can be incorporated into the program. At present we are attempting to have the courses accredited by the state for use as a trainee program. New labs will increase our ability to send the students into the workplace with more knowledge and ability.

1.8 The programs and courses are consistent with the development of programs, courses, and facilities articulated in the Educational Master Plan and Facilities Master Plan.

Part II Student Learning outcomes

2.1.1 Course objectives as stated in the course outline of record define and address the student learning outcomes for each course. Assignments, tests, and grading assess the student mastery of these student learning outcomes.

Program Student Learning Outcomes

1. Calculate values for voltage, current, resistance and power, and contrast these values with measured values to determine the proper operation of a variety of electrical circuits.

2. Analyze, evaluate, install, troubleshoot and repair residential, commercial, and industrial electrical systems to meet the standards of the National Electric Code.

3. Analyze and evaluate critical aspects of electrical job sites related to safe work practices, standards and tolerances, standard employer practices, and proper use of tools, power equipment and personal protective equipment.

4. Read, and interpret industry standard blueprints, architectural drawings and schematics to install, maintain and repair electrical systems.

5. Evaluate the operation of various motor control systems, including programmable motor control systems, and modify or repair as necessary.

Course	Outcome 1	Outcome 2	Outcome 3	Outcome 4	Outcome 5
ELEC 110	I, D			I	
ELEC 115		I, D	I, D		
ELEC 120		D	D	I, D	
ELEC 130	M			I	
ELEC 140		M	M	M	
ELEC 150		M	M	M	
ELEC 160				M	I, D
ELEC 220				M	M
ELEC 250			M		

I= Introduced
D-Developed & Practiced with Feedback
M=Demonstrated at the Mastery Level Appropriate for Graduation

2.1.2 Student evaluations are an integral part of the assessment of course and program effectiveness.

2.1.3 There are no objective statistics regarding job placement available. The college does not conduct follow-up surveys of former students or graduates as this would be very costly and the participation rate is typically very low. The only job placement information available are those given by the students who report back that they have gotten a job or by our advisory committee members from local industry inform us about newly hired students and their productivity.

Part III Personnel and Support Services

3.1.1 The ratio of full-time to part-time faculty provides students with a quality of instruction consistent with student needs and goals of the programs. The program consists of one full-time instructor and five adjunct.

3.1.2 The full-time instructor is responsible for course revisions, course development and leadership of the program.

3.1.3 All staff in the program have access to VTEA funds for professional development.

3.4 Full-time faculty are actively involved in the process of hiring and evaluating instructors.

3.5 The evaluation of staff is systematic and conducted at appropriate intervals. Follow-up to evaluation is timely and systematic.

3.6 The evaluation processes assess effectiveness and encourage improvement.

3.7 There are adequate full-time faculty to meet program needs.

3.8 There are adequate support staff to meet program needs.

Part IV. Facilities and Equipment

4.1 It is a new program housed in a new facility. VTEA funds have been used to help purchase tooling and equipment needed for the program. At the present time the facilities are adequate.
The combination of lecture and lab in the same area has advantages. Lab items are verbally and visually referred to during lecture portions of the class.

4.2 During the 2004/05 year new labs have been purchased primarily for the residential and beginning motor control classes. In the 2006 school year, labs will be purchased for the advanced motor controls/PLC class.

4.3 The space in the lab is undergoing change to facilitate the addition of new labs.

4.4 The safety of the facilities and equipment are reasonable and adequate.

Part V. Fiscal Support

5.1.1 The program is new and VTEA funding along with monies supplied to build the building were used to equipment the classroom/labs.
The current budget is sufficient at this time, however we do receive VTEA funding.
When we no longer have VTEA funding we will need to look towards industry for support.

5.1.2 The supply budget of $5000 is adequate for the day to day operation of the classes, however with the increase in material cost in the past year an increase for may be needed for the next school year.

5.1.3 With the expected expansion of classes this next year there might be a need for more adjunct personnel**.**

Part VI. Community Outreach and Program Awareness

6.1 Staff maintains appropriate links with community**.**

A link between the community and the program is being established. The instructor does community events and has a close working relationships with contractors in the local area.

6.2 The full-time instructor tracts students with an in-house counseling system to ensure their progress through the proper courses. The staff also makes events with the local High schools to promote interest in the Electrical Program.

6.3 Advisory committee meetings meet once a semester to keep our link with the local contractors and firms. At these meetings we are also keeping the contractors appraised as to upcoming deadline of the certification program with the state.

Part VII. COMPLIANCE WITH FEDERAL AND STATE REFULATION

State and Federal guidelines that are pertinent to the division have been reviewed and compliance issues addressed.

Summaries and Recommendations

For each part (I-VI) of the self-study, provide the following information and relate its impact to the Vision and Goals of the College' Strategic Plan.

A. A summary of the findings and their significance.

B. A list of major recommendations which include:

-a plan of action for implementation of goals and objectives for improvement or enhancement of programs and associated costs.
-expected outcomes of goals and objectives.
-a reasonable timeline for attainment of goals and objectives.

C. A list of recommended changes in the Educational Master Plan, Facilities Master Plan or Vision and Goals of the College's Strategic Plan.

The Vision and Goals of the College's Strategic Plan, Educational Master Plan, and Facilities Master Plan for the programs under review should be reviewed and revised to: (1) meet student needs, (2) respond to institutional priorities, (3) adequately reflect changes in the disciplines as well as changes in educational methodology and

technology, (4) address external mandates such as state requirements, industry and professional standards, etc.

PROGRAM REVIEW OUTLINE
Electronics Technology

Part I. CURRICULUM

1.1 The curriculum supports the educational objectives of the program/discipline. New and revised courses address changes in the discipline or industry and specifically address student needs.

The Electronics Technology program was completely revised during the 1999/2000 year. This was done to streamline the course offerings, improve scheduling, increase the number of completers and bring the curriculum in line with industry standards. Two new courses were developed ELTE 252 Introduction to Avionics and ELTE 255 Computer Maintenance. Minor adjustments were made to the curriculum in 2001/2002 to bring the day and night courses into better alignment.

Four courses dealing with Cisco Router technology were developed and first offered in Fall 2000. They were offered in cooperation with LA County Office of Education at their facility. They were very successful for two years. Enrollment dropped off dramatically after the initial need was met and they were discontinued.

Enrollment in the Electronics Technology program continued to decline dispite all efforts to encourage students to enroll in the program. The full-time instructor retired in 2003/04. He was not replaced for the 2004/05 year.

A needs assessment was conducted during the 2004/05 year to determine if the program should continue. The industry responded very favorably to the continuation of the program. The majority of the industry respondents thought that the curriculum seemed to be on target and would address their particular needs. Based on this input, all core courses need minor revisions and updates. Some advanced courses that have not been offered for a number of years need to either be updated or deleted from the inventory. A soldering course may need to be developed. All course revisions will be based on the recommendations of the Advisory Committee.

1.2 Course requisites have been reviewed and are consistent with validation criteria.

Course requisites in Electronics Technology are based upon certain beginning topics being fundamental to more advanced materials. This sequential approach to learning is very structured within this subject area. A systematic schedule for course revisions is being established and requisites will be reviewed during the course revision cycle. Input will be sought from the Advisory Committee regarding course requisites.

1.25 Each course will be reviewed to determine which need to be revised and which need to be updated.

ELTE 110, 125, 130, 135, 140, and 220 need to be revised to include SCANS Competencies.

The course is not on the integrated course of record that was adopted in Fall 2000; this form includes examples of typical assignments required of students and more clearly explains the methods of evaluation in order to ensure the students have achieved the measurable objectives.

TABLE FOR COURSE REVISION AND UPDATE SCHEDULE

Course Number	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11
ELTE 101		**X**				
ELTE 110		**X**		**X**		
ELTE 125		**X**		**X**		
ELTE 130	**X**			**X**		
ELTE 135	**X**			**X**		
ELTE 140		**X**			**X**	
ELTE 141	**X**				**X**	
ELTE 220		**X**			**X**	
ELTE 235		**X**			**X**	**X**
ELTE 250			**X**			**X**
ELTE 252			**X**			**X**

1.3 Vocational Programs/Courses are in compliance with industry standards, advisory committee recommendations and state/federal funding guidelines.

The needs assessment conducted during the 2004/2005 year indicated that the Electronics Technology program and the curriculum generally met the needs of the industry. There was strong support for the program in general and for the program remaining a rigorous general electronics program. The program, as structured seems to meet the needs of the defense contractors, aviation companies and government agencies in the Antelope Valley. An Advisory Committee met during Fall 2005. They were supportive of the curriculum in its present form but recommended that a course in soldering should be considered in the future. This concept will be explored during the 2006/07 year.

1.4 Courses are taught within the parameters described in the outline of record.

Courses are taught within the parameters of the course outline of record.

1.45 Divisional faculty have deleted courses from college catalogue which have not been taught in 3 years. If the course is not deleted it must be revised.

The following obsolete courses were deleted from the 2005/06 catalog:

ELTE 240, ELTE 241, ELTE 242, ELTE 243, ELTE 244, ELTE 245

The following courses are being recommended to be deleted from the 2006/07 catalog:

ELTE 142, ELTE 221, ELTE 222 and ELTE 255.

1.5 Where appropriate, courses address issues related to diversity and/or multicultural perspectives.

The Electronics Technology program strives to attract and retain students from diverse ethnic and socio-economic backgrounds and women (non-traditional for this field). The program is approved by the Federal Aviation Administration for preferential hiring of graduates by that agency. This special approval requires that the program attract and retain women and minorities in significant numbers.

Statistics for the Fall 2003 semester indicate that of the 56 students enrolled in the program 9 (16%) were African American and 20 (36%) were Hispanics. These statistics for African American students is in line with the college as a whole. The number of Hispanic students exceeds the college participation rate of 25%.

1.6 Course scheduling provides students with reasonable access to meet their educational objectives.

Due to declining enrollments in the past, advanced classes have not been offered on a regular basis during this rating period.

The Dean and the Instructor have worked out a proposed schedule and rotation of classes. For the present time, day students will begin only in the Fall Semester. They will continue with intermediate level classes in the Spring Semester.

Beginning classes for night students will be offered every semester, intermediate night classes will be offered once per year. Day and Night students should merge into one cohort to make larger enrollments for advanced courses.

1.7 Course scheduling promotes strong enrollment patterns.

Please see the comments in section 1.6. It is hoped that this scheduling pattern will alleviate the problems associated with small enrollment in the program. It is recognized, however, that it will take a number of years (possibly 3 to 5 years) to rebuild the enrollment in the program so that it is healthy and supports a strong schedule of classes.

Discussions have begun with the Math/Science Division regarding recruiting Elementary and Intermediate Algebra students for the Electronics Technology program. A strong background in basic algebra is essential to success and retention in the Electronics Technology program so students who have had a successful experience with algebra should be good candidates for the program. This should also help build enrollments through improved retention rates.

1.8 Courses are articulated with local high schools and institutions of higher education.

There are no Electronics programs within the Antelope Valley Union High School District. There is a high school program called Project Lead the Way that offers students exploration of drafting and electronics in an "engineering technology" context. Partnerships will be explored in the future. Title 5 regulations changed in 2001 make formal articulation agreements for college credit very difficult.

1.9 Faculty and staff have developed innovative instructional strategies to meet student needs and staff development supports the development of these strategies.

The instructional methodology will be a highly interactive and experiential throughout the program. The experiential approach assumes that technical skills are best achieved via hands-on experiences, so long as these experiences are then grounded in a combination of lecture, discussion, reading, lab exercises, and reflection on the underlying concept of electronics. Experiences selected for lab experiments and lectures should also stimulated reflection and discussion on new technology, skills, and tactics.

Other than the division Administrative Assistant, there is no classified staff supporting this program. In the past, there was a 50% Instructional Assistant that was very valuable to the program. He retired in Spring 2004. The position was not filled due to program suspension. The position was later converted to 100% and reassigned to support programs in the TE7 building.

Student assistants are not used at the present time, but they may be useful to the program in the future. It the program builds enrollments in the future, an Instructional Assistant position should be considered at that time.

1.10 Faculty and staff are familiar with and work closely with the student services and instructional support services staff in program development and student referral.

Counseling Center: Advisement, Orientation, Assessment
Transfer Center
Career Center
Extended Opportunity Program & Services
Admissions and Records Office
Financial Aid Office
Disabled Student Services Program
Matriculation Program

There is no special role between the Electronics program and Student Services. Students are encouraged to access all student services that can benefit them. The relationship between Student Services and this program should be strengthened as the full-time instructor becomes more knowledgeable about all the college has to offer.

Learning Center	Library
Math Lab	Instructional Media Center
Writing Center	ESL Support Program
Reading Lab	
Tutoring Center	

Electronics Technology is very dependent upon algebra. Under the leadership of Magdalena Caproiu, the Learning Center Mathematics tutors have developed very good tutorial materials specifically oriented to assist electronics students with various mathematics concepts. Students should be encouraged to take advantage of the help available in the Learning Center.

1.11 The programs meet one or more of the primary goals articulated in the College Mission Statement.

The Electronics Technology program is a Vocational and Technical program that awards Certificates and Associate Degrees. Therefore, it most closely aligns with that aspect of the College Mission Statement. However, the program also embraces the philosophy stated by this part of the Mission Statement as well:

> "At AVC we take pride in providing a quality, comprehensive education for a wide variety of learners. We are committed to student success, offering value and opportunity for all members of the community."

ELTE 101 fulfills a Natural Science (Area A) requirement for Associate Degrees.

1.12 The development of new and revised courses is consistent with the College Mission Statement.

The development of new and revised courses will be under the guidance of the full-time instructor. Courses that are developed or revised must be consistent with the needs of the local electronics technology program and lead students in an efficient manner to employment in this high paying, high skilled field. Courses recommended by the Advisory Committee for development will be considered as they relate to the college Mission Statement, fit well within the Certificate and Degree requirements and contribute to the employability of graduates for entry-level positions as electronics technicians.

1.13 Recent development in instructional technology have been incorporated into courses and student support services consistent with the objectives of the program and services.

The instructor takes advantage of computer projection equipment and supplements lectures with Powerpoint presentations. These presentations also incorporate video presentations from different areas of the industry for the students to view. The software simulation produce Electronics Workbench is used frequently in the laboratory environment. It is highly interactive and supplements the use of traditional laboratory experiments well.

1.14 The programs and courses are consistent with the development of programs, courses, and facilities articulated in the Educational Master Plan and Facilities Master Plan.

The program is included in the current Educational Master Plan. The vision provided in that document should be updated when the document is revised so that it provides alignment with the current needs of industry.

Unfortunately, the building housing the Electronics Technology program is one of the buildings that have been identified as too old to be remodeled and it is slated for demolition at some point in time in the future. The current Facilities Master Plan indicates that Electronics Technology Labs may be located in the Expansion II of the TE7 building. This would be a viable location, especially if it allowed for expansion of the Electrical Technology program in the same complex. Consideration should also be given to locating Electronics Technology at the Palmdale Campus within the Aerospace Complex since the electronics program at AVC has such strong ties with the aviation industry.

Part II. STUDENT OUTCOMES

2.1 Expectations for student outcomes are clearly articulated and actual student outcomes are used in the assessment of course and program effectiveness.

