Annual Unit Plan Template
2013-2014 Academic Year
Industrial Arts Department

STEP I: DESCRIBE YOUR DEPARTMENT/UNIT

a. Mission

It is the mission of the Industrial Arts Department to provide courses and instruction that will meet the academic, vocational, and general education needs of our students, college, and communities. We provide instruction leading to Associate degrees and certificates in multiple occupational areas including: Welding, Industrial Technician, and Machine Tools.

The programs in the Industrial Arts Department provide life-long learning and support to students in their academic, technical, and vocational pursuits. The goal of our programs is to foster in students a lifelong desire to learn, a passion to excel, and a commitment to contribute actively to their local community. Students graduating from the department's programs will be prepared to enter the job market in entry level positions with a variety of focus including but not limited to: construction, mining, manufacturing, drafting, welding, fabrication and machine shops, electronics, railroads, automotive, as well as the aircraft, marine, aerospace, and renewable energy industries.

b. Program Applicability

Automotive Technology (TOP 0948.00)
Automotive Technology AS (deactivated)
Automotive Technology Certificate of Achievement (deactivated)

Engineering Drafting (TOP)
Engineering Drafting AS (deactivated)
Engineering Drafting Certificate of Achievement (deactivated)

Revised: 10/17/12

Engineering Technology (TOP)
Engineering Technology AS (deactivated)
Engineering Technology Certificate of Achievement (deactivated)

Industrial Technician (TOP)
Industrial Technology AS (31-37 units in the major, 60 units total)
Industrial Technology Certificate (19 Units)
Areas of Emphasis:
Electronics Technician Certificate (18 Units)
Engineering Technology Certificate (18 Units)
Solar Technician Certificate of Achievement (12 Units)
Wind Technician Certificate of Achievement (12 Units)

Machine Tool (TOP 0956.30)
Machine Tool AS (20 units in the major, 60 units total) (In discontinuance)
Machine Tool Certificate of Achievement (20 Units) (In discontinuance)

Trades Practices AS and Certificate of Achievement (deactivated)

Welding Technology (TOP 0956.5)
Welding Technology AS (20 units in the major, 60 total)
Welding Technology AS and Certificate of Achievement (20 units in the major)
Welding Technology AS and Certificate of Proficiency (12 units)

c. Partnerships

Advisory Committee meeting members have given us opportunity to develop industry partnerships with NAWS China Lake, TerraGen Geothermal, Searles Valley Minerals, AirStreams, Ames and Associates, Frontier Pro, Next Era Energy, General Electric, KWEA Wind/Solar, Rio Tinto

d. Distance Education

This department does not have a distance education component except in cases where there is overlap with the Department of Business and Information Technology and Mathematics for courses such as CSCI C070 Computer Literacy, CSCI C121 Beginning Word, CSCI C123 Beginning Excel, and MATH C056 Trades Math.

STEP 2: EXPLAIN YOUR PLANNING

a. Review of Previous Goals (of last completed academic year)

Re- structure the Industrial Arts programs by deactivating programs that (1) have courses that are contained within other programs making them redundant and (2) deactivate programs that cannot be viable due to lack of enrollment. To address this there have been seven certificate/degree programs deactivated or pending deactivation.

The Department has deactivated many programs and courses that have either had consistent low enrollment or that are redundant. Some of the programs that saw either full or partial deactivation included MCTL, DRFT, RET, ET, and INDT. The department is currently looking at perhaps another twenty plus courses for deactivation

Update and/or introduce new courses to enhance the programs.

The welding program has a course that has been developed and is in the system (WELD C104). It is hoped that it can be offered spring of 2014 after the completion of the new facility. A federal grant, C6, has been awarded and classes, in an accelerated format, will start in the spring. The experimental program will be based on contextualized learning and have embedded remediation and assistance in job placement and internships. Students will earn

industry standard and nationally recognized certificates.

Currently in the Renewable Energy area there is a full time faculty released to write curriculum. This is being funded with the CREATE grant from the National Science Foundation.

The curriculum for the wind courses has been developed and approved. Unfortunately the industry seems unable to deliver on their promises of employment for graduates of the program. The enrollment numbers have been very low and the program will be deactivated.

New electrical/electronic curriculum is being developed that updates existing curriculum to better serve students in real world working environments.

The electronics curriculum is being updated this fall to reflect currency in the industry. Revised versions of the first two classes (ET C101 and 105) will be offered in the spring.. A new advisory committee is meeting in mid October to review the inputs and provide guidance on the requirements in the new program.

