

LMC Comprehensive Program Review

Instructional Units

2017-2018

Program/Discipline: Welding Technology

The following provides an outline of the required elements for a comprehensive unit/program review for Instructional Programs and Units. Upon completion of this report, please upload your document in the unit/program review application data/documents tab.

1. Program Changes

1.1. How have your degree and certificate offerings changed over the last 5 years? (e.g. new programs, discontinued or major changes to existing programs)

The degree and certificate offerings have changed greatly over the past five years. Due to the state eliminating repeatability, three new lab courses were created; Weld 20, 33, and 43 to account for the loss of repeatability. These were first offered in Fall 2013. The lab course units were changed from variable to 2 units each. This was to make all the labs have continuity between day, afternoon, evening, and weekend offerings.

A new Skills Certificate was created – Welding Pre-Apprenticeship. To earn it, one just has to take our Weld 10 theory, Weld 11 lab and Math 12 or higher. This will provide them with the essential skills to enter the welding field or join a union.

The Certificate of Achievement was revised to maintain the general education requirements of Math, English, and Computer Science along with all the Welding courses. The rigor of Math was changed from Math 7 Basic Arithmetic to Math 12 PreAlgebra. This has better prepared the students for our courses as well as for their careers in the welding field.

In addition, program changes in our curriculum have been implemented to encourage students to take Math earlier in their college schedule. The new skills certificate requires students to take Math 12 or higher. This certificate is usually completed earlier in the program schedule and the Math helps to make them more successful in all of their classes.

Prerequisites have been added to Weld 21 and 41 to require the students to take the lower level courses first. This has aided our retention as it prevents a lower level student from applying to a higher level lab. In addition, it enhances the students ability to learn the SMAW process as they can only take it once per semester. This allows them to absorb the skill better over time and continue further with it or complete our lesson plans.

Weld 15 and 16 Oxyacetylene Welding labs have been added to our spring schedule. Now, these

courses will be taught twice a year (spring and summer semesters).

Preparations for a new course called Fabtech has been ongoing for years. We have been making lab improvements as well as procuring tooling for the future course. We will be completing the curriculum for it as soon as the tooling needs are completed. Once the course is settled, we plan to require it for both the Certificate of Achievement and AS Degree.

1.2. What changes are you planning to your degree and certificate offering over the next 5 years? What is the rationale for the anticipated changes? Will these changes require any additional resources?

We plan to add a course called Fabrication Technologies (FabTech) where students will learn how to use hand and power tools to build small projects.

This course will assist with teaching the students how to make things outside of welding. Welders do more than just weld, they rivet, cut, drill, tap, bend things, layout parts, operate a variety of tools to repair or fabricate things. Our program is doing well teaching them how to weld, but they need much more experience with related fabrication/manufacturing technology.

This course will require a materials fee for the students to help pay for consumables as well as a budget increase for the welding program to maintain the tooling.

That is it for now.

2. Degree and Certificate Requirements

Please review the data provided on all degree/certificate completions in your program, including locally approved College Skills Certificates from Fall 2012—Spring 2017.

2.1. For each degree/certificate offered, map a pathway to completion of courses within the major in a maximum of 4 semesters, assuming a maximum of 6-10 units of major courses within a semester. Use the following format:

Welding Pre-Apprenticeship Skill Certificate				
Semester	Semester 1	Semester 2	Semester 3	Semester 4
List Courses Needed for Degree or Certificate in each semester.	Math 12 Weld 10 Weld 11			

Welding Technology Certificate of Achievement and Associate Degree				
Semester	Semester 1	Semester 2	Semester 3	Semester 4
List Courses Needed for Degree or Certificate in each semester.	Weld 10 Weld 11 Weld 15 ENGL 95 or higher MATH 12 or higher	WELD 20 WELD 31 Weld 40 COMSC 40	WELD 16 WELD 21 WELD 33 WELD 35	WELD 41 WELD 43

3. Frequency of Course Offerings

Please review the data provided on frequency of all courses offered in your discipline in the last 2 years (Fall 2015-Spring 2017).

3.1. If a course has not been offered in the past two years, but is required for a degree or certificate, please explain why it has not been offered, and what the plan is to offer it in the future.

N/A

3.2. If the course is not required for a degree or certificate, is the course still needed in the curriculum or is the department considering deleting it?

N/A

3.3. For the next two years, project how frequently your program intends to offer each course. Please provide a rationale for any major changes from the last 2 years that you anticipate.