Student outcomes are expressed as objectives in all course outlines of record and are communicated to the students through the syllabus. Written tests, homework assignments, and lab experiments provide for immediate student assessment.

One measure of student success is number of Certificate and Degree Completers. During the past three years, the program shows 20 Associate of Science degree and 12 Certificate was awarded to the students in the Electronic Technology program.

Electronics technicians can find employment in aerospace, telecommunication, automotive and computers. Several companies and agencies have expressed interest in internships. These opportunities to work in the industry will be a good means of assessing student achievement of learning outcomes.

Electronics Technology
Program Student Learning Outcomes

1. Calculate values for voltage, current, resistance and power, and contrast these values with measured values to determine the proper operation of a variety of electrical circuits.

2. Analyze, evaluate, install, troubleshoot and repair various digital, analog, and microprocessor-based electronic systems using industry standard test equipment.

3. Analyze and evaluate critical aspects of electronics work environments related to safe work practices, standards and tolerances, standard employer practices, and proper use of test equipment and personal protective equipment.

4. Read, and interpret industry standard electronics schematics and technical manuals to assess, maintain and repair electronics systems.

Course	Outcome 1	Outcome 2	Outcome 3	Outcome 4
ELTE 110	I		I	
ELTE 125	D		I	I
ELTE 130	D	I, D	D	I
ELTE 135	M	D	D	I
ELTE 140		D	D	
ELTE 141		D	D	I, D
ELTE 220		D	D	D
ELTE 235		M	M	M
ELTE 250		M	M	M
ELTE 252			M	M
ELTE 254		M		M

I= Introduced
D-Developed & Practiced with Feedback
M=Demonstrated at the Mastery Level Appropriate for Graduation

2.2 Student evaluations are an integral part of the assessment of course and program effectiveness.

Student evaluations are being conducted for all sections being taught this semester. This is being done because the instructor is conducting student evaluations as part of the tenure review process. Student evaluations will be conducted for all sections in the future and will become an integral part of program effectiveness.

2.3 Job placement data are an integral part of the assessment of course and program effectiveness for vocational programs.

Unfortunately, good job placement data is not available at this time. Antidotal information relates to approximately 4 students being hired by the Federal Aviation Administration in Palmdale over the last 4 years. Those students were hired into very desirable career federal appointments at a starting salary of nearly $50,000 and a 3-year salary advancement to nearly $70,000. One student was hired by NASA at a similar salary.

This fall, the instructor was contacted by F.A.A., NASA, and General Atomics regarding formal internships for students. This indicates that the need for employees in this field is increasing. It is hoped that a more visible employment base will assist with recruiting students.

U.S. Borax is also interested in hiring graduates from this program.

Part III. PERSONNEL AND SUPPORT SERVICES

3.1 The ratio of full-time to part-time faculty provides students with a quality of instruction consistent with student needs and goals of the programs.

There is only one full-time faculty at this time. Two adjunct faculty have been hired for the Spring semester. There is a significant need for more adjunct faculty with current industry experience so that they bring their "real world" experiences to life in the classroom. This is consistent with program needs at this time. Additional adjunct faculty will be needed in the future.

Both new adjunct faculty were found through their membership on the Advisory Committee and their desire to teach in the program. It is hoped that the Advisory Committee can assist with recruiting talented adjunct faculty.

3.2 The ratio of full-time to part-time faculty provides adequate personnel responsible for program evaluation and revision.

Currently, the ratio of full-time and part-time faculty is not a problem for program revision and evaluation. The current difficulties with program evaluation and revision result from 1) the program was neglected by the previous faculty, 2) the program was suspended for one year, and 3) the new faculty is very busy being a new and enthusiastic faculty. Patience is required as there is much to be done. Priorities between the faculty and the dean must be worked out in a manner that is consistent with good program management. A balance must be reached between what must be done now and what would be nice to do in the future.

3.3 There are adequate staff development opportunities to enhance the effectiveness of all staff in meeting the goals and objectives of the programs as well as the professional development of staff.

The faculty can access $1,000 in Staff Development funds for professional development. Additionally, since this is a vocational/technical program, the faculty can request VTEA funds for other professional development activities. The faculty also participates in the Flex program. VTEA funds have been approved for the full-time instructor to attend the national conference of the American Technical Education Association. The full-time instructor also applied for a summer teaching techniques institute being offered by the National Science Foundation (NSF) center Project CREATE. If he is accepted, there is no charge to the college for this symposium.

3.4 Full-time faculty are actively involved in the process of hiring and evaluating instructors.

The full-time faculty is actively recruiting adjunct faculty and makes recommendations to the dean. This is a partnership that helps ensure that quality instructors are assigned to all classes. The full-time faculty will take an active role in the evaluation of adjunct faculty in the future.

3.5 The evaluation of staff is systematic and conducted at appropriate intervals. Follow-up to evaluation is timely and systematic.

The current full-time faculty is participating in the first year of the college's tenure review process. All procedures are being followed as outlined in the Tenure Review Guidelines. Any new adjunct faculty will be evaluated by the dean in the spring semester.

3.6 The evaluation processes assess effectiveness and encourage improvement.

This process is very effective and encourages improvement.

3.7 There are adequate full-time faculty to meet program needs.

There is adequate full-time faculty to meet program needs at this time.

3.8 There are adequate support staff to meet program needs.

There is adequate support staff to meet the program needs at this time. There was a ½ time classified instructional assistant for this program in the past. The declining enrollments did not justify this position continue. Future staffing considerations will be dependent on enrollment growth.

Part IV. FACILITIES AND EQUIPMENT

4.1 Instructional areas and facilities are appropriate for effective teaching and learning.

Facilities for Electronics Technology consist of two laboratories and two lockable storage rooms that are accessible from either laboratory. The space is adequate for the classes scheduled now. The laboratories are also used by one engineering level electronics course each long semester. As the program grows and expands – especially in the evening, scheduling all necessary classes and engineering will become more challenging. Occasionally, classes will need to lecture in a general classroom and "flip flop" nights into the laboratory. This is less than desirable for maximum teaching flexibility.

The laboratories are located in the TE1 building. Unfortunately, this is one of the older buildings on campus. The air conditioning is very noisy and it is not thermostatically controlled. It must be manually switched on and off. Also, the floor tiles are permanently stained in several areas where old equipment rusted in place. This building is scheduled for demolition rather than remodeling so there is little that can be done to renew its appearance.

Currently, there is reference to Electronics laboratories in the Phase Two expansion of the TE7 Technology Building. This is one option for the program in the future. This would be even more attractive if it could be done in association with additional laboratories for Electrical Technology. Another option would be to plan for at least two electronics technology laboratories (and associated storage space) in an "Aerospace Complex" at the Palmdale Campus. The Electronics Technology program supports the aerospace industry in the Antelope Valley as most of the employers of Electronics Technicians here are aerospace related. There could be good synergy between the Airframe and Powerplant program and the Electronics Technology program.

4.2 Instructional areas and facilities are appropriate for effective teaching and learning.

Currently, both laboratories are in serious need of replacement laboratory benches and stools. The current benches were donations to the college from Northrop Grumman in the 1960's or 1970's. Funding ($25,000) for new benches was requested from the SPBC in April 2005. It was hoped that this funding would be available so that new benches could be purchased for the Fall 2005 semester. That request was not acted upon. The new estimated cost for the benches and chairs is $40,000. This significant increase was explained by the vendor as directly related to a 35% increase in the cost of steel. Even though the price increase is significant, the benches are still necessary. The laboratories are not conducive to attracting and retaining students with the old, and worn out benches.

It is estimated that $50,000 per year for at least two (possibly three) years will be needed to update and re-establish the parts inventory, purchase new software, replace trainers for analog, digital, microprocessors, and communications systems, and update and repair oscilloscopes and meters. This project fits well with the goals of VTEA for significant program improvement and should be given a high priority consideration by the Local VTEA Planning Team.

4.3 Program support space is adequate to ensure the effective operation of the educational program and related support activities.

Program support space is adequate for the program. The full-time instructor has an office in the TE7 building. There is sufficient space to secure the equipment and supplies.

4.4 The safety of the facilities and equipment are reasonable and adequate.

There are no safety related issues with the facilities.

Part V. FISCAL SUPPORT

5.1 During the period under review, resources have been used effectively to support programs and services.

The annual instructional supplies budget of $5,000 is used to purchase hand tools, test leads, experiment bread boards, electronics parts and components, meters, and other supplies necessary to perform the laboratory experiments in all classes. In addition, it supports instructional aids such as videos or DVD's, and upgrades to simulation software (Electronics Workbench).

In 1999 through 2001, VTEA funds were used to purchase all new oscilloscopes, and experimental trainers to bring all laboratory equipment up to industry standards. Also, computers were purchased for each laboratory station. Simulation software (Electronics Workbench) was purchased to expand the capability of students to work experiments with computer aided instructional packages as well as live equipment. The software

version is out of date and needs to be updated. The trainers and oscilloscopes need to be assessed this year to determine their usefulness and longevity.

In 2003, new oscilloscopes were purchased for the Electrical Technology program. The faculty in Electrical and Electronics collaborated and determined that the more capable, newer oscilloscopes would be better utilized in Electronics so the equipment was traded.

5.2 Current and anticipated funding is adequate to maintain high quality programs and services.

The annual instructional supplies budget is $5,000 and appears to be adequate for the number of courses being offered this year. As the program builds, the supplies budget will be monitored to determine if it should be increased.

The program was allocated VTEA funds this year to replace the computers and augment the current trainers and test equipment.

VTEA funds will be required next year to reestablish the parts inventory. The current parts inventory consists mainly of parts that were cannibalized from other equipment or donated to the college. They do not fit the requirements of the commercial laboratory manuals being used and are not standard with current industry practices. Reestablishing the part inventory will be cost effective in the long term as electronics components have a very long shelf life. Additionally, the usefulness of the current trainers and test equipment is being evaluated. This may require additional purchased with VTEA funds during 2006/07 or 2007/08. Appropriate proposals will be submitted in a timely manner for consideration b the local VTEA planning team.

As mentioned in section 4.2, a request was made to SPBC for one time funding to replace the laboratory benches and stools in both laboratories. This funding need is very important to the health of the program. The old and worn benches do not present a modern, “high tech” appearance to students. This makes it difficult to use the laboratories as tour destinations for recruiting new students. The current estimated cost for replacement benches is $37,000 to $40,000.

5.3 Anticipated funding is adequate for the development of revised and new programs.

Implementing the soldering course as recommended by the Advisory Committee would require the purchase of specialized soldering stations for surface mount technology. The price range on these stations can vary from $1,000 to $10,000 per station. Careful evaluation of our actual needs will be crucial to making a sound long-term decision regarding this course. If the course is developed, VTEA funds would be a logical choice for purchasing this equipment. This would fit well with the VTEA intent of modernizing and expanding programs and introducing new technology.

Part VI. COMMUNITY OUTREACH AND PROGRAM AWARENESS

6.1 Staff maintains appropriate links with community.

Through the process of conducting the needs assessment, a valuable list employers of electronics technicians was developed. That list was given to the new instructor. It is his responsibility to use that list to establish positive contact with employers in our area. By making contact with these employers, the instructor should be able to develop a knowledge of the employment needs and salary ranges for graduates of the program. Additionally, he should be able to inform the employers of the quality of the program. They should gain confidence in recruiting prospective students from our program.

As mentioned in section 2.3, internship opportunities are beginning to emerge as the contacts with industry occur.

Another potentially valuable linkage will be with the high school instructors involved with the Project Lead the Way effort. This effort is an engineering and technology pathway at area high schools. Students from these courses may be excellent candidates to become students in the Electronics program.

6.2 Staff makes appropriate efforts to inform students about each program and facilitate student participation in those programs.

New brochures were developed in Spring 2005 for many of the technical programs including Electronics Technology. These brochures are on display at many of the outreach events where the college has a booth or table. The Dean is a women and her discipline was Electronics Technology. She is usually a speaker for the Math Science Odyssey reaching out to middle school students especially females.

Another target for recruiting students is the elementary and intermediate algebra students. Since electronics requires algebra principles, it would seem logical to recruit students from those who have recently had a successful experience in mathematics. These efforts will begin in the Spring semester and continue into Summer semester. Next fall, students in the program will be given a short survey to determine why they enrolled in the program. This should help hone recruitment activities to those that yield the most results.

6.3 Where appropriate, advisory committees meet regularly and support the development of programs as well as promote student placement.

The Advisory Committee was formed from representatives of the companies that participated in the needs assessment. They had their first meeting during the Fall semester. They will be assisting with review of the curriculum, suggestions for curriculum revision or new course development, internships for students, adjunct faculty, and job placement for graduates. This committee will meet at least once per semester and perhaps more often if agenda items warrant.

Part VII. COMPLIANCE WITH FEDERAL AND STATE REGULATION

State and Federal guidelines that are pertinent to the division have been reviewed and compliance issues addressed.

SCANS competencies are being included in course objectives as the courses are being revised. The program also meets the eight required elements for VTEA funding. Therefore, it is meeting all state and federal guidelines.

Summaries and Recommendations

For each part (I-VI) of the self-study, provide the following information and relate its impact to the Vision and Goals of the College' Strategic Plan.

A. A summary of the findings and their significance.

The Electronics Technology program fulfills a vital role in providing high skill employees for the aerospace and defense contractors and government agencies in the Antelope Valley. The curriculum is generally meeting their needs and minor revisions to courses are necessary to include SCANS competencies in all courses. The current equipment is adequate to teach the courses and meets the standards set by industry. The current facilities are adequate for the program. The instructional supplies budget is adequate and additional funding streams have been successfully accessed in the past so that the program has been able to maintain good tools, equipment, software and supplies to support all laboratory requirements.

The new full-time instructor has an excellent background of recent experience in the industry. His knowledge and enthusiasm will be instrumental in rebuilding the program. It will take time for him to develop all of the necessary skills and contacts with the local industry and community as a whole. However, significant progress has been made in the short time he has been on the staff. Additional adjunct instructors are needed to complement the full-time instructor. Adequate support services are available for students.

B. A list of major recommendations which include:

-a plan of action for implementation of goals and objectives for improvement or enhancement of programs and associated costs.
-expected outcomes of goals and objectives.
-a reasonable timeline for attainment of goals and objectives.

A. New laboratory benches and chairs are needed immediately. The request for funding was submitted to SPBC in April 2005. This is the top priority for improvement to the

program. Failure to update this vital aspect to the labs is not conducive to attracting and retaining quality students for the program.

B. The Advisory Committee should meet on a regular basis (two to four times per year) to build a closer relationship between the program and the industry. This is vital to assure that the program is meeting the needs of the industry and to establish a track record of successful employment for graduates. Additionally, strong ties to industry should assist with the development of a talented pool of adjunct faculty.

C. All avenues possible should be explored to recruit and retain students. These efforts should include, but not be limited to, partnerships with high schools, cooperative efforts with AVC mathematics instructors, community outreach efforts, and follow-up with student inquiries.

D. The need for a course in soldering should be validated with the Advisory Committee and developed if they agree that it will enhance the employability of graduates.

E. The status of the current equipment, tools and supplies should be evaluated by the instructor and plans developed to update it as necessary. A major influx of VTEA funding during the next two to three years will be necessary to modernize the program. Estimates are $50,000 per year for two or three years.

