

**Career Technical Education (CTE)  
2-Year Mini-Review**

**Deadline: April 13, 2015 (midnight)**

Send by e-mail to the Program Review Co-Chair, [slillard@valleycollege.edu](mailto:slillard@valleycollege.edu)

Our current efficacy cycle for full review is every four years. However, in order to comply with Title 5 regulations, CTE programs are required to review their programs every two years. To meet this requirement, but also not to over-burden these programs, we have instituted a mini-review between the full efficacy cycles (that is, 2 years following the most recent efficacy report). Your program will be assigned a review team, consisting of Program Review members, who will work with you and provide feedback on your documents as you work through the process. Feel free to call on them or the committee co-chairs at any time.

This review is not designed to be comprehensive, but rather, it is expected to be a 2-year **update** since the last full efficacy report. Specifically, this update should address the following five program components:

1. Purpose, 2. Demand, 3. Quality, 4. External Issues, 5. 2-Year Plan.

**Instructions:**

For each of the five sections:

1. Mark the checkbox that best identifies where the program stands.
2. Provide a brief supporting narrative. Within each section there are examples related to that particular area, which could serve to help describe your program status. It is not necessary to address every item listed; these are included as possible examples. If you have other relevant information pertaining to a given area, then you are encouraged to include that as well.

The purpose of this report is a mid-term update in order to comply with Title 5, therefore, the page length should be in the range of 2 – 3 pages. The boxes for each section are expandable; take the space needed for each section. Keep in mind that this report is an **update** of the previous 2 years, rather than a comprehensive analysis.

# CAREER TECHNICAL EDUCATION PROGRAM TWO-YEAR REVIEW

Date: 03/30/2015

College: San Bernardino Valley College

Program: Machine Trades

## 1. Purpose of this Program

No Changes in Purpose  
in the Last Two Years

Minor Changes in Purpose  
in the Last Two Years

Significantly Changed Purpose  
In the Last Two Years



(Provide update since last full efficacy review; examples include description, mission, target population, etc.)

The purpose of the machine trades program is to provide a quality program of study to a diverse community of learners. The curriculum includes hands-on skills as well as current theoretical concepts that prepare students to be employed in an introductory level position in the machine trades field, which can serve diverse areas of specializations such as Mine cutting and channeling machine operators, Computer-controlled machine tool operators, Forging, Rolling, Cutting, punching, and press machine setters, Drilling and boring machine tool setters, Grinding, lapping, polishing, and buffing machine tool setters, Lathe and turning machine tool setters, Milling and planning machine setters, Machinists, Multiple machine tool setters, Heat treating equipment setters, Extruding, forming, pressing, and compacting machine setters. The department offers six certificates or an A.S. degree in the field of Machinist Standard, Computer Numerical Control, and Tool and Die. The department also offers a National Institute for Metalworking Skills (NIMS) Certification Program, NIMS operates under rigorous and highly disciplined processes as the only developer of American National Standards for the nation's metalworking industry accredited by the American National Standards Institute (ANSI).

The programs prepare the student for work or for transfer, with advanced standing, to colleges or universities where studies will be continued toward greater degrees, the department also prepares students for further study in the various fields of engineering, engineering technology, industrial technology, and manufacturing engineering.

All the above reinforce our program mission, which is to provide a diverse community of learners with solid up-to-date theoretical and hands on learning skills in the machine trades field and to prepare them to enter into an entry level position in their respective specialty and/or to be able to transfer to four-year universities to further their studies in their respective fields.

## 2. Demand for this Program

Low Demand

Adequate Demand  
for our Students

High Demand



(Provide update since last full efficacy review; examples include labor market data, advisory input, etc.)

According to the labor market data provided by the State of California Employment Development Department, the machine trades field related jobs have a projected growth particularly for the Inland Empire for the decade beginning 2012 through 2022 as the following: Machinist 13.9%, Metal Workers and Plastic Workers 2.6%, Computer-Controlled Machine Tool Operators 15.4 %, Computer Numerically Controlled Machine Tool Programmers 31.3%, Rolling Machine Setters, Operators, and Tenders 6.5%, Metal Workers and Plastic Workers 5.9%, and quality control inspector 13.1%.

From the above statistics, we can reason that these fields have a high growth projection estimate and they cover a large variety of professions and careers as reflected in the program purpose

above. We have noticed that we have had an increase in professional development training with various local companies in our conventional machining courses as compelling evidence to support the increasing demand for the program. Since every facet of life deals with manufacturing, continued demand is certain and we can provide training in conventional and computerized machine tools, most surrounding college's no longer offer conventional machine training causing San Bernardino Valley college to be the place to go for conventional machine training in the Inland Empire.

### 3. Quality of this Program

Needs Significant Improvement

Meets Student Needs

Highest Quality






(Provide update since last full efficacy review; examples include core indicators, student outcomes, partnerships, certificates, degrees, articulation, faculty qualifications, diversity, grants, equipment, etc.)