Course	Estimated Number of Sections Offered by Semester			
	Fall 2018	Spring 2019	Fall 2019	Spring 2020
WELD 10	2	2	2	2
WELD 11	5	5	5	5
WELD 15	0	1	0	1
WELD 16	0	1	0	1
WELD 20	5	5	5	5
WELD 21	5	5	5	5
WELD 31	5	5	5	5
WELD 33	5	5	5	5
WELD 35	1	1	1	1
WELD 40	1	1	1	1

WELD 41	5	5	5	5
WELD 43	5	5	5	5
Rationale for any Major Changes				
Please note that the above chart does not include the summer semester. We also offer a section of WELD 15 & 16 during the summer.				

4. Existing Curriculum Analysis

4.1. Course Outline Updates

Please review the data provided on the status of COORs in your discipline. (Note: This data does not reflect courses submitted after May 2017.) For each COOR that has *not* been updated since Spring 2012, please indicate the faculty member responsible for submitting the updated COOR to the Curriculum Committee by April 18, 2018.

Course	Faculty Responsible for COOR Update
N/A	ALL WELDING TECHNOLOGY COORS HAVE BEEN UPDATED.

4.2. Course Offerings/Content

How have your courses changed over the past 5 years (new courses, significant changes to existing courses)?	As explained earlier under question #1, several prerequisites have been added (to courses WELD 20, 21, 41). WELD 15 & 16 are now being offered in both Spring & Summer semesters.
How have these changes enhanced your program?	For WELD 15 & 16, students will be able to complete the courses in the same year versus having to wait till the following summer. The prereq's require the students to take the lower level courses first which assists with the retention of our advanced students having space to register. It also requires the student to learn the SMAW process better as they can only take once course of it per semester.

5. New Curriculum Analysis

5.1. If you are creating new degrees or certificates in the next 5 years: (Indicate N/A if no new degrees or certificates are planned.)

What additional courses will need to be created to support the new degree or certificate?	The creation and successful implementation of our FabTech course.
What significant changes to existing course content would need to be made to support the new degree or certificate?	No changes to existing course content, just the addition of one more course.

6. Advisory Board Update (For all CTE TOP coded programs)

Give an overview of the current purpose, structure, and effectiveness of your Advisory Board. Include: membership, dates of last meetings over the past two years.

The purpose of our Advisory Board is to receive recommendations and advice in regards to the improvements and changes to be made in the Welding program. We discuss updates to the program, equipment and material needs, changes in the job market, and different trends in our industry. To maintain our high level of quality training, the board helps us to stay connected to what is happening in the field and continue to meet industry needs.

The Advisory Board structure is made up of Welding Technology Department lead, faculty, an active student from our program, an alumni graduate of our program, as well as a variety of industry partners with different expertises. Partners include local Weld shop owners, manufacturing company owners/management, both working & retired QC inspectors, manufacturing production engineer, and welding technician.

Membership includes the following:

- Joe Meyer – LMC Faculty
- Dann Gesink – LMC Faculty
- Tony DeSousa – Sandia
- James Allmon – Owner – All States Stamping
- Kevin Allmon – All States Stamping
- Josh Johnson – Kleinfelder inspector
- James Pond – LMC Alumni
- Rick & Eva Sobilo – Owners – Moose Metal
- Jennifer Bernard – Red-D-Arc/AWS
- Paul Meltzer – Shell Oil
- Daniel Kerr – Retired-PG&E
- Matt Bailey – Current LMC Student

Their effectiveness has helped us to find contractors, equipment selection and use, material donations for our program, as well as advice. When applying for the TAA grant a few years ago, their support letters for our program helped us to win the grant and further promote skills development in welding.

Dates of last meetings over the past two years: December 13th, 2016, and October 30, 2015.

7. Assessment Effectiveness:

7.1. Course Level Assessment

Please review the data provided on assessment status of courses in your discipline in Cycle 1 (2012-2017).

7.1.1. If there were any courses that were not assessed in Cycle 1, please explain why they were not assessed.

The data shown the cycle 1 assessment is incorrect. All Welding courses have been assessed except Weld 100. Weld 100 Industrial Trade and Tech was just offered last summer (2017) and was not scheduled to be assessed in previous schedules. It is a short course lasting only about 5 days for us during the summer semester.

7.1.2. If a course was not assessed in Cycle 1 because it was not offered, what is the future of that course?

Weld 100 was just offered last summer (2017) and we plan to offer it every summer as long as management is willing to pay for it. It is a great recruiting tool for the program and LMC as prospective high school students make up the course.

7.1.3. Course level assessment should be meaningful, measurable and manageable. Overall, reflecting on the course level assessment, please rate the degree to which you feel your assessments meet these 3M's.

7.1.4.

