

**Program Efficacy Report  
Spring 2014**

**Name of Department:** Machinist Technology

**Efficacy Team:** Sheri Lillard and Denise Knight

**Overall Recommendation (include rationale):** Continuation

The program is proving to be successful, considering that it was on hiatus until Spring 2013. Student success, retention, and the number of awarded certificates for this program are on the rise, and the labor market is also promising. As the program continues to grow, alternative class times might be considered, in order to recruit more women into the discipline. Although the curriculum is current in Curricunet, they note that there will be a need to incorporate industry standards into the curriculum (a project that will be difficult without any full-time faculty).

Strategic Initiative	Institutional Expectations	
	Does Not Meet	Meets
<b>Part I: Access</b>		
<b>Demographics</b>	<i>The program does not provide an appropriate analysis regarding identified differences in the program's population compared to that of the general population</i>	<i>The program provides an <u>analysis</u> of the demographic data and provides an interpretation in response to any identified variance.  If warranted, discuss the plans or activities that are in place to recruit and retain underserved populations.</i>

**Efficacy Team Analysis and Feedback: Meets**

The demographic data were analyzed and the disparity in the populations of male students (92.4% vs 45.7%) and white students(34.4% vs 26%) compared to the campus was noted. Although the program has an interest in trying to recruit more female students, the lack of any full-time faculty in this program makes the goal of outreach to high schools, especially for the purpose of attempting to recruit more female students, difficult to execute.

There was no discussion of the lower percentage of African-American students (12.1% vs 19.1%) or Hispanic students (41.4% vs. 50.0%) in the Program, compared to the campus.

<b>Pattern of Service</b>	<i>The program's pattern of service is not related to the needs of students.</i>	<i>The program provides evidence that the pattern of service or instruction meets student needs.  If warranted, plans or activities are in place to meet a broader range of needs.</i>
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**Efficacy Team Analysis and Feedback: Meets?**

Machining courses are offered only in the evenings and on weekends, primarily in order to accommodate the schedules of the students and the adjunct faculty (many of whom work during the day). The Program desires to incorporate daytime offerings, but notes that this will be difficult without a full-time instructor (since the current adjunct faculty either have full-time jobs elsewhere or are at their maximum load). While the need for a full-time faculty is important, perhaps a tentative plan for piloting a shift of some coursework to the daytime would be beneficial. Such a change in scheduling will likely become necessary, given the interest in recruiting female students, who often cannot attend at night due to daycare issues.

**Part II: Student Success**

<b>Data demonstrating achievement of instructional or service success</b>	<i>Program does not provide an adequate analysis of the data provided with respect to relevant program data.</i>	<i>Program provides an <u>analysis</u> of the data which indicates progress on departmental goals.  If applicable, supplemental data is analyzed.</i>
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**Efficacy Team Analysis and Feedback: Meets**

Despite a 50% reduction in the number of sections, over the past five years, student success (72%), retention (92%), and number of certificates (21) have increased dramatically. As a result of fewer sections, the enrollment has only reduced by 33%, while WSCH/FTEF has improved by 19%.

These data do show that the program is reviving, and the number of certificates indicates that there is student interest and success. In addition, labor market data reveal an expected increase in machining jobs (13.1%) and CNC machining jobs (17.4%) through 2020, thus supporting the benefit of such a program to our community.

The goals of updating the curriculum and offering a wider array of class times require the hiring of a full-time faculty. Without one, this progress will be slow with only adjunct faculty available, even though the program is showing evidence of success.

<b>Student Learning Outcomes and/or Student Achievement Outcomes</b>	<i>Program has not demonstrated that they have made progress on Student Learning Outcomes (SLOs) and/or Service Area Outcomes (SAOs) based on the plans of the college since their last program efficacy.</i>	<i>Program has demonstrated that they have made progress on Student Learning Outcomes (SLOs) and/or Service Area Outcomes (SAOs) based on the plans of the college since their last program efficacy.</i>
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**Efficacy Team Analysis and Feedback: Meets**

The Program has been on hiatus, and just resumed teaching all courses on full rotation in Spring 2013. SLOs will be assessed this year, for all courses offered in 2013-14 (3-Year Evaluations are due in October). SLOs for 022; 074 & 124 will be assessed during 2014-15. MACH 061 and 160 have not been offered for several years.

Data Collection for Fall 2013 was completed for all courses.

The grid that shows the mapping of the Program-level SLOs to the courses was included. Only MACH 120 isn't mapped to a specific SLO (and is only shown as mapped to the certificate). It is mentioned that program mapping will be completed in April, and that the program will continue receive assistance (via SLO workshops, etc.) to refine and evaluate the SLOs and their assessments. In the lab, practical applications will provide SLO objectives (although it is not clear if this is proposed or is already being done): 1) Use of Haas Machine Tool, 2) Master Cam (computer aided manufacturing), 3) Solid Works (computer aided design), 4) Design parts from lecture, video, Machine Trade e-books, testing, online tutorials.

Results of Course SLOs (2009 and 2013) and comparison to core competency analysis, has revealed that students would likely be more successful if they had better math skills. Their analysis also suggests that any courses that include emphases in math should show mapping to Quantitative Reasoning (current Core Competency #7). These revisions in SLO analysis (and curriculum?) will be made during Spring 2015.

**Part III: Institutional Effectiveness**

***Mission and Purpose***

*The program does not have a mission, or it does not clearly link with the institutional mission.*

*The program has a mission, and it links clearly with the institutional mission.*

**Efficacy Team Analysis and Feedback: Meets**

The program has a mission and it links with the mission of the College.