Create a long term plan for all program areas to ensure completion is possible in a two year period. This is in process.

All program areas are being evaluated. Example: The welding program has adopted a new schedule for its regular classes based on a cohort model that enables students to obtain the 12 unit certificate in three semesters instead of five. As mentioned previously, CCCC was awarded a grant through the Department of Labor, C6, and there is a pilot accelerated welding certification pathway that will be begin in the Spring 2013. The experimental program will be based on contextualized learning and have embedded remediation and assistance in job placement and internships. Students will earn industry standard and nationally recognized certificates.

b. Review of Overall Department/Unit

[What needs/opportunities did your last program review(s) reveal? Did your most recent SLO assessments demonstrate gaps to be addressed? What is working with your unit? What improvements need to be made?]

Summary of SLO Assessments Report

DRFT C108 has 2 SLO's was assessed in spring 2012 and 87.5% of students met the outcomes and will be reassessed in spring of 2015.

DRFT C111 and C112 have not been offered since I have been chair.

INDT C056, C081, C082, 0C83 C092, and C108 all need to be deleted.

MCTL C107 has 4 SLO's was assessed in spring 2012 and 100% of students met the outcomes and will be reassessed in spring of 2016.

MCTL C111, C112, C211, and C212 have not been offered since I have been chair.

INDT C056, C081, C082, C083, C092, and C108 all need to be deleted.

WELD C101, C102, C200, C210, and C203 were assessed in fall of 2011. There are a total of 30 SLO's all of which were met or exceeded. These courses will be reassessed in spring of 2016.

WELD C104 has not been offered.

ET C101 Offered spring 2012 Buxamusa Assessment requested Spring 2012

ET C105 Offered spring 2012 Buxamusa Assessment requested Spring 2012

ET C212 and ET C222 have not been offered.

The following have been taught by Larry or Adnan since the program began but have not been assessed:

RET C101 since becoming chair this was offered in all 2011, spring 2012

RET C102 Not sure if or when this was last offered

RET C103 Offered spring 2012

RET C104 Since becoming chair this was offered in Fall 2011, and Fall 2012

RET C105 Not sure if or when this was last offered

RET C111 Not sure if or when this was last offered

RET C112 Not sure if or when this was last offered

RET C115 Fall 2012

Not offered: RET C120, RET C121, RET C161, RET C211, RET C213, RET C263, RET C295 not offered.

c. Goals for Upcoming Year (next academic year). ***If more goals needed, copy and paste additional boxes.***

Goal 1: Welding labs expansion and modernization.

1. Connection to College Strategic Goals: Goal 1

2. Specific internal or external condition(s) the goal is a response to:

- Need for individual instead of shared welding stations.
- Overcrowding during the hands-on portion of instruction when building projects or using trainers and machinery.
- Need for increased safety.
- Easing of scheduling conflicts and room assignments.
- Increased security and storage is of equipment.

3. Action Plan:

- Increase the size/layout of welding facilities. This would be accomplished by moving all electric welding operations to the upper industrial arts building and increase the number of workstations from 11 to 30. This would increase the number of students in class from 22 to 30.
- Re-configure existing welding lab to a dedicated oxyfuel lab. Removal of the office and a re-design of the floor plan will allow for more room for equipment, materials and workstations. Welding stations would be increased from 12 to 30, an increase of eight students.

4. Measure of Success:

At the present time there are two students per welding station. With the new designed labs, students would not have to share stations thereby increasing the time that are actually welding. This will increase the learning curve when developing the critical hands-on skills.

By having fewer students per square foot safety will be increased during welding operations.

Scheduling and room assignments will be easier. There will be more flexibility for adjunct adjunct instructors who work other jobs.

More room for secure equipment and material storage areas will increase security and safety of the facilities.

Goal 2: Electronics Lab Refurbish

1. *Connection to College Strategic Goals:* Goal 1

2. Specific internal or external condition(s) the goal is a response to: The need for a dedicated electronics lab. In the past few semesters, the open classroom was being utilized and the instructor had to set up and tear down equipment for each class. This is an inefficient use of time and could cause delays in the laboratory. New equipment was purchased through the CREATE grant to modernize and expand the offerings to teach students electronics in traditional electronics and for renewable energy. The current equipment is housed in an old office for security. Additional equipment is scheduled to be purchased this semester; however, there is no dedicated classroom space where the equipment can be setup and secured. A dedicated classroom space was idenfied that was being used temporarily by the art department during the art modernization. The room was originally dedicated as an electronics lab, so it was an ideal choice for electricity usuage and setup.. Electronics classes are scheduled to start in the spring.