C. A list of recommended changes in the Educational Master Plan, Facilities Master Plan or Vision and Goals of the College's Strategic Plan.

The Vision and Goals of the College's Strategic Plan, Educational Master Plan, and Facilities Master Plan for the programs under review should be reviewed and revised to: (1) meet student needs, (2) respond to institutional priorities, (3) adequately reflect changes in the disciplines as well as changes in educational methodology and technology, (4) address external mandates such as state requirements, industry and professional standards, etc.

A. This section of the Technical Education Program Review should be the basis for updating the Electronics Technology section of the Educational Master Plan during the next revision to that document.

B. The Facilities Master Plan should consider constructing new Electronics Technology laboratories in conjunction with the Aerospace Complex at the Palmdale site.

PROGRAM REVIEW OUTLINE
Engineering

Part I. CURRICULUM

1.1 The curriculum supports the educational objectives of the program/discipline. New and revised courses address changes in the discipline or industry and specifically address student need

The courses offered by Engineering are transfer courses, associate degree applicable and a engineering technology certificate.

The core engineering transfer courses require calculus with calculus based physics, and chemistry .

The core engineering courses recommended by the Engineering Liaison committee include: Statics, Circuit Analysis, and Property of Materials, in addition other optional courses exist and may be required such as Strength of Materials, Digital Logic, and a computer programming class of unspecified language (most often C). The courses are for the most part fully transferable with individual universities making exceptions to exactly what they require and will accept in transfer.

New courses developed during the period under review:
Engineering Property of Materials lab, Strength of Materials lab and a digital logic course.

These courses support transfer requirements for engineers moving on to four year degree programs in engineering. In some cases the lack of a lab may stifle the transfer acceptability.

1.2 Course requisites have been reviewed and are consistent with validation criteria.

They meet minimum qualifications. The prerequisites in Engineering courses almost never change over the years. This is explained by an analogy. Math has a definite prescribed sequence and so do the fundamental engineering classes offered in the first two years of a 4 year BS degree. Antelope Valley College offers the first two years of a 4 year program. The most standard engineering courses offered are Statics, Properties of Materials, and Circuit Analysis and are required by all engineering majors. In addition other acceptable courses which vary by major and the transfer institution are Strength of Materials,

Engineering orientation, Descriptive Geometry, Dynamics, Drafting/ CADD/ Cam, and an engineering programming class (typically C, or Fortran or Visual Basic or Mat lab or Excel) .

1.25 Each course will be reviewed to determine which need to be revised and which need to be updated.

The new courses are reviewed as far as their transferability every year.
The transfer level engineering course will be updated in the Spring of 2006.

1.3 Vocational Programs/Courses are in compliance with industry standards, advisory committee recommendations and state/federal funding guidelines.

These courses are transfer not vocational.

1.4 Courses are taught within the parameters described in the outline of record.

The official outlines are followed. We make an attempt to see that the courses follow a prescribed group of topics and are sequential to each other regardless of the instructor .

1.45 Divisional faculty have deleted courses from college catalogue which have not been taught in 3 years. If the course is not deleted it must be revised.

The Dynamics course has not been taught due to enrollments. It is content wise fine. It is time to remove this class from the catalog.

1.5 Where appropriate, courses address issues related to diversity and/or multicultural perspectives.

I do not think that this pertains to the engineering content of the material.

1.6 Course scheduling provides students with reasonable access to meet their educational objectives.

We have offered Statics, Property of Materials, and Circuits every school year for 27 years that I have been here. The Strength of Materials course will not be offered for the first time this school year (2005-2006) since I introduced the course about 20 years ago. It is important to offer these course every year because our courses are prerequisite to the Fresno engineering program and other universities.

1.7 Course scheduling promotes strong enrollment patterns.

To avoid scheduling time conflicts the schedule must be coordinated tightly with the Math – Science department, Business department, Cal State Fresno engineering schedule. Unfortunately time conflicts do occur and sometimes do not seem to be avoidable. All these programs are trying to squeeze all their classes into Monday thru Thursday evening. For this reason I am going to schedule some of our transfer classes in the afternoon.

There are other issues besides scheduling. This is not an easy thing to do because the Circuits class requires an Electronics Engineer to teach it, the Engineering Materials requires an engineer specializing in Chemistry/ Property of Materials, the Statics and Strength of Materials class requires a discipline in Structural Mechanics.One cannot hire some one with a decent expertise in all three fields. For this reason evening courses are taught using well qualified adjuncts. It might be possible to patch together instructors from the Physics and Chemistry departments at our school to teach Property of Materials and Circuits in the day time. Unfortunately full time faculty with appropriate backgrounds are tied up in their own programs.

There is the problem of adequate guidance and advertising. Another problem with strong enrollments is the lack of strong appropriate guidance available to potential engineering students on our campus. A large amount of confusion and misinformation is prevalent among engineering students on our campus. Class visitations by myself, our counseling process, student "open houses" just do not seem to help much. The solution is to have each engineering student have their program scrutinized for appropriate engineering courses and signed off by someone well versed in the engineering program scheduling, and course perquisites. Unfortunately today this is not happening.

1.8 Courses are articulated with local high schools and institutions of higher education.

The articulation with universities of higher learning is a constantly shifting set of agreements which seems like a full time job by itself. The engineering instructor (myself) first contacts Dr. Grishman in the transfer center for assistance and is often followed up by contact between myself and with individual university professors sometimes over a period of years to reach an agreement. Unfortunately the process has to be repeated after two years.

1.9 Faculty and staff have developed innovative instructional strategies to meet student needs and staff development supports the development of these strategies.

I do not believe that I have developed "innovative" original methods to teach courses. However I have spent several years developing lecture notes for my Statics and Strength of Materials that are distributed to the students.

1.10 Faculty and staff are familiar with and work closely with the student services and instructional support services staff in program development and student referral.

The Counseling Center has been counseling the engineering students in a spoty fashion for years. It is not really their fault because they are over extended. They can not know everything about every major especially engineering. If they would send engineering students to an engineering counselor (someone specializing in engineering) as part of the process this would be helpful. In the old days we had enrollment in the Gym. The good effect of this is that we could counsel our students as they were enrolling. This was a major boost to engineering. For the general education and as an extra check I send my students to Dr. Grishman in the transfer center.

The Transfer Center does counsel our engineering students because the Engineering program is a transfer program.

The Career Center has helped our students with picking majors, especially the computer assistance with majors.

Extended Opportunity Program & Services Not sure what to say on this One. The problem with Admissions and Records Office or possibly ITS is that students trying to enroll in Strength of Materials after completing Statics (the prerequisite to Strength) are often denied because the records do not get processed fast enough showing that they completed Statics.

1.11 The programs meet one or more of the primary goals articulated in the College Mission Statement.

Our engineering students transfer to the four school. We teach the first two years of a four year program. If our engineering classes do not get taught to the students two bad things may happen:

1. The students are denied admission to the university.
2. If they do get accepted their ultimate graduation with a four degree will be delayed up to year or more.

1.12 The development of new and revised courses is consistent with the College Mission Statement.

The engineering program is about transfer to the university. Transfer requirements and enrollments exclusively determine what is taught in engineering.

1.13 Recent development in instructional technol0gy have been incorporated into courses and student support services consistent with the objectives of the program and services.

We use computers and overheads.

1.14 The programs and courses are consistent with the development of programs, courses, and facilities articulated in the Educational Master Plan and Facilities Master Plan.

Part II. STUDENT OUTCOMES

2.1 Expectations for student outcomes are clearly articulated and actual student outcomes are used in the assessment of course and program effectiveness.

Course outlines spell out exactly what students will cover and be expected to master. I have encouraged this type of process in our adjuncts with varying degree of success. Our tests and final exams assess student accomplishment.

2.2 Student evaluations are an integral part of the assessment of course and program effectiveness.

The program effectiveness would have to be assessed by our student accomplishment upon transferring to the four university.

2.3 Job placement data are an integral part of the assessment of course and program effectiveness for vocational programs.

Engineering is not primarily a vocational program.

Part III. PERSONNEL AND SUPPORT SERVICES

3.1 The ratio of full-time to part-time faculty provides students with a quality of instruction consistent with student needs and goals of the programs.

Engineering contains many discipline which no one teacher could be competent in and at best vaguely knowledgeable in. It is important to have adjuncts to supplement the program to cover the diverse subject areas. For example the course content varies from cad drafting to electrical circuits, material science(metallurgy, chemistry), structures, report writing , computer programming and mechanical laboratory skills.

3.2 The ratio of full-time to part-time faculty provides adequate personnel responsible for program evaluation and revision.

As the full time faculty I keep tabs on the needs of each subject area in order to maintain adequate facilities for each discipline. Each individual instructor works in industry in his subject area of expertise. Currently there are five adjunct instructors that work in the engineering area.

3.3 There are adequate staff development opportunities to enhance the effectiveness of all staff in meeting the goals and objectives of the programs as well as the professional development of staff.

The flex presentations could be improved by:
Intercession time without organized flex. All flex presentations should be put into a flex week unencumbered with classes. The last point would allow me to go to what might be useful instead of whatever I can schedule.

The wide variety of disciplines require individual effort by each instructor in each subject area.

3.4 Full-time faculty are actively involved in the process of hiring and evaluating instructors.

I am trying to improve in this area. There are time conflicts with my own classes as far as evaluations. We do not have a mechanism where someone could sit in for my class while I go off and visit other classes.

3.5 The evaluation of staff is systematic and conducted at appropriate intervals. Follow-up to evaluation is timely and systematic.

The dean has conducted most of this.

3.6 The evaluation processes assess effectiveness and encourage improvement.

3.7 There are adequate full-time faculty to meet program needs.

The program has existed with one full time instructor.

3.8 There are adequate support staff to meet program needs.

Actually to push the engineering program along lab assistance will be needed. Additional lab courses are warranted and should include additional lab tech assistance. As the full time instructor I am supposed to be in charge of two Cad labs, Property of Materials/strength lab and the digital circuits equipment used in the digital circuits and circuit analysis lab. I cannot keep tabs on everything.

Part IV. FACILITIES AND EQUIPMENT

4.1 Instructional areas and facilities are appropriate for effective teaching and learning.

I believe we are getting this part of program under control.

4.2 Instructional areas and facilities are appropriate for effective teaching and learning.

We will need new computers in the engineering lab.
Additional equipment will be needed in the digital logic class.

4.3 Program support space is adequate to ensure the effective operation of the educational program and related support activities.

We are cramped but getting by .

4.4 the safety of the facilities and equipment are reasonable and adequate.

The facilities are safe. We have incorporated shielding on the Instron tester, Special guards on the Charpy tester. Special vents for the chemical experiments. Special fire proof bricks, tile counters and heat resistant gloves for the furnaces. Eye protection glasses.

Part V. FISCAL SUPPORT

5.1 During the period under review, resources have been used effectively to support programs and services.

The Air Force has helped bring the labs together along with money from the new building fund.

5.2 Current and anticipated funding is adequate to maintain high quality programs and services.

The digital circuit lab needs funds. The current budget of about $4500 a year should hold the labs together.

5.3 Anticipated funding is adequate for the development of revised and new programs.

I believe we are adequately funded for now.

Part VI. COMMUNITY OUTREACH AND PROGRAM AWARENESS

6.1 Staff maintains appropriate links with community.

The staff (i.e. me) needs to make more community links.

6.2 Staff makes appropriate efforts to inform students about each program and facilitate student participation in those programs.

This has been explained earlier under enrollments.
The best thing that can be done is to inform the existing student population that exists on campus .

More work need to be done in this area.

6.3 Where appropriate, advisory committees meet regularly and support the development of programs as well as promote student placement.

N/A

Part VII. COMPLIANCE WITH FEDERAL AND STATE REFULATION

State and Federal guidelines that are pertinent to the division have been reviewed and compliance issues addressed.

Summaries and Recommendations

The program is good. Enrollment is the issue to fix.
What is needed is larger enrollment.
To fix enrollment.
Try experimenting with scheduling classes in the day time.

More visibility in the appropriate physics classes, perhaps a change in the relationship with counseling to counsel the students.

Advertising.

PROGRAM REVIEW OUTLINE
Fire Technology

Part I. CURRICULUM

1.1 The curriculum supports the educational objectives of the program/discipline. New and revised courses address changes in the discipline or industry and specifically address student needs.

There have been 32 new or revised courses processed through the AP&P committee since the last program review. There are several course revisions that need to be completed and presently 3 new courses are in development. Our goal is to have all courses that need to be revised completed and processed through the AP&P committee in time for the 2006/07 catalog revisions.

The process to determine what revisions are necessary and what new courses should be developed began with input from the advisory committee during spring 2002. During this time the program was seeking input on requesting major VTEA funding to acquire equipment to improve the availability of hands on activities, improve classroom instructional media and materials.

In support of present and future courses and program growth the equipment upgrades need to continue. This will allow the fire technology program to gain currency and maintain it with current trends and needs in the fire service. When the funding was approved, the advisory committee was consulted again on course content and needed teaching aids. They made suggestions for revisions. These suggestions were in line with the original discussions and needs assessment.

Course development increased the number of course offered per semester and a sequence for course offerings was developed to provide a viable curriculum enabling students to complete a 2-year program within two years.

The college needs to add a State Approved Fire Fighter I Academy to better prepare students for a career as a fire fighter. Many fire departments today are requiring applicants to have completed a Fire Fighter I academy prior to application. AVC is a logical place to add such a program with the current and projected growth in the Antelope Valley. There is no Fire Fighter I academy in the North County Area and the closest High Desert location is in Victorville. A partnership for a Firefighter I Academy is possible with the Los Angeles County Fire Department makes this a logical step forward for the Fire Technology program.

The students are most requested program addition is a Firefighter I Academy be added to the curriculum here at Antelope Valley College.

The current course offerings give the program balanced educational opportunities, with certificates and degrees which provide students courses that lead to jobs.

1.2 Course requisites have been reviewed and are consistent with validation criteria.

Most Fire Technology courses have advisories. The advisories have been reviewed and are currently valid. However three courses do have prerequisites and those have been reviewed and are appropriate for the specific courses.

1.26 Each course will be reviewed to determine which need to be revised and which need to be updated.

All currently offered courses in the Fire Technology program have been revised within the past 3 years with the exception of four courses, of which the last revision date is being researched.

1.3 Vocational Programs/Courses are in compliance with industry standards, advisory committee recommendations and state/federal funding guidelines.

The fire technology program has an established advisory committee that meets on a bi-annual basis, usually in fall near the start of classes and again in late April or early May.

The Fire Technology program hired a full time instructor in 2000, as there had been no full-time instructor prior to this date. At the time, the program enrollments were growing and the demand for class offerings by number and variety was increasing. This growth had exceeded the capability of the adjunct staff to handle. With time, additional competent adjunct faculty were hired to teach and the program enrollments continued to expand. Better scheduling of classes also helped with efficiency of enrollment.

Five years ago, it became apparent that there was sufficient interest in the program by students and by employers in the Antelope Valley area. This required an examination of the equipment and supplies. The advisory committee recommended that equipment and durable supplies be upgraded and modern equipment acquired. During the 2004/05 year, $100,000 and 2005/06 $13,000 worth of improvements was made to the equipment and durable supplies with VTEA funds; the program now has current and up to date equipment. However there is still needs for modern equipment and teaching aids.