***Productivity***

*The data does not show an acceptable level of productivity for the program, or the issue of productivity is not adequately addressed.*

*The data shows the program is productive at an acceptable level.*

**Efficacy Team Analysis and Feedback: Does Not Meet?**

The data show that 2012-13 FTEs has improved over 2011-12, and that WSCH/FTEF has increased to its highest of 399 (2012-13) over the last five years. However, there was no analysis or explanation provided about these data.

<b>Relevance, Currency, Articulation</b>	<p><i>The program does not provide evidence that it is relevant, current, and that courses articulate with CSU/UC, if appropriate.</i></p> <p><i>Out of date course(s) that are not launched into Curricunet by Oct. 1 may result in an overall recommendation no higher than Conditional.</i></p>	<p><i>The program provides evidence that the curriculum review process is up to date. Courses are relevant and current to the mission of the program. Appropriate courses have been articulated or transfer with UC/CSU, or plans are in place to articulate appropriate courses.</i></p>
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**Efficacy Team Analysis and Feedback: Meets**

All curriculum is up to date in Curricunet. The articulation results seem to imply that all courses above 100 do transfer/articulate, but this is not stated explicitly nor is there a mention of the schools to which the courses transfer.

Regarding currency, there is a need to incorporate NIMS (National Institute of Metalworking Skills?) training (acronym should be identified in the document), in order for the program to be certified. A standalone class, MACH 10, is no longer offered due to the prohibitive cost. The program is planning to revise the curriculum for MACH 061 and 161, which have not been offered recently, to include NIMS information. However, they point out that these curriculum revisions will be challenging to accomplish without the hiring of more faculty.

**Part IV: Planning**

<b>Trends</b>	<p><i>The program does not identify major trends, or the plans are not supported by the data and information provided.</i></p>	<p><i>The program <u>identifies and describes</u> major trends in the field. Program addresses how trends will affect enrollment and planning. Provide data or research from the field for support.</i></p>
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**Efficacy Team Analysis and Feedback: Meets**

The Program identifies trends and describes how to incorporate into their planning. Identified trends include an influx of students wanting to take these courses, outdated curriculum and prerequisites, inability for students to repeat courses to fine-tune skills, outdated equipment, not enough sections to meet need, not enough faculty, no work experience.

The program plans to address many of these issues, first by revising and modernizing the curriculum. However, as expressed earlier, they expect this process to be slow, especially without a full-time faculty in the department. They also want to incorporate work-experience opportunities for the students. Such a component is important, since most jobs are requiring 5 years of experience.

<b>Accomplishments</b>	<p><i>The program does not incorporate accomplishments and strengths into planning.</i></p>	<p><i>The program incorporates substantial accomplishments and strengths into planning.</i></p>
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**Efficacy Team Analysis and Feedback: Meets**

The number of students interested in the program is a strength, despite the cuts in sections and not enough faculty. In order to meet the needs of the student demand for this program, they will request faculty and new CNC machines through Needs assessment, work to improve curriculum, and begin to actively recruit students for the future.

The acquisition of a Machine Trades trailer (and grant funds) will permit outreach activities to middle schools in San Bernardino, in order to recruit more future students.

The successful California Steel internship program will be modeled to explore paid internships with other local companies, such as Walker Corporation, Prestige Mold, and Sorenson Engineering.

An accomplishment not mentioned here, but stated previously, is the success and retention rates of the students. Plans for how to maintain and/or improve these rates would be informative.

<b>Weaknesses/challenges</b>	<i>The program does not incorporate weaknesses and challenges into planning.</i>	<i>The program incorporates weaknesses and challenges into planning.</i>
<p><b>Efficacy Team Analysis and Feedback: <u>Meets</u></b></p> <p>The major weaknesses noted include lack of resources: personnel (full-time faculty and lab assistant), equipment (e.g., modern CNC machines), and facilities. The facilities issues will be addressed in the long-term, with the expected renovations of the Tech building. Faculty, staff, and equipment will be requested in Fall 2014 through Needs assessment (the program was not permitted to participate in this process while on hiatus).</p> <p>Previous sections identified curriculum issues, which the department plans to update.</p> <p>Another challenge listed, but not detailed in terms of planning, is that the District funds competing activities with private schools. Given the potential success of the Machining program, based on their data, analysis, and planning, such an intentional diversion of funding is unfortunate.</p>		
<b>Part V: Technology, Partnerships &amp; Campus Climate</b>		
	<p><i>Program does not demonstrate that it incorporates the strategic initiatives of Technology, Partnerships, or Campus Climate.</i></p> <p><i>Program does not have plans to implement the strategic initiatives of Technology, Partnerships, or Campus Climate.</i></p>	<p><i>Program demonstrates that it incorporates the strategic initiatives of Technology, Partnerships and/or Campus Climate.</i></p> <p><i>Program has plans to further implement the strategic initiatives of Technology, Partnerships and/or Campus Climate.</i></p>
<p><b>Efficacy Team Analysis and Feedback: <u>Does Not Meet?</u></b></p> <p>There was no mention of technology, which is relevant given the types of machines used in this program.</p> <p>The description of partnerships seems weak. As mentioned previously, the Department will work with the District to promote vocational skills awareness to middle schools.</p> <p>In addition, the program has renewed the partnership with CSI to run a paid internship for Machine Trades students for summer semester 2014. However, there are no details provided about this partnership.</p>		
<b>Part VI: Previous Does Not Meets Categories</b>		
<i>Program does not show that previous deficiencies have been adequately remedied.</i>	<i>Program describes how previous deficiencies have been adequately remedied.</i>	<p><b>Efficacy Team Analysis and Feedback (N/A if there were no “Does not Meets” in the previous efficacy review):</b></p> <p>N/A</p>