3. *Action Plan:*

- Remove photographic equipment.
- Remove non-structural temporary wall and cabinets.
- Clean and paint the lab (part of the lab was painted black for photo developing).
- Install new workbenches and shelving (being built by hand tools class).

4. *Measure of Success:*

To have a dedicated electronics lab/classroom with that will accommodate students in a professional atmosphere and house equipment in an efficient, secure and safe environment.

Goal 6. Maintenance of facilities

1. Connection to College Strategic Goals: Goal 1

2. Specific internal or external condition(s) the goal is a response to:

- Need for cleanup from construction. During the Art Department modernization, much of the Industrial Arts areas were effected. Things ranging from damage to metal storage racks in the welding lab yard to piles of leftover building debris in the Industrial arts yard.
- Need for removal of automotive equipment. The automotive program has been deleted and the equipment needs to be removed from the industrial arts areas (lab and yard). The equipment has been inventoried and the serial numbers recorded and delivered to M&O. The piles of equipment are an eyesore and unprofessional looking and they are taking up valuable space.
- Need for maintenance and repairs of items that have been neglected and need attention.

3. Action Plan:

- Remove construction debris.
- Remove surplus automotive equipment.
- Cleanup foyer and move bookcase to office.
- Replace motor for rollup door between industrial arts labs.
- Move half of canopy in upper industrial arts yard and move to lower welding yard.
- Install alarm system in lower welding lab.
- Remove tree stumps in front of welding lab and finish landscaping.

4. Measure of Success:

By having the construction debris and automotive equipment removed, the industrial arts areas will not look like a salvage yard, the use of space will be more efficient and the environment will be safer.

With the foyer cleaned up, the main entrance to the industrial arts building will provide a welcoming and professional feel to greet students and the community.

The canopies will provide protection from the elements for the storage of metal and equipment.

STEP 3: SUBSTANTIATE REQUESTED RESOURCES (Note: All items must be prioritized.)

a. 1000 Category. Please indicate below any requests for temporary or new permanent certificated positions. (Do not request adjunct instructors for normal teaching assignments as this is captured in the Academic Affairs division plan.) ***If more lines are needed, place cursor in the bottom right box and press [Tab].***

Description	Location	Priority: 1 = high 2 = med 3 = low	Strategic Plan goal addressed by this resource	If a full-time faculty member is being requested, use the box below. Use this space to provide a detailed rationale for temporary certificated positions only. The rationale should refer to your unit's mission and goals, recent program review or SLO assessment gaps, planning assumptions, and/or the College's strategic plan.	Estimated amount of funding requested (temporary positions only)	Will this be one-time or on-going funding?	Funding Source (check *one*): G = General Fund, O = Other	
							G	O
Industrial Arts Faculty	IWV	1	1	To provide instructional support to the Industrial Technology and Welding Technology program.	$80,000	N	X	X

Full-Time Faculty Staffing Justification:

1. **Are there too few or too many students enrolling for particular classes or majors?** There are too many students enrolling in the Welding series of classes. Using the welding program as an example, the enrollment for 2007-2008 year was 63 with a success rate of 68.9%. The enrollment for 2010-2011 was 201 with a success rate of 81.6%. In the four year period the enrollment has increased 220% and the success rate increased 12.7%. . The fill rates in the college generally have been very rapid. We have continued to offer additional sections and this has provided more sections to enroll. The recent award of the C6 grant has further impacted the enrollments as we pilot a new configuration of a certification welding track that is based on a cohort model with embedded basic skills, tutoring and very high touch student services. This grant will require additional courses which will further impact the welding programs
2. **Are there too many courses or programs that are under capacity?** In the Industrial Technology program certificate program and the Welding Technology program, there are not too many courses that are under capacity. In the emphasis areas (Engineering Technology, Electronics Technology, Solar Technology and Wind Technology), most of the classes are under capacity. The department has reviewed these emphasis areas and Engineering Technology is being restructured to be a dual enrollment program aligning Project Lead the Way courses to college level courses. The Electronics Technology emphasis area is being updated for currency and will be offered in an entirely different configuration. The Solar and Wind Technology emphasis areas are being considered for suspension or discontinuance. It appears that the Solar Technology emphasis area may still be viable; however, additional research and conversation with employers needs to be done. The Wind Technology Advisory Committee agreed to support a more generalized program as the employment is not materializing as it was originally projected.
3. **Are courses "core mission"?** The trades courses are part of our core mission as it serves employers and career technical education.
4. **Are courses overscheduled?** Yes, some of the classes in the Industrial Arts program have been overscheduled for the demand of students. The solar and wind classes appear to be in demand. The other courses that are core to the Industrial Technology and Welding Technology programs are not overscheduled and fill on a regular basis.
5. **Is there capacity to offer courses or programs at different times and/or locations?** There has been a combination of transitioning to afternoon sections and back to back evening schedules but with current full time faculty and adjunct faculty at maximum loads, there are no additional options. The full time faculty are mentoring brand new adjunct instructors this semester; however, they have limited availability as they work full time jobs in industry and are not available in the morning or afternoon blocks.
6. **Is there a workforce shortage in the service area or region?** Workforce data in the trades can be perplexing as there are multiple job titles and/or areas that our students can fill the jobs pipeline. For example our Industrial Tech/welding Tech students can qualify for jobs in welding (32 annual openings), construction (493 annual openings), entry level machinists (81 annual openings) and generalist technician jobs including maintenance workers (19 annual openings). Employers (Naval Air Warfare Center, China Lake, Searles Valley Mineral, Rio Tinto, Scale Composites and others at the Mojave SpacePort, Excel Bridge Company, Mammoth Mountain) all value the training that is provided through our programs; however, not all the jobs are reported through our databases due to corporate and/or governmental offices that are housed out of state. Needless to say, there is a workforce shortage coming in the trades area that has been reported and a call to action has gone out over the country to train the next generation in these valuable areas.
7. **What are the costs and/or lost revenue from gaps between student demand and course or program capacity?** The costs and/or lost revenue

is difficult to ascertain an exact cost as not all students that would like to enroll are accounted for in any type of formula. For example, classes fill quickly and some students who may be interested do not enroll on a waitlist when they see the class is full. I project that we could fill twice as many spaces as we have seen the program expand 220% over the past 5 years.

8. **In support of your proposal, provide the following data**:
    a. **Size of wait lists in the discipline:** The wait lists in the welding technology program have declined in the past two years as we have added sections; however, they have not been eliminated with the additions. The waitlist enrollments for welding courses in Spring 2010 were 30 (25%) and for the Fall of 2012 the wait lists were 15 (12%). Interestingly the waitlist numbers are transitioned from the entry courses to the capstone course as students have moved through the pipeline, while entry courses continue to fill.
    b. **Department productivity:** Productivity in welding classes range from 16-23 (average of 21) which is remarkable for classes that are capped at 22 for safety and limited welding stations. The planned expansion and additional full time faculty will actually raise the productivity as we increase the capacity of the program(s).
    c. **Number of faculty currently in the department:** There are two full time faculty members in the department; however, the new faculty member does not qualify to teach the welding, machine tool or a good portion of the industrial technology program courses (with the exception of the wind technology and electronics course). The tenured full time faculty member is currently at maximum load, the department chair and a lead on the C6 grant.
    d. **Number of adjunct faculty:** There are three adjunct faculty members in the department that are qualified to teach in the welding, machining and the specialized industrial technology courses. Two of the new adjuncts are being mentored into teaching by Mr. O'Connor and Mr. Foster. All work during the daytime in their field; however, which is problematic when scheduling during alternate times (mornings, afternoons) as the facilities are already full in the late afternoon and evening time slots.
    e. **Number of certificates awarded:** The number of certificates over the past three years has risen over the past three years in Industrial Technology and Welding Technology. The total number of certificates over the past three years totaled 29 certificates issued – Industrial Technology (Industrial Tech Core Cert – 1, Solar – 7, Wind – 2), and Welding 19.
    f. **Number of degrees awarded:** The number of degrees awarded over the past three years is Industrial Tech was 2 (Engineering Tech – 1, Industrial Technology – 1) and in Welding 5 (Welding General -1, Welding Technology 4)
    g. **Core curriculum classes:** The Welding curriculum has four core course:
        - WELD C102 Shielded Metal Arc Welding
        - WELD C200 Gas Metal Arc Welding (GMAW)
        - WELD C203 Gas Tungsten Arc Welding (GTAW
        - WELD C201 Welding Fabrication
    h. **CTE classes with workforce data (wage/high demand):** The Welding and Industrial Technology programs are both high wage and in high demand as previously outlined above.

b. 2000 Category. Please indicate below any requests for temporary or new permanent classified staff. Include labor amounts only; benefits will be calculated separately. ***If more lines are needed, place cursor in the bottom right box and press [Tab].***