1.4 Courses are taught within the parameters described in the outline of record.

All instructors follow the course outline of record. They also collaborate on grading and teaching methodology to assure consistency. Course delivery is monitored to insure that the course content is taught.

1.45 Divisional faculty have deleted courses from college catalogue which have not been taught in 3 years. If the course is not deleted it must be revised.

FSCI 198E has completed revision and is now FTEC 144. FSCI 198C S-217 Interagency helicopter training, and FSCI 198D I-233 Field Observer/Display Processor are planned for revision prior to 2006-07 academic year.

1.5 Where appropriate, courses address issues related to diversity and/or multicultural perspectives.

The Fire Technology program in concert with the media arts department have created a multi cultural and gender diverse brochure to market the Fire Technology Program. Additionally they have collaborated to develop a video/CD, which showcases the gender diversity of the Fire Technology program. These tools have been used both in recruitment of students and at conferences to market students for jobs as firefighters.

The program attracts students from all ethnic and socio-economic backgrounds.

Women are considered nontraditional students in this program and they are not represented in large numbers but there are women students in classes every semester. Minority and nontraditional students are treated with respect and dignity, as are all students. All educational and promotional materials feature students from diverse backgrounds, and many courses have diversity issues as a portion of the course curriculum.

1.6 Course scheduling provides students with reasonable access to meet their educational objectives.

Courses have been scheduled during evening hours when working adults are able to attend. Courses are also scheduled during weekends and for short terms to allow working adults and currently employed fire fighters to attend to facilitate their continued pursuit of their Associates Degree. Courses continue to be scheduled during the normal school day to meet the demand of full time students. In the summer of 2004 the first Wildland Fire Fighter Academy was offered. This compendium of classes is designed to provide the student with a sound academic and skill base to secure employment as a wildland firefighter with a fire agency. Summer classes were scheduled and have been successful ever since.

1.7 Course scheduling promotes strong enrollment patterns.

As discussed above, the course schedule has been increased gradually to assure that there are strong enrollment patterns before expanding the course offerings. Student input is also used to optimize course offerings.

1.8 Courses are articulated with local high schools and institutions of higher education.

There is a ROP program in the Antelope Valley Union High School District and the previous full time instructor has fostered an excellent working relationship between AVC and the ROP program. There is also a ROP program in the Hart High School district, which the previous instructor was building strong ties to that program as well. This effort needs to be continued after the new full-time faculty is hired. Fire Technology classes offered at AVC are currently transferable to Cal. State Los Angeles.

1.9 Faculty and staff have developed innovative instructional strategies to meet student needs and staff development supports the development of these strategies.

Each adjunct faculty brings a wide array of unique professional experience to the classroom. This background includes Municipal fire departments, Federal Wildland Fire Agencies, Airport Crash Rescue, Aerospace manufacturing fire protection and State Department of Corrections Fire Departments. With the purchase of a "Smart Cart" the electronic instruction has been greatly enhanced. However there is a need to develop distance-learning opportunities and to acquire or develop computer based interactive programs for fire technology.

1.10 Faculty and staff are familiar with and work closely with the student services and instructional support services staff in program development and student referral.

There is a good working relationship between the Fire Technology program and Student Services. Student Services is providing medical examinations to students who complete the Wildland Firefighter training program and wish to become part of the College Fire Crew. Students are encouraged to access all student services that can benefit them individually. The relationship between Student Services and students has been strengthened with the presence of a full-time instructor.

1.11 The programs meet one or more of the primary goals articulated in the College Mission Statement.

The Fire Technology program is a Vocational and Technical program that awards Certificates and Associate Degrees. Therefore, it most closely aligns with that aspect of the College Mission Statement. However, the program also embraces the philosophy stated by this part of the Mission statement as well:

"At AVC we take pride in providing a quality, comprehensive education for a wide variety of learners. We are committed to student success, offering value and opportunity for all members of our community."

1.12 The development of new and revised courses is consistent with the College Mission Statement.

All Fire Technology courses are intended to prepare individuals with the skills they need to be successful in obtaining entry level positions with Public and Private fire protection agencies. This is consistent with the College Mission Statement related to Vocational and Technical Education which states in part "occupational courses designed to enhance students' knowledge and skills leading to employment, career advancement, certification and state and federal licensure."

1.13 Recent development in instructional technology have been incorporated into courses and student support services consistent with the objectives of the program and services.

The program lags in new technology and is in need of computer based interactive learning and distance education.

1.14 The programs and courses are consistent with the development of programs, courses, and facilities articulated in the Educational Master Plan and Facilities Master Plan.

Unfortunately, the building housing the Fire Technology Program is one of the buildings that have been identified as too old to be remodeled and it is slated for demolition at some point in the future. There has been discussion which tentatively calls for the relocation of the Fire Technology Program to a new facility at the South Valley Campus in Palmdale. This relocation needs to take place prior to the planned demolition of the present facility. The development of a new facility at either the existing campus or South Valley site needs to have multiple classrooms, equipment storage facilities, laboratory type classroom space as well as outside areas where the students can develop and hone knowledge and skills to improve their ability to compete for entry positions as firefighters. Presently the Fire Technology Program is housed in the former Refrigeration and Air Conditioning classroom/lab. This is a marked improvement over earlier conditions when the program did not have a dedicated classroom and space. However there is a immediate pressing need to acquire adequate, secure, healthful and safe storage for the instructional props, tools equipment and materials which are necessary to provide a quality educational program to the students.

Part II. STUDENT OUTCOMES

2.1 Expectations for student outcomes are clearly articulated and actual student outcomes are used in the assessment of course and program effectiveness.

Course objectives as stated in the course outline of record define and address the student learning outcomes for each course. Assignments, tests, and grading assess the student mastery of these student learning outcomes.

2.2 Student evaluations are an integral part of the assessment of course and program effectiveness.

Student evaluations are conducted whenever a faculty member is being evaluated. Some adjunct instructors use the student evaluation at the end of their courses to obtain student feed back on the course content and their teaching skills. These evaluations are used to modify the presentation of material within the course outline of record.

2.3 Job placement data are an integral part of the assessment of course and program effectiveness for vocational programs.

The Fire Technology program does keep data as to success of students in obtaining employment as firefighters. This data is presently based on self-reporting by students, instructor follow-up with agency contacts as to student's employment and personal knowledge of student placement. During the past four years 2002, 2003, 2004, and 2005 there have been over 180 known placements of students in jobs as firefighters.

Employers who are known to employ students include: Los Angeles and Kern County Fire Departments, California Department of Forestry and Fire Protection, U.S.D.A. Forest Service (on multiple National forest throughout the state), U.S.D.I. Bureau of Land Management and several municipal fire departments both in and outside California. As well as several private fire protection contractors.

Part III. PERSONNEL AND SUPPORT SERVICES

3.1 The ratio of full-time to part-time faculty provides students with a quality of instruction consistent with student needs and goals of the programs.

There is one full time faculty position which is currently filled with an interim as the previous full time person retired in August of 2005, plans are to have the full time position filled permanently by the beginning of the 2006-07 school year. There are also eleven very qualified adjunct faculty teaching in this program. The addition of the full time position in 2000 has provide students with much improved advising regarding their educational progress through the program, and it has established ongoing relationships with area employers. With the growth of the Fire Technology program over the past 4 years in terms of student enrolment and courses offered it is time to consider adding an additional full time position to the faculty. The best mix would be one full time with responsibility for municipal fire protection and one with responsibility for the wildland fire program. This combination would improve services to the students, as they are two separate career fields.

3.2 The ratio of full-time to part-time faculty provides adequate personnel responsible for program evaluation and revision.

As stated above, the addition of the full time position has greatly strengthened the ability to provide adequate personnel responsible for program evaluation and revision. However with the growth experienced over the past 4 years and addition of one full time and 6 adjunct instructors there is a need to add an additional full time position to spread the work load for program evaluation and revision. If the Firefighter I Academy is approved there will be an immediate need for the additional full time position and several part time teaching assistant positions.

3.3 There are adequate staff development opportunities to enhance the effectiveness of all staff in meeting the goals and objectives of the programs as well as the professional development of staff.

There are adequate staff development opportunities available for the full time faculty. During the 2004-05 academic year one adjunct staff was afforded staff development through a grant to attend a conference. Further staff development opportunities need to be expanded for other adjunct staff members.

3.4 Full-time faculty are actively involved in the process of hiring and evaluating instructors.

The previous full time faculty person was actively involved in the hiring process for adjunct staff and the evaluation of instructors. This effort needs to be continued.

3.5 The evaluation of staff is systematic and conducted at appropriate intervals. Follow-up to evaluation is timely and systematic.

All the adjunct that has been hired prior to June of 2005 have been evaluated at least once. Two new adjunct staff which were hired since June of 2005 and have yet to be evaluated. Lists of what faculty needs to be evaluated have not been sent out for several years. Therefore, it is difficult to determine what faculty currently is due for evaluation.

3.6 The evaluation processes assess effectiveness and encourage improvement.

The evaluation process is effective and encourages improvement. However it should be conducted on a regular basis and there should be more participation by faculty across disciplines.

3.7 There are adequate full-time faculty to meet program needs.

There is a need to add an additional full-time faculty member to the staff. Presently there is one full time position, which is currently filled with an interim. With the growth of the Fire Technology program in the recent past and efforts to establish a Fire Fighter I Academy here at Antelope Valley College will extend the workload beyond the existing one full-time and eleven adjunct faculty.

3.8 There are adequate support staff to meet program needs.

Currently there are no Instructional Assistants in the Fire Technology program. However the addition of instructional assistants to the program will enhance the delivery of hands on portions of the classes when the instructor is working with groups of students, which may be located in different areas of the campus or in a field trip situation. The addition of instructional assistants should be given consideration.

Part IV. FACILITIES AND EQUIPMENT

4.1 Instructional areas and facilities are appropriate for effective teaching and learning.

The building housing the Fire Technology program was not designed for this use. It was retrofitted "after the fact" from a Refrigeration and Air Conditioning classroom/lab. The facility housing the Fire Technology program has not received adequate attention to maintenance and is in need of interior painting for the classroom. There is also no sound deadening material on the metal areas of the walls. The Fire Technology also shares a classroom in the Applied Arts building with several other departments. This room is small cramped and is designed strictly as a classroom with no room for demonstrations. It does have state of the art audiovisual equipment, which has recently been installed.

At the time of the last program review, there was no plan for the Fire Technology program to have any permanent facilities. There is a current discussion for Fire Technology program to move to the new South Valley Campus and the current facilities master plan shows the demolition of the TE2 building in the future. The new facilities for Fire Technology need to include adequate classroom, laboratory space in which instructors can safely conduct live fire demonstrations and hands on use of tools and equipment. There is also a need for space to safely and securely secure the necessary tools, props, ladders and apparatus in support of a State Approved Fire Fighter I Academy in the near future. When the new facility is constructed the Fire Technology program also needs hard surfaced outdoor space to do hands on training evolutions and to establish a practice course for the fire fighter Physical Agility Test. Access to a dirt area is also need to provide a hands on teaching area for the Wildland Firefighter courses. The one item that is critically missing at the present time is a engine which is needed in several classes as a training tool. The present practice of using a fire hydrant or attempting to borrow an apparatus to do field exercised is hampering the students kinesthetic learning opportunities.

4.2 Instructional areas and facilities are appropriate for effective teaching and learning.

During the 2004/05 year, the Fire Technology Program received approximately $100,000 of VTEA funds and a additional $15,000 in 2005/06 school year. This funding was dedicated to upgrading tools and other equipment, purchase of additional instructional materials and teaching aids. This has made a significant inprovement on the equipment and tools available for students.

4.3 Program support space is adequate to ensure the effective operation of the educational program and related support activities.

Program support for the Fire Technology program currently has one office for the full time instructor. There is one small office with a desk located in the corner of TE2-120, which is shared with the 11 adjunct instructors. This office is also used as a library for teaching materials, storage for the smart cart, and has a desk and telephone for instructor use. There is no other workspace or computer terminals available other than those provided in the staff copy room in the BE building. Plans to improve space utilization need to be included in the facility master plan for the in conjunction with the construction of the Fire Technology facilities.

4.4 The safety of the facilities and equipment are reasonable and adequate.

The facilities are reasonably safe and secure. However there is a critical need for secure safe healthful outside storage of tools and equipment that are free from pigeon guano. This is easily remedied through the purchase of 2, 20-foot storage containers and shelving which were included in the 2005-06 budget request..

Part V. FISCAL SUPPORT

5.1 During the period under review, resources have been used effectively to support programs and services.

As described above, the VTEA funding received over the last two years has made significant improvements to the program and has brought the program up close to industry standards.

5.2 Current and anticipated funding is adequate to maintain high quality programs and services.

The supply budget of $3,000 was increased by $2,000 to a total of $5,000. This funding is not adequate for the number of sections of classes offered until 2005.
Several items of equipment have been added to the program, which will require additional maintenance and fuels to operate. Several instructional guides and visual media items need to be replaced as they have been upgraded with new content. Consideration should be given to increasing the supplies budget for 2006/07 to $ 8,000 to meet these continuing needs.

5.3 Anticipated funding is adequate for the development of revised and new programs.

Filling the current full-time faculty position permanently is necessary for this program to continue to serve the needs of students and agencies. This person should bring vision and consistency to the teaching of all courses and would guide the program into the future needs of the profession. Immediately, the program requires approximately $3,000 of additional supplies budget to keep up with the escalating costs of materials required for student hands on training and routine parts and tool wear and tear. Additionally the program needs to have a new current state of the art facility when the move to a new location is forced with the demolition of the TE2 building.

Part VI. COMMUNITY OUTREACH AND PROGRAM AWARENESS

6.1 Staff maintains appropriate links with community.

The previous full time faculty established close working ties with the ROP in the Antelope Valley Union High School District and building relationships with the Hart High School District ROP. There is an active Advisory Committee for the Fire Technology program, which was started by the previous full time Instructor. One adjunct instructor made presentations at the U.S. Forest Service Division Chiefs workshop in March of 2005, which resulted in several students being hired on National Forest, which were not traditional employers of AVC students.

6.2 Staff makes appropriate efforts to inform students about each program and facilitate student participation in those programs.

All instructors work hard to insure that students at AVC, high schools and ROP are informed of the opportunities in the Fire Technology program. During the summer and fall sessions of 2004 the Fire Technology program worked with the Media Arts department to develop a movie and DVD about opportunities for women in the fire service. Brochures have been updated and describe the opportunities available. Students with disabilities are actively involved in the Fire Technology program.

6.3 Where appropriate, advisory committees meet regularly and support the development of programs as well as promote student placement.

The Fire Technology program has a active advisory program that is fully supportive of the program and is actively engaged in hiring of students from the program.

Part VII. COMPLIANCE WITH FEDERAL AND STATE REGULATION

State and Federal guidelines that are pertinent to the division have been reviewed and compliance issues addressed.

The program will be in compliance with all applicable State and Federal guidelines.