The latest core indicators clearly show that we have an above average technical skill attainment rate of 91.84 % which testifies to the validity and quality of the curriculum and of our faculty, the majority of which are adjuncts, that teach part time but also work in the industry, thus bringing real working environment and experiences to the classroom. All other faculty have industry-related experience that they bring to the classroom, which enhances the quality of the program. One of the core indicator of concern is the completions of credential certificates and degrees, which is slightly below the performance goal and that is due to many students taking a couple of courses to promote within their companies and many getting hired after only taken a few courses that enable them to get an entry level position. Since there is no method of tracking student completion data may be skewed. Another core indicator of concern is employment, this may be a result of not having a fulltime faculty to work with industry partners and should be addresses by new fulltime faculty.

An examination of our student learning outcomes reveal that our students are achieving success rates up to 87%. This shows that the teaching methodologies as well as the curriculum are meeting expectation.

Recently the Machine Trades program acquired a fulltime faculty, Norco and Victor Valley college have partnered with us to offer the same curriculum to facilitate a quicker turn around in degrees and certificates.

As part of the continuing effort to improve the quality of the program, much of our laboratory equipment has been repaired and our software has been updated so that our curriculum would align more with today's industry standards, and most of our curriculum is being revised to reflect these changes, which will certainly add strength and will make the program current. The main obstacle remains funding for such equipment.

### 4. External Issues

Not Consistent with External Issues

Complies with External Issues

Benefits From and Contributes to External Issues






(Provide update since last full efficacy review; examples include legislation, CCCC mandates, Perkins, CTE transition, CalWORKs, WIOA, Career Ladders, etc.)

External issues that have a direct effect on the Machine Trades Program is the National Institute for Metal Working Skills (NIMS) that frequently changes and is continuously updated as well in our curriculum. We stay up to date and incorporate the latest NIMS certification skill sets in our program. In addition, there is also new Computer Aided Drafting(C.A.D), Computer Aided Manufacturing(C.A.M), and Computer Numerical Control (C.N.C) skill sets that are required by modern machinist to be integrated within all machine trades, we are continuously seeking to include these technologies in our curriculum to promote its currency and effectiveness by incorporating them in our curriculum and also purchasing the equipment to be used in the laboratory part of our program so that students are exposed to these systems, which will make

them more marketable from the employment aspect. Sometimes, though, the challenge is the added expense and cost of the equipment needed for the upgrade, which puts a strain on the budget.

As for the Work Force Innovation and Opportunity ACT (WIOA) recently passed, which is pushing for more student enrollments for career pathways, we can see that all our Machine Trades certificated programs, which fall under Career Technical Education, are prime vehicles to achieving the goals of that Act in that we are producing a viable and effective skilled labor force for our economy. Furthermore, the field in itself serves as a vehicle for career ladders since our students are prepared for entry level positions in their respective specialties and can ultimately move up from a journeyman or technician position into a supervisor or designer position and ultimately into a management position. In addition, for the CTE transition goals, our program has worked and continues to work closely with industry employers to place our students in apprenticeships which may ultimately lead to full employment.

## 5. Cost of this Program

Expenditures  
Exceed Income

Income Covers  
Expenditures

Income Exceeds  
Expenditures




(Provide update since last full efficacy review; examples include enrollment/FTES generated & in-kind contributions of time/resources minus salaries/equipment/supplies, etc.)

The latest EMP report shows that the department has had sustained drop in FTES in the last five years, which is a result of a steady reduction in available instructors, which in turn has affected enrollment.

Our FTEF has been slowly increasing since 2011, and has not had a fulltime faculty in six years. As the new fulltime faculty begins the program should attain better numbers as the program has not been improved or functioning cohesively since the program had a fulltime faculty.

It is also important to note that since we have upgraded and continue to upgrade our lab equipment to meet today's industry standards, funding has been a challenge and our general fund allocation even with Perkins funds subordination is not enough to upgrade machine tools which are very expensive. There continues to be the need to purchase new machine tools, including computerized machine tool, multi axis machine tools and additive manufacturing machines, that are quite expensive.

## 6. Two-Year Plan

Need Significant Changes  
And/or Increased Resources  
to Continue

On Track for  
Next Two Years



Significant Growth  
Anticipated



(Provide update since last full efficacy review; examples include recommendations, project future trends, personnel and equipment needs, etc.)

1. Develop more and deeper relationships with industry.
2. Work with high schools to create a feeder system.
3. Develop new or increase funding sources such as grants and donations for additional equipment that mirrors industry.
4. Continue to voice the need for additional staffing as evidenced by program enrollment and growth sustainability numbers.
5. Increase community outreach to K-12 to expose prospective student to the career field and to articulate with high schools that provide classes related to our field so that we can smooth the path for those high school students who wish to continue with this career. Currently, a representative from the Technology division or the department chair visit local high school
6. Complete NIMS credentialing