Position Title	Location	Priority: 1 = high 2 = med 3 = low	Strategic Plan goal addressed by this position	Salary Grade	Number of Months	Number of Hours per Week	Salary Amount	Are alternate funding sources available? G = grant (specify) V = VTEA
Lab/Teaching Assistant	IWV	1	1a		12	10-19	$15,000	G or C6

Classified Staffing Justification. ***If more than one position requested, copy and paste additional boxes.***

1. *Describe how the position is linked to your unit's mission and goals, recent Program Review or SLO assessment gaps, planning assumptions, and/or the College's strategic plan.*

   As the Industrial Technology department has grown and expanded, it has served the colleges goals in serving CTE and workforce development.

2. *Explain why the work of this position cannot be assigned to current staff.*

   The work required to assist in this department (tools inventory, ordering, teaching assistant in the classroom for safety) could possibility be done by someone already employed if they can spend 10-19 hours per week in the area.

3. *Describe the impact on the college if the position is not filled.*

   We could potentially lose materials and equipment in the area if we don't have someone to monitor tools and equipment supply levels. We have had equipment stolen in the past. Safety is a large concern as we move forward to expand the program as an instructor cannot be in multiple locations at one time.

c. 4000 Category. Use the space below to itemize and explain budget requests in the category of supplies and equipment. ***If more lines are needed, place cursor in the bottom right box and press [Tab].***

Describe resource requested	Location	Priority: 1 = high 2 = med 3 = low	Strategic Plan goal addressed by this resource	Provide a detailed rationale for the requested resource. The rationale should refer to your unit's mission and goals, recent Program Review or SLO assessment gaps, planning assumptions, and/or the College's Strategic Plan	Estimated amount of funding requested	Will this be one-time or on-going funding?	Funding Source (check *one*): G = General Fund, O = Other	
							G	O
Welding Supplies for Class	IWV	1	1	Consumables	$26,200	ongoing	G	
Welding Supplies for C6 Class	IWV	1	1	Consumables	$20,960	ongoing		C6
Office Supplies	IWV	2	1A	Ink cartridges, instructional supplies	$500	Ongoing	X	

d. 5000 Category. Use the space below to itemize and explain budget requests in the category of service, utilities, and operating expenses. ***If more lines are needed, place cursor in the bottom right box and press [Tab].***

Describe resource requested	Location	Priority: 1 = high 2 = med 3 = low	Strategic Plan goal addressed by this resource	Provide a detailed rationale for the requested resource. The rationale should refer to your unit's mission and goals, recent Program Review or SLO assessment gaps, planning assumptions, and/or the College's Strategic Plan	Estimated amount of funding requested	Will this be one-time or on-going funding?	Funding Source (check *one*): G = General Fund, O = Other	
							G	O
Professional Development	IWV	2		Provide faculty professional development and pedagogical training	$4,000	Ongoing	X	VTEA
Travel to Sites	IWV	2		Outreach/articulation/recruitment of high school students	$2,000	Ongoing	X	VTEA/SB70

e. 6000 Category. Use the space below to itemize and explain budget requests in the category of capital outlay. ***If more lines are needed, place cursor in the bottom right box and press [Tab].***

Describe resource requested	Location	Priority: 1 = high 2 = med 3 = low	Strategic Plan goal addressed by this resource	Provide a detailed rationale for the requested resource. The rationale should refer to your unit's mission and goals, recent Program Review or SLO assessment gaps, planning assumptions, and/or the College's Strategic Plan	Estimated amount of funding requested	Will this be one-time or on-going funding?	Funding Source (check *one*): G = General Fund, O = Other	
							G	O
Welding Equipment	IWV	1	1A	This equipment will expand and modernize the welding laboratory	$124,000	One time		C6
Electronics/Industrial Tech Equipment	IWV	1	1A	This equipment will modernize and expand the electronics courses being taught for both electronics and industrial technology programs	$28,351	One time		CREATE

STEP 4: ATTACH NARRATIVE SUMMARY OF PRIOR YEAR'S SLO ASSESSMENTS

The department SLO assessment recap and the Welding course level assessment recap are submitted in separate files at the time this document is submitted.

STEP 5: ATTACH COMPLETED BUDGET WORKSHEET (provided separately)

This file is submitted separately.

STEP 6: ATTACH PRIOR YEAR'S STUDENT PERFORMANCE DATA (as provided)

These files are submitted separately.