Summaries and Recommendations

Recommendations for the Fire Technology program are:

- Fill the current full time position in time to be in place for the fall 2006 semester
- Complete work on and offer a Fire Fighter I academy in partnership with Los Angeles County Fire Department in the fall of 2006.
- Acquire a pumping engine to use for field hands on training for the apparatus and water handling courses offered on campus.
- Improve condition of TE2-120 room to make a more favorable learning environment.
- Increase supply and operating budgets to continue improvements with teaching tools, props and materials.
- Acquire safe outdoor storage facilities for fire technology equipment and props.
- Create and fill a second full time position in the fire technology program.

For each part (I-VI) of the self-study, provide the following information and relate its impact to the Vision and Goals of the College' Strategic Plan.

A. A summary of the findings and their significance.

- The Fire Technology program has grown dramatically in the last 5 years. Student enrollments and course offerings have more than doubled.
- Fire Technology students are getting jobs in the profession at a higher rate than ever before
- Classroom space has improved but is still inadequate to meet instructional and student needs.
- Full time staff and budget has not kept pace with student demands and growth

B. A list of major recommendations, which include:

- Fill the current full time position in time to be in place for the fall 2006 semester. No additional costs.
- Complete work on and offer a Fire Fighter I academy in partnership with Los Angeles County Fire Department in the fall of 2006. Currently working on this and presently direct costs are being developed and presently are unknown.

- Acquire a pumping engine to use for field hands on training for the apparatus and water handling courses offered on campus. Acquire as soon as possible, there are several donation opportunities available for working safe apparatus at NO COST for acquisition. Operating costs annually would be approximately $2,500.
- Acquire storage facility to house equipment outside the classroom in a safe, secure and healthful environment. $5,000 fall 2006.
- Improve condition of TE2-120 room to make a more favorable learning environment. Complete before spring of 2007, painting, heating and air conditioning upgrades, improved lighting, sound deadening of roof, and sealing open space in overhead door. Estimate $20,000.
- Increase supply and operating budgets to continue improvements with teaching tools, props and materials. Increase for 2006-07 school year minimum needs of an additional $5,000 to maintain current teaching props and improve quality of the props.
- Create and fill a second full time position in the fire technology program. Target to have position filled at the beginning of the 2007-08 school year at the latest. Estimated cost $70,000 annually.
- Plan for and construct a facility, which will house the fire technology program. This could be located either at the present campus or at the South Valley Campus in Palmdale. This facility could be combined with other emergency services programs such as Emergency Medical Technician and Administration of Justice. Classrooms need to accommodate the traditional lecture hall/classrooms and a lab type classroom where permanent instructional displays and props can be set up and used similar to the present refrigeration labs. Suggested target of 2010-11 academic year cost of the facility would be multiple million dollars.

C. A list of recommended changes in the Educational Master Plan, Facilities Master Plan or Vision and Goals of the College's Strategic Plan.

The Fire Technology program has outgrown the space and limited facilities that it currently occupies. At the present time a vast majority of the teaching hardware and materials are housed in TE2-120 and presently there is no available storage outside this room for a vast majority of the tools and equipment, which we currently have. As the Fire Technology program pursues a Firefighter I academy in partnership with Los Angeles County Fire Department additional tools and equipment will need to be acquired and stored in a safe secure facility. The class offerings in fire technology can be increased with the addition of dedicated classrooms and a outdoor area which can be used for hands on training in fire apparatus use and evolutions as well as rescue tools. Fire Technology could effectively use a dedicated building where the entire program could be housed and instructional aids and tools stored. Such a facility on the main campus would best facilitate interaction and joint activities with the County Fire Department training facility on 6th Street West and Ave. M.

Fire Technology Program
Student Learning Outcomes

1. Read and properly interpret industry standards and agency manual direction for performance, safety, daily operational organization and incident management organization.

2. Analyze, select and properly use tools and specialty equipment such as but not limited to wildland hand tools, hose and appliances, heavy extrication equipment including the Jaws of Life and ladders commonly used in the industry.

3. Analyze the fire behavior and combustion process as observed on the fire ground to make safe and effective attacks on a variety of fires.

4. Differentiate between the types of suppression resources, methods, strategy and tactics available for use and the type of incident to be mitigated.

5. Analyze and evaluate critical aspects of the fire protection job related to safe work practices, standards and proper use of tools, power equipment, apparatus and personal protective equipment.

6. Use and interpret drawings, plans and maps including floor plans, sprinkler and alarm system designs, topographic and street maps to identify location of fire protection equipment or incident locations.

Course	Outcome 1	Outcome 2	Outcome 3	Outcome 4	Outcome 5	Outcome 6
FTEC 102	I,D				I,D	I
FTEC 111	I	I	I	I	I	I
FTEC 112	I,D,M		I,D,M			I,D,M
FTEC 113	I,D,M				D,M	I,D,M
FTEC 114	I	I,D	I,D	I,D	I,D,M	I,D,M
FTEC 115		I,D,M	I,D,M	I,D,M	I,D,M	D,M
FTEC 116	I,D,M		I,D,M	I,D,M	I,D,M	D,M
FTEC 120	I	I,D			I,D,M	D,M
FTEC 121	I,D,M	I,D,M	I,D,M	I,D,M	I,D,M	D,M
FTEC 122	I,D	I,D,M	I,D,M	I,D,M	I,D,M	I,D
FTEC 123	I,D,M	I,D,M			I,D,M	I,D
FTEC 125	I,D,M	I,D,M	I,D,M	I,D,M	I,D,M	D,M
FTEC 126			I,D,M		I,D,M	D,M
FTEC 127	I,D,M	I,D,M	D,M	D,M	D,M	D,M
FTEC 128	I,D,M	I,D,M	D,M	D,M	D,M	D,M
FTEC 129	I		I,D	D,M		D,M
FTEC 130	I,D	I,D,M	I,D	D,M	D,M	D,M
FTEC 131	I,D,M		I,D,M	D,M	D,M	D,M

FTEC 132	I,D,M	D,M	D,M	D,M	D,M	D,M
FTEC 137		I,D,M	D,M	D,M	D,M	D,M
FTEC 138	I,D,M	I,D,M	I,D,M	I,D,M	I,D,M	I,D,M
FTEC 139	I,D			I,D,M		I,D,M
FTEC 141	I,D	I,D,M	I,D,M	I,D,M	I,D,M	I,D,M
FTEC 142	I,D		I,D,M	I,D	I,D,M	I,D,M
FTEC 144	I,D,M	I,D,M	I,D,M	I,D,M	I,D,M	I,D,M
FTEC 149	I,D,M				I,D,M	I,D,M
FTEC 150	I,D	I,D		I,D,M	I,D,M	I,D
FTEC 213	I,D	I,D	I,D,M	I,D,M	I,D,M	I
FTEC 214	I,D,M	I,D,M	D,M	D,M	D,M	D,M
FTEC 215	I,D,M	I,D,M		I,D,M	I,D,M	I,D
FTEC 216	I,D,M	I,D,M	I,D,M	I,D,M	I,D,M	I,D,M
FTEC 217	I,D,M	I,D,M	I,D,M	I,D,M	I,D,M	I,D,M
FTEC 222		I,D,M	D,M	D,M	D,M	D,M
FTEC 240	I,D	I,D,M	I,D,M	I,D,M	I,D,M	I,D,M
FTEC 250		D,M		D,M	D,M	D,M

I = Introduced
D = Developed
M = Mastered

Course Revision Schedule
Fire Technology

Course	Last revision	***2005-06***	2006-07	2007-08	2008-09	2009-10	2010-11
FTEC 102	Spring 2002		X			X	
FTEC 111	Spring 2004			X			X
FTEC 112	Spring 2004		X			X	
FTEC 113	Spring 2004		X			X	
FTEC 114	Spring 2004		X			X	
FTEC 115	Spring 2004		X			X	
FTEC 116	Spring 2004		X			X	
FTEC 120	Fall 2002	X			X		
FTEC 121	Fall 2002	X			X		
FTEC 122	Fall 2002	X			X		
FTEC 123	Fall 2002	X			X		
FTEC 125	Fall 2002		X			X	
FTEC 126	Fall 2002		X			X	
FTEC 127	Fall 2002			X			X
FTEC 128	Fall 2002			X			X
FTEC 129	Fall 2002			X			X
FTEC 130	Fall 2002	X			X		
FTEC 131	Fall 2002	X			X		

FTEC 132	Fall 2002	X			X		
FTEC 137	Fall 2002			X			X
FTEC 138	Fall 2002			X			X
FTEC 139	Spring 2004		X			X	
FTEC 141	Spring 2004		X			X	
FTEC 142	Spring 2004		X			X	
FTEC 144	Spring 2006	Done		X			X
FTEC 149	Spring 2004		X			X	
FTEC 150	Fall 2002	X			X		
FTEC 213	Unknown	X			X		
FTEC 214	Unknown	X			X		
FTEC 215	Unknown	X			X		
FTEC 216	Spring 2006	Done		X			X
FTEC 217	Spring 2006	Done		X			X
FTEC 222	Unknown	X			X		
FTEC 240	Fall 2002			X			X
FTEC 250	Fall 2002			X			X
Total	Scheduled	15	12	12	12	12	11

Student Survey Summary Systematic Program Review

Fire Technology

Total Surveys returned ____**160**_____
Gender: Male ___138____ Female____22_____

Race Ethnicity: ** *some marked more than one does not add to 160*

Alaskan Native /American Indian	_____***12***_____
Asian American/Pacific Islander	_____5_____
Black/African American	_____17_____
Hispanic/Mexican American	_____59_____
White/Caucasian	_____77_____
Other	_____3_____
No Response	_____1_____

Number of Courses taken in this program:

1-2 ____47_____ 3-5 _____48_____
6-10 ____39____ 11 or more __24____

Enrollment Status this term (Fall 2005):

Full time (12 or more units)	_____84_____
Part Time (less than 12 units)	_____75_____

Have completed this survey in another class?

Yes ____40_____
No ___120_____

If Yes which class(es)

FTEC 111	12	FTEC 126	1
FTEC 112	4	FTEC 141	2
FTEC 113	9	FTEC 213	4
FTEC 115	1		

Ver 01/22/06

Item #	SA	A	D	SD	NA	DNR**
1	107/67%	44/28%	6/3%	1/1%	0	2/1.5%
3	86/54%	58/36%	10/6%	3/2%	1/1%	2/1.5%
4	83/52%	64/40%	8/5%	1/0.75%	2/1.25%	2/1.25%
5	98/61% ##	52/33% ##	6/3%	0	0	2/1.5%
6	107/67%	48/30%	3/2%	0	0	2/1.5%
7	83/52%	55/34%	18/12%	0	1/1%	2/1.5%
9	59/37%	76/48%	17/10%	2/1.5%	1/1%	5/3%
11	75/47%	67/42%	11/7%	0	1/1%	6/3%
12	62/39%	63/39%	7/4%	1/1%	20/13%	7/4%
13	74/46%	61/38%	10/6%	2/1.5%	5/3%	8/5%
15	99/62%	50/31%	4/2%	0	1/1%	7/4%
17	75/47%	67/42%	4/3%	2/1.5%	3/2%	9/5%
18	64/40%	70/44%	17/11%	0	2/1.5%	7/4%
Total responses 2080	1072/52%	775/37%	121/6%	12/less than ½ %	37/2%	61/3%

***Number of responses/Percentage**

Statistical accuracy +/- .5%

****DNR = Did not respond**

2 respondents marked both SA and A to represent 1.5%

Student comments
Survey items 2,8,10,14,16,19 and General Comments

2. I would like to see the following other courses offered.

- As many as can be taught about fire tech**.**
- Hazmat (2)
- More fire classes
- EMT (4)
- Firefighter I & II (7) * see second below
- Not sure maybe a detailed course on weather and fire behavior.
- Firefighter I academy (36) * does not include above note
- P.E. courses included with Fire Tech.
- Paramedic (6)
- CDF Academy [67 hour wildland course] (3)
- CPAT Training Class [Physical Agility Test for Firefighters]
- Hands on firefighter training (3)
- Hydraulics and Arson investigation
- Job training at a fire station
- Extrication course
- Mechanics class for fire tech
- More morning classes
- Crash rescue tactics course (2)
- Advanced wildland fire behavior (S-390 & 490)
- Forestry
- More hands on
- Interview class
- Pump Operator

Unrelated:

- Explorers program [Scouting program for Fire Technology]
- Car Audio electronics and soccer
- Dog Training
- CHP officer
- Kinisieology

8. **If you responded Disagree or Strongly Disagree please explain how class scheduling can be improved:**
    - Offer different times
    - Disagree
    - More night classes or three day classes due to working in the fire field
    - Perfect
    - More Night Classes (2)
    - More Days
    - Strongly agree
    - Its good
    - More 122 in the spring Conflict with EMT (3)
    - More afternoon and morning classes being offered.
    - More class time should be made available at one time in the day not morning and night
    - Class scheduling can be improved by making the times between classes a little closer together
    - More night classes and Friday nights
    - EMT classes are not offered every day and on the days that it is offered only one time can be chosen
    - Well I put agree I still think sometimes I want to take a class and its only offered at night but, however its offered in the morning the next semester
    - Earlier classes with morning schedules
    - Different times for classes
    - Well this particular course should be a little earlier. Because 7-10P.M. is kinda out of the question with my busy schedule (FTEC 112)
    - Some only offered at night
    - More courses in the morning and afternoon.
    - Stop adding classes and requirements so that you cannot ever finish.

10. **If you responded Disagree or Strongly Disagree please list which courses need to be offered more frequently.**
    - S-131 and L-280 classes in the Academy should be offered independently
    - EMT better times and more classes (3)
    - Fire Academy
    - Strongly agree
    - FTEC 122 (4)
    - FTEC 213
    - Fire Academy for Wildland fires (2)
    - Some courses are only offered on the weekends and I work
    - Disagree

14. If you responded Disagree or Strongly Disagree to 11, 12, 13 please tell us how facilities can be improved.

- I didn't
- More hands on (7)
- Its perfect
- No room to do things first hand it is hard to learn some topics without going over them first hand
- More equipment in day to day classes
- More materials for hands on
- It would be better if the classes had hands on because it would better focus us to learn (2)
- I learn better hand on
- We need a fire truck and more tools related to the fire service to get hands on (2)
- Class next to the Auto body can be very noisy at times which can distract ones attention
- A lot of movies we watch are relatively old
- Need a fire truck.