Meaningful:

1	2	3
The assessment was not meaningful in collecting data or information that supported course improvement or pedagogical changes.	The intent was understood, but the outcome fell short of meeting the objective of course assessment, which is to improve student learning. The changes to the course or pedagogy to support the course were not clear.	Changes were made to the course content or delivery to improve course effectiveness. The process promoted pedagogical dialog within the department, and changes were adopted accordingly.

Measurable:

1	2	3
The data collected did not inform teaching and learning.	The assessment produced some measurable information, but created more questions than answers.	Results were straightforward and easy to interpret. The course of action to improve the course or its delivery was clear from the data that was collected.

Manageable:

1	2	3
Assessment was not manageable.	The assessment process was somewhat manageable, but posed challenges to implement across the program.	The assessment was easily scaled across the department so that full- and part-time faculty could participate with meaningful outcomes.

7.1.5. What changes in the assessment process itself would result in more meaningful data to improve student learning?
 Cannot think of any.

7.1.6. Share an outcome where assessment had a positive impact on student learning and program effectiveness.
 CSLO 2 for our welding labs requires student to know how to safely use an oxyacetylene torch. It was found from assessment that many of our students needed more practice with this process. So, now we instruct all new students how to use the torch earlier in the semester to give them more time to practice and for the advanced students, we do not bevel the practice plate for them anymore. This requires the advanced students to use the torch to bevel their practice plates and thus gives them more practice. In the end, they both become more skilled with their torch cutting skills.

7.2. Program Level Assessment

7.2.1. In 2016-2017, units engaged in program level assessment. **Please submit all Program Level Assessment Reports using the link provided.** Describe one important thing you learned from your program level assessment.

It was found that the overall majority of our students were absorbing our PSLO's by meeting or exceeding the proficiency levels. This validates our program effectiveness in successfully training the students to be prosperous in the Welding trade.

7.2.2. What was the biggest challenge in conducting program level assessment?

The motivation to start the process and do the actual assessment.

7.2.3. What resource needs, if any, were identified in your program level assessment?
 None.

8. Course Success/Retention Analysis

Please review the data provided on course retention and success, which has been disaggregated by as many elements as district can provide in their SQL Report

One of our college goals as stated in our Integrated Plan is to “Increase successful course completion, and term to term persistence.” Our Equity Plan identifies African- American and low income students as disproportionately impacted in terms of successful course completion. (Foster youth are also disproportionately impacted on this indicator, but numbers are too small to disaggregate by discipline/program) Please indicate how well students in these groups are succeeding in your discipline.

	African-American	Low Income Students	All students in program/discipline
Completion Rate (program/discipline)	70.6% (FA16) 42.9% (SP17)	69.2% (FA16) 67.9% (SP17)	71.4% (FA16) 74.6% (SP17)
Success Rate (program/discipline)	41.2% (FA16) 28.6% (SP17)	51.9% (FA16) 47.4% (SP17)	54.6% (FA16) 54.8% (SP17)

8.1. In looking at disaggregated data on success/retention, is there anything else that stands out?

For the total course completion (retention) rate, it illustrates that the majority ~75% of students do not withdraw and receive a valid grade. However in regards to success rate, only ~55% of the total students are successful in earning a passing grade.

8.2. What are some strategies that might help students, particularly African-American, foster youth, and low income students successfully complete courses in your discipline? What resources would be needed to implement these strategies?

Creating a guided-pathway for them. Having them take the Advisory courses prior to the desired course to better prepare them for success. Meeting with a Counselor or faculty to develop a course pathway/map for going thru a program. Assess students prior to enrollment and those that score below proficiency should be encouraged to enroll in Counseling courses such as COUNS-34 College Success where they can learn about note taking, study skills and test anxiety.

9. Goals

9.1. Review your program’s goals as listed in response to the final question of your 2012-2013 Comprehensive Program Review posted in the Data Repository of the PRST.

Highlight some of the key goals that were achieved over the past 5 years. What were the key elements that led to success?	<p>Many goals were achieved in the past 5 years. The hiring of another full-time instructor (Dann Gesink) has greatly stabilized the evening courses in our program that were previously taught by adjuncts.</p> <p>Updating the Welding lab with new equipment and facilities has produced more processes and activities for students. (Several hundred-thousand</p>
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	<p>dollars was spent on renovations and improvements)</p> <p>The offering of a new course called Fabrication Techniques is getting closer as tooling purchases are nearly complete.</p> <p>The key element to make these successes was the hard-work, unrelenting push and motivation by the Welding Dept. Lead to make it happen. To work with the Deans to obtain grant money, work with Classified staff to get improvements completed, and spend countless hours in research, tooling purchases, planning, paperwork, and implementation of improvements to the program. All this was done in addition to his regular instructional assignments.</p> <p>The Deans Natalie Hannum & Kiran Kamath (Retired) are also to be included as key elements as they have both provided the drive and funding to make this all happen.</p>
<p>Were there any goals that did not go according to plan? What were the key elements that impeded the progress on these goals?</p>	<p>Yes, the development of an articulation agreement with a university that offers a Welding Engineering program to create a pathway for our students to continue their education beyond an Associate’s Degree.</p> <p>Elements that impeded progress toward this goal includes lack of support, financial cost for the students to attend higher education, and the fact that all of these universities are located out-of-state.</p>