16. If you responded Disagree or Strongly Disagree please suggest ways in which advisement can be improved.

- CDF class [67 hour] **
- Firefighter I academy **

** *Both of these comments were reported and tallied up in question 2*

19. How were you attracted to this particular program?

- Saw the summer job opportunities and the academy
- I wanted to become a firefighter and with the help of instructors I became one I want to further my education
- It was directed towards my career
- I like /love fire (2)
- Currently employees with the forest service knew about how the teachers were once Forest Service employees made me want to take the course to learn more on my own.
- Working on my associates, work with the Forest Service
- Job choice (3)
- Occupation
- My job
- I want to be a fire fighter (9)
- The only thing that would help me get a job in the forest
- AVC representative at Highland High School.
- Friends (7)
- I want to be a firefighter so this program relates to my future career
- Senior Project (high school)
- General knowledge

- By a counselor
- The video and show and tell
- People say its one of the best community colleges around
- Doing civilian ride along's with the fire department
- The instructors are retired firefighters or active and they are knowledgeable
- Interested in a career in fire service these classes in program meet my needs
- It was something I wanted to do and I had no direction so it is something I also decided to just try it
- Wildland
- I have always wanted to be a firefighter. I also know people who are firefighters and they love it. So I want to be a firefighter.
- I took fire tech 1 and 2 at Stn. 129 at the ROP program (5)
- I wanted to be a fire fighter and get a degree so this was the choice
- Department staff
- I decided to be a fireman and I received a flyer on the program
- Through catalogue and own interest
- Desire to become a firefighter
- I made the decision to pursue a career in the fire department. I decided that choosing to take a class about firefighting would give me some idea as to how I could begin my pursuit
- I was attracted to the program by my counselor, it was something that I was willing to pursue
- Because of its history aspect
- I didn't know what I really wanted to do. So I heard about people talking about the program and I thought it would be a great choice in life
- Through my experience with AVROP fire science program I met some of the instructors involved with the AVC program
- I want to learn as much as I can about public services
- This is what I want to do when I grow up
- Interested in fire fighting and found the class in the AVC newspaper
- I always wanted to be a firefighter and this class is getting me closer to that
- I always had an interest in fire fighting but when my brother wanted to take this class I told him that I would take it too to see it this is what I really wanted to do.
- Wanted to be a fire fighter and I heard that AVC has more to offer than College of the Canyons or any other school in Southern Calif. The teachers were highly recommended by those who went to school years ago.
- It has to do with firefighting
- I was told I couldn't be a firefighter because I was a girl. So I started to take nurse class and it wasn't right for me so I looked and saw an EMT class but then I noticed EMT was or could be an elective to the fire tech. Classes and I jumped right on
- I was ROP for 2 years and want to keep going with fire
- Previous fire tech classes

- Brother
- Started getting involved in fire in high school (2)
- For major in forestry
- Teacher
- Always was interested in becoming a firefighter and found out you offer it so I took it.
- This program will better prepare and make me more competitive within the fire service
- We need a fire academy at this college.
- When I was in academy in High School (ROP)
- The reason I picked this program is because I was very interested in fire prevention
- It was in the schedule of classes and it meet my schedule needs (FTEC 112)
- I want to be a fire inspector
- I was looking for something else and stumbled on it
- Wildland
- Dad is a firefighter and got me interested in career. AVC is the closes college

General Comments

- So far everything is good
- There's no problems
- This is great
- The instructors and program has made me a more responsible man. Thank you Tom and Karl
- None
- Programs are well scheduled like to see more fire classes in the evening. Fire tech. Instructors are doing a very good job!
- Awesome
- The staff is very good Tom and Karl have done a lot and helped me get a job. I am thankful for their hard work.
- We need a fire academy (5)
- Want to be a firefighter (3)
- I love firefighting
- Need more classes to teach hands on subjects a firefighter I academy would do this and physically train students to become firefighters
- FTEC 115 Instructor and book (Bradley 3) need to be updated
- AVC has the best fire tech program
- Good program
- I like the wide availability of times and classes
- The fire technology program in an excellent program

- We need a CDF course, it will provide good jobs for students we need a firefighter I course it will also provide jobs. Other colleges have them and in order to keep up in a competitive work force we must go to other colleges to get what we need for the fire service.
- Fire Tech. Needs a fire engine
- This is an excellent program so far I am taking more classes but I haven't seen many hands on activity. This program can use more hands on exercises to better educate the students,
- The instructors are professionals and provide excellent insight on what is needed for future involvement
- Fire Academy and more hands on training would be great
- Great program
- Good survey
- The counselors in the office are not helpful in telling me or anyone when or how to get degrees and certificates
- Need more hands on activities, fire fighting is a blue collar work
- This is a great program

Key Issues from Student Survey

Question 2: I would like to see the following other courses offered.
The courses that students in Fire Technology most wanted to see offered were a Firefighter I Academy and courses in Firefighter I and II. These two items received the greatest number of responses of all issues from the students. The second greatest response involved EMT and Paramedic courses. Though these two areas are the pervue of Allied Health they are primarly delivered in the public sector by the fire service and our students recognize that these skills are a entry level requirement for most municipal fire departments. Difficulty in getting into EMT courses due to the low number of sections offered and schedule conflicts is presenting a bottle neck for fire technology students to achieve this critical skill for a competitive job market. The addition of a Paramedic program at AVC will significantly enhance Fire Technology student's ability to successfully compete in the job market as well. The third most suggested is the addition of more hands on training and activities in current classes. This is an area that Fire Technology has recognized in the past and is working to resolve. However our ability to enhance this area is hampered by the lack of physical space.

Question 8:
If you responded Disagree or Strongly Disagree please explain how class scheduling can be improved:
The top concern expressed by fire technology students was the conflicts with FTEC 122 Wildland Firefighter, and EMT in the spring semester. Presently we are offering 5 sections of FTEC 122, three in spring, one stand alone summer session and one in the Wildland Academy. Presently the three spring sessions are all full, the Academy session usually has more applicants than space and the summer session is approaching full. Some students suggested a fall session, which will not meet the currency requirements for the

employing agencies as their schedule is on the calendar year. Once again the lack of sufficient sections of EMT was brought forward as a need. The rest of the responses were across the board between more day, night, afternoon and morning class offerings.

Question 10: Please list which courses need to be offered more frequently.
The most requested offering was FTEC 122 Wildland Firefighter additional sections can be added in the spring semester of 2007. However at some point there is a saturation point for the job market. The second most mentioned course was EMT with better times and more classes in the Allied Health area as discussed above this is a bottleneck course for Fire Technology students. Wildland Fire Academy was also mentioned as a course (cohort), which should be offered more than once per year. Perhaps this would be possible if the college calendar moves back to a long intersession between fall and spring.

Question 14: Please tell us how facilities can be improved.
Far and away the largest group of comments in this area revolved around hands on activities as a portion of the fire technology program. 15 if the 20 comments reflected this as a need by the responding students. Included were more tools and equipment and the need for a fire engine (fire truck) so that students can learn through kinesthetic learning. The majority of the population learns through visual learning which is then reinforced by kinesthetic activities. This is one of the two greatest needs for advancement in the Fire Technology program.

Question 16: Please suggest ways in which advisement can be improved.
Only two responses were received to this question, neither of which addresses advisement improvements**.**

Question 19: How were you attracted to this particular program?
Student responses were all over the spectrum. The most common reply was related to my chosen career and wanting to be a firefighter. Others related friends, family and school counselors as the source for information on the Fire Technology program. Recruitment through the high schools and the recent video production "Courageous Women in Fire" were also cited as what attracted students to the program.

General Comments:
These comments focused primarily on the positive aspects of the Fire Technology program and the perception that we are doing well as a program. Areas of improvement most noted were the need for a Firefighter I Academy, hands on opportunities, as well as the need for a fire truck on campus for actual student kinesthetic learning.

PROGRAM REVIEW OUTLINE

Interior Design

Part I. CURRICULUM

1.1 The curriculum supports the educational objectives of the program discipline. New and revised courses address changes in the discipline or industry and specifically address student needs.

The courses offered by the Interior Design program are both vocational and transfer courses. The first level is a certificate in Interior Design which requires 39 units and is the study major for the second level, an Associate Degree.

There have been three new and two revised courses processed through AP&P since the last program review. An extensive revision process of all courses and the Certificate requirements was started in spring 2000 and continues at the present time. Our goal is to have all courses revised and processed through the AP&P committee in time for the 2007/2008 catalog revisions.

The process to determine what revisions are necessary and what new courses should be developed began with input from the advisory committees in years 2001, 2002 and 2003. Students were also provided an opportunity to provide input into this review process. Their comments indicated a need for two new courses, a Business class and a Lighting class. ID 200, Fundamentals of Lighting Design, was approved by AP&P in June 2005 and ID 205, Professional Interior Design Business Practices was approved. in November. These courses will be included in the 2006/2007 certificate offerings.

These courses will help students gain proficiency in the application of business practices to the practice of Interior Design and provide an overview of lighting design fundamentals for residential installations. Student surveys indicated that students strongly agree with adding these courses.

An Advisory Meeting in Fall 2005 indicated areas for future course development including Kitchen and Bath Design, Rapid Visualization, Work Experience/ID Internship and Auto CAD. The profession of Interior Design is currently undergoing national evaluation by professional organizations and professionals related to the field. Uniform standards are being developed nationwide by FIDER. These standards include minimum requirements for education and experience, which accredits interior design education programs.

1.2 Course requisites have been reviewed and are consistent with validation criteria.

Several Interior Design courses have prerequisites. Most courses have advisories. The prerequisites and advisories are currently being reviewed by the advisory

committee as a part of the revision process and will be addressed as courses are revised.

1.25 Each course will be reviewed to determine which need to be revised and which need to be updated.

Seven courses in the Interior Design Program need to be revised. We are in the process of completely restructuring the Certificate requirements and revising these courses. This process began in spring 2004 when ID 120 and ID 125 were revised. This is a difficult task to complete without a dedicated full-time faculty member.

Courses that need to be updated include ID100, ID105, ID110, ID115, ID116, ID210 and ID215.

	2004-2005	2005-2006	2006-2007	2007-2008
ID100		X		
ID105		X		
ID110			X	
ID115			X	
ID116			X	
ID120	X			
ID125	X			
ID200*	X			
ID205	X			
ID210				X
ID215				X

*Indicates new courses

1.3 Vocational Programs/Courses are in compliance with industry standards, advisory committee recommendations and state/federal funding guidelines.

Once the course revisions are made, all courses will be in compliance with industry standards and advisory committee recommendations.

One course currently required by the Interior Design Certificate Program, CT102, Principles of Clothing Construction, does not comply with the national educational standards established by FIDER and does not meet program objectives. The student surveys also indicated a strong preference for removing this course from the certificate requirements. The advisory committee recommended adding a Kitchen and Bath Design class in its place.

1.4 Courses are taught within the parameters described in the outline of record.

All instructors follow the course outlines of record. They also collaborate on grading and teaching methodology to assure consistency.

1.45 Divisional faculty have deleted courses from college catalogue which have not be taught in 3 years. If the course is not deleted it must be revised

ID215 needs to be reassessed. The lack of a drafting instructor has impeded this process.

1.5 Where appropriate, courses address issues related to diversity and/or multicultural perspectives.

The Interior Design program attracts students from all ethnic and socio-economic backgrounds. Males are considered nontraditional students in this program and thus are not represented in large numbers, but there are a few male students in classes every semester. Minority and nontraditional students are treated with respect and dignity as are all students. All educational and promotional materials feature students from diverse backgrounds.

In specific classes, such as ID 115, History of Furniture I and ID 116, History of Furniture II, cultural preferences and various national styles of interior design are discussed. These styles include Spanish, English, French, Greek, Italian, American, Scandinavian, Chinese, and Japanese. Color boards are developed by students in these classes to reflect the social and cultural differences and to demonstrate sensitivity for client preferences.

1.6 Course scheduling provides students with reasonable access to meet their educational objectives.

Most classes are scheduled on a rotating basis every semester so that day and evening times are available to working students. For example, ID110 is offered at night in fall semester and during the day in spring semester. ID100, Introduction to Interior Design is offered in the morning, afternoon and evening every semester. Currently ID115 and ID116 are offered only every other semester. Student surveys indicated a strong desire for both these classes to be offered every semester. No Saturday classes are currently available but have been successful in the past. The lack of a full time faculty has restricted offerings.

	Fall	Spring	Summer
ID100	XXX	XXX	XX
ID105	X		
ID110	X	X	

ID115	X		
ID116		X	
ID120	X	X	
ID125		X	
ID200*		X	
ID205*	X		
ID210		X	
ID215	X		

*New courses

1.5 Course scheduling promotes strong enrollment patterns.

Enrollment patterns continue to expand. As noted, class scheduling is restricted by the availability of adjunct instructors and class load maximums. A full time instructor is needed for improved class scheduling and improved program management.

1.6 Courses are articulated with local high schools and institutions of higher education.

There are no Interior Design programs within the Antelope Valley Union High School District.

Adjunct instructors have participated in "Career Days" at Antelope Valley High Schools and the annual "Salute to Youth" to promote the Interior Design program. Two instructors have sponsored several students in the Mentor Program for graduating seniors from local high schools. We have also volunteered and participated in AVC's annual Open House.

1.7 Faculty and staff have developed innovative instructional strategies to meet student needs and staff development supports the development of these strategies.

Each adjunct faculty brings their unique industry experience to the classroom. This background includes furniture sales, residential and commercial design, kitchen design and architecture.

Interior Design faculty also use collaborative assignments, multimedia presentations, self-paced learning and field trips to galleries, showrooms and design businesses to promote student learning.

The college provides transportation to galleries, museums and interior design centers to enhance the learning experience for students.

There are no paid assistants currently working in the Interior Design Program. In the past, student assistants have collected and inventoried material samples, maintained the resource room and assisted the instructor during lab assignments and demonstrations. The Administrative Assistant in the Technical Education Department is very supportive in reviewing curriculum for new course proposals and AP&P course revisions for consideration.

1.8 Faculty and staff are familiar with and work closely with the student services and instructional support services staff program development and student referral.

There is an ongoing role between the Interior Design Program and student services. Students are encouraged to access all student services that can benefit them. Currently there are two disabled students enrolled in the program. There has been communication between the Director of DSS and the instructor to determine how the program can better serve these students. All tests have been submitted for enlargement prior to testing for the blind student. ID115 and ID116 students also attend Internet access training sessions in the Library.

1.9 The programs meet one or more of the primary goals articulated in the College Mission Statement.

The Interior Design program awards vocational certificates and Associates Degrees to provide qualified entry level and advanced placement individuals for business and industry. Students can also transfer to CSU Northridge, CSU Fresno, CSU Sacramento, CSU Long Beach, San Diego State University or CSU Chico to complete Bachelors or Masters degrees in Interior Design. Private universities such as American Intercontinental University, Design Institute of San Diego, and Woodbury also accept AVC students in their transfer programs. Therefore, it most closely aligns with that aspect of the College Mission Statement. The program also embraces the philosophy stated by this part of the Mission Statement:

"At AVC we take pride in providing a qualify, comprehensive education for a wide variety of learners. We are committed to student success, offering value and opportunity for all members of our community."

1.10 The development of new and revised courses is consistent with the College Mission Statement.

The Interior Design program is designed to prepare students to become professionals within the interior design field. The goals of the Interior Design educational program are to promote creative and critical thinking skills, prepare students for professional employment and career advancement, prepare students for transition to higher levels of education, prepare students to meet the requirements for professional certification and promote awareness of global influences on the interior design profession. This is consistent with the College Mission Statement.

1.11 Recent developments instructional technology have been incorporated into courses and student support services consistent with the objectives of the program and services.

Collaborative assignments, multimedia presentations, role-playing instruction, self-paced learning, demonstrations and color board presentations are a few of the teaching methods used which are important in today's classroom.

1.12 The programs and courses are consistent with the development of programs, courses and facilities articulated in the Educational Master Plan and Facilities Master Plan.

Goals of the program include developing an instructional program that meets state mandated requirements and providing the necessary program knowledge to insure students are able to pass a state examination. Presently the existing curriculum is in the process of being reviewed and updated to meet the vocational needs in this area. There is also a law pending that would define the number and type of courses required for an interior design program.

Part II. STUDENT OUTCOMES

2.1 Expectations for student outcomes are clearly articulated and actual student outcomes are used in the assessment of course and program effectiveness.

Course objectives as stated in the course outline of record define and address the student learning outcomes for each course. Assignments, tests, and grading assess the student mastery of these student learning outcomes.

1. Identify, research and creatively solve problems pertaining to the aesthetics and function of an interior design environment.

2. Identify and analyze the physical, psychological and cultural needs of people in relation to their built environment.

3. Assess business, technical and communication skills as well as promote creative expression and development essential to the interior design profession.

4. Analyze lifestyles, historical perspectives, environmental needs and universal design influences that affect design practitioners.

5. Demonstrate awareness and respect of ethical and legal business practices.

Course	Outcome 1	Outcome2	Outcome3	Outcome 4	Outcome 5
ID 100	I,D	I,D	I,D		
ID 105	D	D	D	I,D	I.D
ID 110	D	D	D	D	D
ID 115	D	D	D	D	
ID 116	D	D	D	D	
ID 120	D	D	D	D	
ID125	D,M	D		D	D
ID 200	M	M	M	D	D
ID 205	M	M	M	M	M
ID 210	M	M	M	M	M

2.2 Student evaluations are an integral part of the assessment of course and program effectiveness.

Student evaluations are conducted whenever a faculty member is being evaluated. Some interior design faculty also distribute class evaluation sheets at the end of the semester to improve future course content and student satisfaction.

2.3 Job placement data are an integral part of the assessment of course and program effectiveness for vocational programs.

There are no objective statistics regarding job placement available. The college does not conduct follow-up surveys of former students or graduates as this would be very costly and the participation rate is typically very low.

The only job placement information available is coincidental when a student gets a job and reports their success to the instructors.

Employers who are known to employ AVC interior design students include: Home Gallery, Avens Furniture, KB Homes, Home Depot, Tesaro Home, Century Drapes, Pennys, Ethan Allen, Thomasville Furniture, Robert Allen, Homemakers Furniture, Rathman Interiors and California Tile.

Part III. PERSONNEL AND SUPPORT SERVICES

3.1 The ratio of full-time to part-time faculty provides students with a quality of instruction consistent with student needs and goals of the programs.

There are five very qualified adjunct faculty teaching in this program. There are no full-time faculty at the present time. This is not consistent with student needs and goals of the program. It is very difficult to provide students with adequate advising regarding their

educational progress through the program, and it is extremely difficult to establish on going relationships with area employers. The lack of full-time faculty is a very significant weakness for this program and a detriment to establishing an aggressive marketing and community public relations program.

3.2 The ratio of full-time to part-time faculty provides adequate personnel responsible for program evaluation and revision.

As stated above, the lack of full-time leadership is a major weakness for this program. Many courses in the certificate program are in need of revision SCANS objectives need to be incorporated. Adjunct faculty are not compensated for course development and have other commitments. They are unable to provide the time necessary for major course revisions. One adjunct instructor has assumed the role of lead adjunct to provide leadership and direction.

The college may need to hire a consultant to accomplish the course revisions necessary to bring the program up to standards for this program review, accreditation standards and VTEA requirements.

3.3 There are adequate staff development opportunities to enhance the effectiveness of all staff in meeting the goals and objectives of the programs as well as the professional development of staff.

All adjunct have access to VTEA funds for professional development and participate in industry seminars, Staff Development and Flex.

3.4 Full-time faculty are actively involved in the process of hiring and evaluating instructors.

There is no full-time faculty in this discipline. Adjunct faculty are active in recruiting and identifying potential instructors for the program. In the past recruiting brochures were displayed in local design businesses to attract candidates. One current adjunct faculty was hired as a result of this recruiting process. However, few designers are willing to divide their time between teaching and professional obligations.

Evaluations for all adjunct faculty have been conducted by the Dean.

3.5 The evaluation of staff is systematic and conducted at appropriate intervals. Follow-up to evaluation is timely and systematic.

All five adjunct faculty in this program have been evaluated at least once. Lack of a full time faculty to conduct evaluations has affected frequency.

3.6 The evaluation processes assess effectiveness and encourage improvement.

The evaluation process is effective and encourages improvement. Individual class evaluations conducted by faculty on a semester basis are helpful to improve curriculum and presentation.

3.7 There are adequate support staff to meet program needs.

A student assistant is really needed to assist facility in collecting and cataloguing samples and preparing demonstration materials.

Part IV. FACILITIES AND EQUIPMENT

4.1 Instructional areas and facilities are appropriate for effective teaching and learning.

New desks/drafting tables were installed in January 2005. These have improved space utilization and efficiency. However, existing chairs are uncomfortable, difficult to adjust and unsafe as they easily slide on the tile floor.

4.2 Instructional areas and facilities are appropriate for effective teaching and learning.

The dedicated classroom is spacious with adequate space for twenty desks/drafting tables. Work stations are not individual but combined for space efficiency. Storage space for samples is adequate although needs to be utilized more fully. There is a lectern, display boards, chalk board, slide projector, overhead projector, TV VCR and screen. Currently, there are two four drawer file cabinets. There is also a work table for instructor/student demonstrations. Additional storage will be needed as the program expands.

4.3 Program support space is adequate to ensure the effective operation of the educational program and related support activities.

There is not designated office space at this time for faculty support needs and activities. There is a resource room for storage of hanging and flat fabric samples, window coverings, materials, wood samples, tile and carpet samples and wallpaper books. The space for these materials is also adequate but utilization could be improved by installing additional shelves and poles for hanging samples. As the program expands, more storage space (i.e. shelves, cabinets) will be needed to accommodate needed resources to support the new courses.

4.4 The safety of the facilities and equipment are reasonable and adequate.

Chairs in the interior design lab slide easily and should be replaced with more stable ones.

Part V. FISCAL SUPPORT

5.1 During the period under review, resources have been used effectively to support programs and services.

As noted Grant funding allowed for the purchase of new desks/drafting tables in the past year.

5.2 Current and anticipated funding is adequate to maintain high quality programs and services.

Funding is adequate to maintain the program and services at this time. As noted, new chairs are needed.

5.3 Anticipated funding is adequate for the development of revised and new programs.

As has already been stated, a full-time faculty position is necessary for this program to serve the needs of students and industry. This person should bring vision and consistency to the teaching of all courses and guide the program into the needs of the immediate future. Also, new chairs and additional storage are needed for expanding resources.

Part VI. COMMUNITY OUTREACH AND PROGRAM AWARENESS

6.1 Staff maintains appropriate links with community.

Outreach to the community is very good. Several adjunct faculty and former students are working in the local area in interior design related businesses, so links to the community are maintained. In addition, two design classes, ID 105 and ID 210 are assigned remodeling/re-decorating projects for local clients which increases community awareness. Various local companies and interior design based businesses support the program with donations of materials and supplies.

6.2 Staff makes appropriate efforts to inform students about each program and facilitate student participation in those programs.

Class schedules are distributed to students and displayed in APL 106 before enrollment begins for the next semester. A display case in APL hallway features sample assignments and presentations representative of design projects. Color Boards in the APL class window also demonstrate student work.

All adjunct participate in the Office Hours program to advise students regarding career and educational opportunities.

Brochures could be designed and developed by the Graphic Arts Department to further promote the Interior Design Program.

6.3 Where appropriate, advisory committees meet regularly and support the development of programs as well as promote student placement.

The purpose of an Advisory Committee is to review, recommend and support curriculum that reflects the skills and competencies required for today's workforce. In addition a committee can be valuable resource for student placement, recruitment and resources. Various interior design businesses locally and in surrounding cities support the program with supplies. They recognize the program as a good source of potential employees.

Part VII. COMPLIANCE WITH FEDERAL AND STATE REGULATION

State and Federal guidelines that are pertinent to the division have been reviewed and compliance issues addressed.

When the curriculum revisions are complete, the program will be in compliance with all applicable State and Federal guidelines.

Summaries and Recommendations

The Interior Design Program fills an important need by preparing students to become professionals within the interior design field.

A. A full-time instructor is needed to provide the necessary vision and leadership required to keep the program vital and consistent with industry standards.

B. Curriculum revisions and changes to Certificate requirements need to be consistent with program purpose, industry standards and FIDER recommendations. These need to be completed for inclusion in the 2006/2007 Catalog.

C. Brochures need to be designed and developed by the Graphic Arts Department to advertise the Interior Design Department. Faculty can further promote the Department by participating in high school career days and community service events. The Advisory Committee suggested that the AVC newspaper feature Department activities.

D. Provide work based learning opportunities such as cooperative work experience, internships, job shadowing and volunteering.

PROGRAM REVIEW OUTLINE
Welding Technology

Part I. CURRICULUM

1.1 The curriculum supports the educational objectives of the program/discipline. New and revised courses address changes in the discipline or industry and specifically address student needs.

There have been no new or revised courses processed through the AP&P committee since the last program review. However, an extensive revision process of all courses and the Certificate requirements was started in Spring 2005 and continues at the present time. Our goal is to have all courses revised and processed through the AP&P committee in time for the 2006/07 catalog revisions.

The process to determine what revisions are necessary and what new courses should be developed began with input from the advisory committee during Spring 2003 when the program was seeking input on requesting major VTEA funding to upgrade all equipment in the lab. If the equipment could be upgraded, then new courses could be added and current courses could be revised to better utilize the new equipment.

When the funding was approved, the advisory committee was consulted again on course content. They made suggestions for major revisions. These suggestions were more extensive than originally intended. They were also very difficult to complete with only adjunct instructors and the coordination of the instructional assistant with the administrative assistant. Even giving these obstacles, progress is being made.

Once the revisions are complete, the courses will be divided into three groups so that each group is reviewed and revised on a three year rotation.

1.2 Course requisites have been reviewed and are consistent with validation criteria.

The welding courses do not have prerequisites. They have advisories. The advisories are being reviewed by the advisory committee as a part of the revision process.

1.25 Each course will be reviewed to determine which need to be <u>revised</u> and which need to be <u>updated</u>.

All courses in the Welding Program need to be revised. We are in the process of completely restructuring the Certificate requirements and revising all courses. This is a difficult task to complete without the dedication of a full-time faculty member.

1.3 Vocational Programs/Courses are in compliance with industry standards, advisory committee recommendations and state/federal funding guidelines.

Once the course revisions are made, all courses will be in compliance with industry standards and advisory committee recommendations except one, being a certification testing facility.

The Welding program full-time instructor retired in 1999 and no full-time instructor was hired to replace him. At the time, the program enrollments were low and it was unclear if the program should continue. With time, competent adjunct faculty were hired to teach and the program enrollments expanded. Better scheduling of classes also helped with efficiency of enrollment.

Two years ago, it became apparent that there was sufficient interest in the program by students and by companies in the Antelope Valley. This required an examination of the equipment and supplies. The advisory committee recommended that all equipment and durable supplies be replaced with modern equipment. (Much of the old equipment was unreliable and could not be repaired. During the 21004/05 year, approximately $90,000 worth of improvements were made to the equipment and durable supplies with VTEA funds. With an additional $30,000 of funding in 2005/06, the lab now meets industry standards. Course revisions are in progress as well. Even with the improvments, the lab is capacity is to low. The lack of enough arc welding station hinders the scheduling of classes and limits the number of students that can enroll.

The major complaint from the advisory committee for the past five years is that the students can't get certified. This has several effects on the program and enrollment, one we lose students to other colleges that due offer certification. If students were leaving the program with an industry recognized certification they would be much more employable, and that would be a way of positively tracking student success in the program. Tracking student success this way would be more accurate than by the number of college program certificates that are issued. Most welding students are here to learn a trade and get a job to support them self's. The student survey reflects this by the numbers of part-time versus full-time students. Of the 59 surveys filled, 44 were part-time students. Being a certification testing facility would increase enrollment, make our students more employable and better serve the local welding industry and community. Now if this would be the result why are we not a test facility? The major reason is the lack of a full-time instructor to monitor the testing program and communicate with the local industry. Cost is not a large issue, all the equipment need to carry out the operation of testing is already present in the program. On the student surveys 8 students said certification was some thing they wanted to see offered in the future.

1.4 Courses are taught within the parameters described in the outline of record.

All instructors follow the course outline of record. They also collaborate on grading and teaching methodology to assure consistency.

1.45 Divisional faculty have deleted courses from college catalogue which have not been taught in 3 years. If the course is not deleted it must be revised.

WELD 230 and WELD 240 are being revised to better meet the needs of the welding industry.

1.5 Where appropriate, courses address issues related to diversity and/or multicultural perspectives.

The Dean of Technical Education continuously looks for women and minority adjunct instructors for the program.

The program attracts students from all ethnic and socio-economic backgrounds. Women are considered nontraditional students in this program and they are not represented in large numbers but there are women students in classes every semester. Minority and nontraditional students are treated with respect and dignity as are all students. All educational and promotional materials feature students from diverse backgrounds.59 students filled out the student surveys with 15 being Hispanic/Mexican American, 2 Black/African American, 31 Whites/Caucasian and 8 others. Of those 7 females were enrolled, a note should be made that these survey's were handed out towards the end of the semester after drop out rates had stabilized.

1.6 Course scheduling provides students with reasonable access to meet their educational objectives.

Courses schedules have been mostly scheduled on during evening hours when working adults would be able to attend. Approximately 4 years ago, Summer classes were scheduled and have been successful ever since. Two years ago, Saturday classes were scheduled and they were successful and continue. This year, morning classes were scheduled on Monday and Wednesday. The enrollment was about 13 students. Given a 7 year absence of daytime classes, this enrollment was viewed as a good start. Also, it did not appear to draw students away from the night and Saturday classes.

1.7 Course scheduling promotes strong enrollment patterns.

As discussed above, the course schedule has been increased gradually to assure that there are strong enrollment patterns before expanding the course offerings. Now, the schedule of classes is restricted by the availability of qualified adjunct instructors to teach – especially in the daytime. A full-time instructor is needed for improved course scheduling and improved lab management.

1.8 Courses are articulated with local high schools and institutions of higher education.

There are no Welding programs within the Antelope Valley Union High School District. The nearest secondary/post-secondary program is at the Mojave ROP. There is no formal articulation agreement with this program. There are no plans to pursue a formal articulation agreement since the changes to Title 5 made these agreements null and void.

There is, however a good relationship between the program at Mojave and AVC. The instructor in Mojave is interested in joining the adjunct faculty at AVC. Also, the Instructional Assistant at AVC is a guest speaker at Mojave at least once a year.

1.9 Faculty and staff have developed innovative instructional strategies to meet student needs and staff development supports the development of these strategies.

Each adjunct faculty brings their unique industrial experience to the classroom. This background includes aerospace, high steel, and construction .One adjunct has over 30 years of teaching experance in Vocational Education at the high school and college levels, besids having worked as a welder before starting his teaching career. Another has over 40 years as a welder and welding shop forman in the aerospace industry, another is a retired Ironworker in the structural steel industry.

The Instructional Assistant for Welding work diligently to improve the program and increase the teaching tools available for the instructors. During the Spring 2005 semester, he constructed a "demonstration" desk. Each piece of the desk was constructed using a different welding technique so that when instructors are explaining various types of welds, the desk serves as an example for the students. Students on work experience have help out in making different projects for the welding shop, from tables to special designed stands to hold welding machines.

1.10 Faculty and staff are familiar with and work closely with the student services and instructional support services staff in program development and student referral.