9.2. Consider the College’s Strategic Directions along with our Integrated Planning Goals listed here:

College Strategic Directions 2014-2019	Integrated Planning Goals
<p>1. Increase equitable student engagement, learning, and success.</p> <p>2. Strengthen community engagement and partnerships.</p> <p>3. Promote innovation, expand organizational capacity, and enhance institutional effectiveness.</p> <p>4. Invest in technology, fortify infrastructure, and enhance fiscal resources.</p>	<p>1. ACCESS: increase access through enrollment of students currently underserved in our community.</p> <p>2. IDENTIFYING PATHWAYS: Increase the number of students that define a goal and pathway by the end of their first year.</p> <p>3. COLLEGE-LEVEL TRANSITION: Increase the number of students successfully transitioning into college level math and English courses.</p>

	<p>4. PERSISTENCE & COMPLETION: Increase successful course completions, and term to term persistence.</p> <p>5. EQUITABLE SUCCESS: Improve the number of LMC students who earn associates degrees, certificates of achievement, transfer, or obtain career employment.</p> <p>6. LEARNING CULTURE: Enhance staff, faculty and administration’s understanding and use of culturally inclusive practices/pedagogy, demonstrating empathy and compassion when working with students.</p>
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List 3 – 5 longer term (5 year) new goals for your program. For each goal, pick 1 – 2 College Strategic Directions and/or 1 – 2 Integrated Planning Goals to which your new goal aligns.

Goals	Aligned College Strategic Direction(s)	Aligned Integrated Planning Goal(s)
Goal 1: Start the new course Fabrication Techniques	1, 3 ,4	2, 3, 4, 5
Goal 2: Continue to offer and build the best Welding program in the Bay Area	1, 2, 3, 4	1, 2, 3, 4, 5
Goal 3: Find more internship opportunities for our students who only want to work summer semesters	1, 2	2, 3, 4, 5
Goal 4:		
Goal 5:		

OPTIONAL

9.3 Resource needs to meet five-year goals

<u>Faculty/Staff Resource Request</u>		
Department/Unit Goal - Reference #	Strategic Objective - Reference #	
Department/Unit Name	Position Name/Classification	FTE

Position Type	Funding Duration	Funding Source	Est. Salary & Benefits
<input type="checkbox"/> Faculty R/T <input type="checkbox"/> Classified <input type="checkbox"/> Manager <input type="checkbox"/> Student	<input type="checkbox"/> On-going/Permanent <input type="checkbox"/> One-time	<input type="checkbox"/> Operations (Fund 11) <input type="checkbox"/> Other <input type="text"/>	
Justification:			

<u>Operating Resource Request</u>	
Department/Unit Goal - Reference #	Strategic Objective - Reference #
1 & 2	1,2,3,4
Department/Unit Name	Resource Type
Welding Technology	<input type="checkbox"/> Equipment <input checked="" type="checkbox"/> Supplies <input type="checkbox"/> Service/Contract <input type="checkbox"/> IT Hardware/Software <input type="checkbox"/> Facility Improvement <input type="checkbox"/> Other
General Description	Est. Expense
An increase of our supply budget and repair budgets.	\$5000.00
<p>The supplies we provide for students (welding electrodes, welding gases, and metal) increase on average about 5% per year. To maintain our current and future needs for student training, an increase in the Welding budgets will be necessary. It has been several years since our last increase. In addition, the implementation of the new course - FabTech will require an increase to the budget to subsidize the additional materials for the students which their material fee will not cover.</p>	

Professional Development Resource Request	
Department/Unit Goal - Reference #	Strategic Objective - Reference #
Department/Unit Name	Resource Type
	<input type="checkbox"/> Conference/Meeting <input type="checkbox"/> Materials/Supplies <input type="checkbox"/> Online Learning <input type="checkbox"/> IT Hardware/Software <input type="checkbox"/> Other
General Description	Est. Expense
Justification:	