There is no special role between the Welding program and Student Services. Students are encouraged to access all student services that can benefit them. The relationship between Student Services and students could be strengthened with the presence of a full-time instructor.

1.11 The programs meet one or more of the primary goals articulated in the College Mission Statement.

The Welding program is a Vocational and Technical program that awards Certificates and Associate Degrees. Therefore, it most closely aligns with that aspect of the College Mission Statement. However, the program also embraces the philosophy stated by this part of the Mission statement as well:

"At AVC we take pride in providing a quality, comprehensive education for a wide variety of learners. We are committed to student success, offering value and opportunity for all members of our community."

1.12 The development of new and revised courses is consistent with the College Mission Statement.

WELD 101 is intended to provide basic welding skills to those individuals in other vocations that require some level of welding skill. All other welding courses are intended to prepare individuals for high skill jobs in the welding industry. This is consistent with the College Mission Statement related to Vocational and Technical Education which states in part "occupational courses designed to enhance students' knowledge and skills leading to employment, career advancement, certification and state and federal licensure."

1.13 Recent developments in instructional technology have been incorporated into courses and student support services consistent with the objectives of the program and services.

What new or innovative instructional technologies have been developed to better serve students?

The best change to date is the use of quality welding videos that show extreme close ups of proper welding techniques. Most of the computer software relating to welding deals more with quality control or engineering aspects. Computer presentation software is reviewed as a way to increase information that would be harder to deliver by other means. Computer controlled cutting equipment and its software is suited for the welding program, it is being researched for a possible future VTEA proposal. The cost of this equipment has dropped drastically in recent years and is being used in more shops to increase production.

1.14 The programs and courses are consistent with the development of programs, courses, and facilities articulated in the Educational Master Plan and Facilities Master Plan.

Unfortunately, the building housing the Welding Program is one of the buildings that have been identified as too old to be remodeled and it is slated for demolition at some point in the future. Also, there are no plans for a new welding laboratory on main

campus or at the Palmdale site. As the welding industry continues to relocate from the LA basin to the Antelope Valley, the Welding Program will be increasingly important to the economic development of the area. Thererfore, a new welding facility should be included in any revisions to the Facilities Master Plan. It may fit nicely into the planned expansion of the Automotive and Auto Body facility.

Part II. STUDENT OUTCOMES

2.1 Expectations for student outcomes are clearly articulated and actual student outcomes are used in the assessment of course and program effectiveness.

Course objectives as stated in the course outline of record define and address the student learning outcomes for each course. Assignments, tests, and grading assess the student mastery of these student learning outcomes.

Program level student learning outcomes are listed below:

Program Student Learning Outcomes

1. Demonstrate proper techniques for repairing, fabricating or cutting metal components or structures using gas welding processes.
2. Demonstrate proper techniques for repairing, fabricating or cutting metal components or structures using arc welding processes.
3. Inspect and evaluate welds to assure that they meet industry standards.
4. Analyze and evaluate the welding area to assure safe work practices, proper *equipment usage and proper use of personal protective equipment.*
5. *Read and interpret industry standard blueprints and architectural drawings.*
6. *Differentiate between the need for proper welding strength versus the cost of the material being used.*

Course	*Outcome 1*	*Outcome 2*	*Outcome 3*	*Outcome 4*	*Outcome 5*	*Outcome 6*
WELD110	*I,D,M*		*I,D*	*I,D*	*I*	*I*
WELD120		*I,D*	*I,D*	*I,D*	*I*	*I*
WELD130		*D*	*D*	*M*	*D*	*D*
WELD140		*I,D*	*D*	*M*	*D*	*D*
WELD210	*D,M*	*D*	*D*	*M*	*D*	*D*
WELD220	*M*	*M*	*M*	*M*	*D*	*D*
WELD230			*M*		*M*	
WELD240					*M*	*M*

I=Introduced
D=Developed & Practiced with Feedback
M=Demonstrated at the Mastery Level Appropriate for Graduation

2.2 Student evaluations are an integral part of the assessment of course and program effectiveness.

Student evaluations are conducted whenever a faculty member is being evaluated.

No we don't. I personal feel we should be doing evaluations at the end of the semseter in every class. I have been hearing negative feedback. If we did a formal evaluation form then we could better judge the problem and find a solution.

2.3 Job placement data are an integral part of the assessment of course and program effectiveness for vocational programs.

There are no objective statistics regarding job placement available. The college does not conduct follow-up surveys of former students or graduates as this would be very costly and the participation rate is typically very low.

The only job placement information available is antidotal – mostly when a student gets a job and reports their success to the instructors or the instructional assistant.

Employers who are known to employ students include:
Percision Welding
Thremal Research & Development
MGS Custom Bikes
Bill's Welding
Gator Steel Manufacturing and Welding
Dale's Hitchin Station Inc.
Kurt's Welding & Maintenance
D & D Wedling & Steel Erection

Part III. PERSONNEL AND SUPPORT SERVICES

3.1 The ratio of full-time to part-time faculty provides students with a quality of instruction consistent with student needs and goals of the programs.

There are four very qualified adjunct faculty teaching in this program. There are no full-time faculty for this program. This is not consistant with student needs and goals of the program. It is very difficult to provide students with adequate advising regarding their educational progress through the program, and it is extremely difficult to establish ongoing relationships with area employers. The lack of a full-time faculty is a very significant weakness for this program.

3.2 The ratio of full-time to part-time faculty provides adequate personnel responsible for program evaluation and revision.

As stated above, the lack of full-time leadership is a major weakness for this program. The certificate program is in serious need of revision as are all courses. SCANS objectives need to be incorporated. Adjunct faculty are not compensated for course development and have other commitments to their full-time employers. They are reluctant to provide the time necessary for major course revisions. Also, it is difficult to provide a consistent flow to course outlines of record without the leadership of a full-time faculty.

The college may need to hire a consultant to accomplish the course revisions necessary to bring the program up to standards for this program review, accreditation standards and VTEA requirements.

3.3 There are adequate staff development opportunities to enhance the effectiveness of all staff in meeting the goals and objectives of the programs as well as the professional development of staff.

One of the adjunct faculty in this program has access to regular staff development opportunities through their full-time employer. All adjunct and the instructional assistant have access to VTEA funds for professional development. Last year, the instructional assistant attended a full week of training conducted by the American Welding Society addressing welding inspection procedures. During the 2003/04 year, one of the adjunct instructors and the instructional assistant attended a 3 day seminar on the proper use of the Universal Tensile Tester.

3.4 Full-time faculty are actively involved in the process of hiring and evaluating instructors.

There are no full-time faculty in this discipline and faculty in other disciplines have not appeared willing to evaluate faculty in other disciplines. Therefore, evaluations for all adjunct faculty have been conducted by the Dean.

3.5 The evaluation of staff is systematic and conducted at appropriate intervals. Follow-up to evaluation is timely and systematic.

All four adjunct in this program have been evaluated at least once. Lists of what faculty need to be evaluated have not been sent out for several years. Therefore, it is difficult to determine what faculty currently are due for evaluation.

3.6 The evaluation processes assess effectiveness and encourage improvement.

The evaluation process is effective and encourages improvement if it was conducted on a regular basis.

3.7 There are adequate full-time faculty to meet program needs.

As stated above, there are not adequate faculty to meet program needs. One full-time faculty position is required to maintain an effective and vital program that meets the needs of student and the industry.

3.8 There are adequate support staff to meet program needs.

Currently there is one day-time Instructional Assistant and one night-time Instructional Assistant shared by the Welding Program and the Auto Body program. This provides adequate staffing for the current schedule of day classes as there are welding classes only two days per week. However, at night, sharing an Instructional Assistant between thse two programs with very active laboratories and potentially unsafe situations is not adequate. A second instructional assistant for the evening hours should be given consideration.

Part IV. FACILITIES AND EQUIPMENT

4.1 Instructional areas and facilities are appropriate for effective teaching and learning.

The building housing the welding program not designed for this use. It was retrofitted "after the fact". Therefore, the space for the welding laboratory is inadequate and inefficient. There are12 stations for oxy-acetylene wedling and brazing, and 15 stations for arc welding. The current fume extraction system is not able to expand; the program can not increase the number of welding stations to accommodate student demand. Because of these limitations, classes must be offered in an overlay to increase enrollments to cost effective levels. While overlays are common at other community colleges, they are less than ideal teaching environments.

Additionally, the facility housing the welding program has not received adequate attention to maintenance and is in need of interior painting for both the classroom and the laboratory. There is also a deteriorating fine fiber based sound deadening/insulating material sprayed around the upper areas of the walls and ceiling. When it crumbles and falls off the walls or ceiling it poses a breathing hazard. It is discolored and adds to the unattractive appearance of the classroom and lab.

At the time of the last program review, there was a plan for the welding shop to relocate to the new Technology Building (TE7). As that building became closer to a reality, it became apparent that the space intended for materials fabrication was smaller than the existing welding laboratory and would not be adequate for welding and fabrication. Therefore, the space in the Technology Building was dedicated to aluminum fabrication.

There is no current plans for a new welding laboratory even though the current facilities master plan shows the demolition of the TE2 building in the future. Any update to the

facilities master plan should include a new space for the welding classroom and laboratory. The most logical place for this new space would be with the expanison of the Automotive complecx such that it would include Automotive, Auto Body, and Welding. These programs are compatible with each other and could work effectively in adjacent spaces.

4.2 Instructional areas and facilities are appropriate for effective teaching and learning.

The welding classroom has been remolded with new tables and chairs and an instructors desk that also servers as a teaching aide. The instructor's computer has been replaced with an updated system that would allow the use of dvd based teaching aides. The lab has seen upgrades in equipment only, it doesn't change the fact that the space is to small and lay out of the equipment is in a way that make future growth impossible.

During the 2004/05 year, the Welding Program received approximately $110,000 of VTEA funds. This funding was dedicated to completely replacing all welding stations with modern equipment, refurbishing the oxy-acetylene bench, and upgrading tools and other equipment. This upgrade has made a significant inprovement on the equipment and tools available for students.

An additional $30,000 of VTEA funds are available for 2005/06 to complete this upgrade.

4.3 Program support space is adequate to ensure the effective operation of the educational program and related support activities.

The office space is smaller than any other program, when the Tech. Ed division moved from OF2 to TE7 the welding program lost an actual office. The current only is a storage space with a desk in it. The tool room for the welding shop is shared with the Auto Body program and is too small to provide adequate storage for either program; many storage cabinets are taking up space in the lab area. Due to the current build being stated for destruction any change to increase the efficiency of the lab is out of the question, the program will have to wait for a new space to occupy.

4.4 the safety of the facilities and equipment are reasonable and adequate.

Part V. FISCAL SUPPORT

5.1 During the period under review, resources have been used effectively to support programs and services.

As described above, the VTEA funding received over the last two years made significant improvements to the program and have brought the program up to industry standards. The lab equipment is up to par but the amount of students the program can service is the limiting factor. A full-time faculty would help to increase the number of students that could be trained.

5.2 Current and anticipated funding is adequate to maintain high quality programs and services.

The supply budget of $5,500 was increased by $3,000 with an ongoing request of Proposition 20 funds in 2002/03. This funding was adequate for the number of sections of classes offered until Fall of 2005. This year, there has been a major increase in the cost for steel. The supplies budget is not able to adequately provide necessary supples – especially for the new sections of day classes that were started this year. Additional supplies funds may be provided from the Division reserve. Consideration should be given to increasing the supplies budget for 2006/07.

5.3 Anticipated funding is adequate for the development of revised and new programs.

As has been repeated throughout this section, a full-time faculty position is necessary for this program to serve the needs of students and industry. This person should bring vision and consistency to the teaching of all courses and would guide the program into the future needs of the industry. Immediately, the program requires approximately $5,000 of additional supplies budget to keep up with the escalating costs of materials required for student laboratory projects and routine parts and tool wear and tear.

Part VI. COMMUNITY OUTREACH AND PROGRAM AWARENESS

6.1 Staff maintains appropriate links with community.

The lack of full-time faculty leadership limits the outreach to the community. As stated earlier, the Instructional Assistant provides a valuable link to the welding ROP program at Mojave High School. The Instructional Assistant also has contact with the local welding industry to survey the current technologies being used in the area shops and to solicit industry support in the form of donated remnant steel, stainless steel, and aluminum for use in the program on several levels. One class will practice cutting techniques and material preparation for the finished material to be used by the next level of classes to weld into specified learning projects.

6.2 Staff makes appropriate efforts to inform students about each program and facilitate student participation in those programs.

The night Instructional Assistant is a real cheer leader for the Welding Program. He has provided visibility to the program at the various Open House events that the college has hosted. He is available to answer questions about the program and the career field and provides valuable information to prospective students.

6.3 Where appropriate, advisory committees meet regularly and support the development of programs as well as promote student placement.

The Welding Program has an active advisory committee made up of business owners, welding inspectors, and teachers from other welding programs, that meets usually once per semester. Various companies support the program with donations of supplies and they know that the program is a good source of potential students.

Part VII. COMPLIANCE WITH FEDERAL AND STATE REGULATION

State and Federal guidelines that are pertinent to the division have been reviewed and compliance issues addressed.

When the curriculum revisions are complete, the program will be in compliance with all applicable State and Federal guidelines.

Summaries and Recommendations

For each part (I-VI) of the self-study, provide the following information and relate its impact to the Vision and Goals of the College' Strategic Plan.

A. A summary of the findings and their significance.

The Welding Program fills an important need by providing students with the knowledge and skills required for gainful employment as a Welder. Welders are an important occupation in the Antelope Valley, and a need that is growing as more companies from the Los Angeles basin relocate to the less expensive Antelope Valley area. The recent investment in equipment and tools made a significant inprovement to the program. This investment was cost effective and will serve the program well for the forseeable fututre.

B. A list of major recommendations which include:

-a plan of action for implementation of goals and objectives for improvement or enhancement of programs and associated costs.
-expected outcomes of goals and objectives.
-a reasonable timeline for attainment of goals and objectives.

A. A full-time instructor is needed to provide the necessary vision and leadership required to keep the program vital and keep it up to the industry standards. This position is needed for the 2006/07 year but that target is dependent upon perceived needs for faculty college-wide.

B The Instructional Supplies budget needs an increase of approximately $5,000 to maintain adequate supplies for the program. This increase will be provided through Division reserve funds this year. An ongoing increase for supplies should be included in any SPBC requests for the 2006/07 year.

C. The curriculum revisions and changes to Certificate requirements need to be completed for inclusion in the 2006/07 catalog.

D. The implementation of an industry standard certification program.

C. A list of recommended changes in the Educational Master Plan, Facilities Master Plan or Vision and Goals of the College's Strategic Plan.

The Vision and Goals of the College's Strategic Plan, Educational Master Plan, and Facilities Master Plan for the programs under review should be reviewed and revised to: (1) meet student needs, (2) respond to institutional priorities, (3) adequately reflect changes in the disciplines as well as changes in educational methodology and technology, (4) address external mandates such as state requirements, industry and professional standards, etc.

A. This section of the Technical Education Program Review should be the basis for updating the Welding section of the Educational Master Plan during the next revision to that document.

B. The Facilities Master Plan should be revised to include a new facility dedicated to the Welding Program. The most logical place for that new facility would be as part of the automotive expansion.