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Program Review

Form for Completion of Self Study

Instructional

(Including BOTH Academic and Continuing Education)

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Name of Division: Industrial and Transportation Technologies

Name of Department: Renewable Energy

Name of Program: Renewable Energy

This Program Review is being conducted during year: 2010-2011

I. Program's/Department's Purpose

A.) State the purpose of the program/department. How is this purpose within the mission of Amarillo College?

The Energy Cluster provides trained technicians in

- instrumentation
- telecommunication
- renewable energy
- electromechanical equipment and systems

These technicians are able to perform at entry level positions in the industry.

The Amarillo College mission is to enrich the lives of our students and our community. AC changes lives and creates new futures for every student. The Energy Cluster provides trained technicians in many areas to meet the employment needs of our community and to provide long-term career opportunities for our students.

B.) When was the last time the program's/department's purpose statement was reviewed/revised by faculty and staff in the program/department?

January 2012

C.) If the program/department offers continuing education credits, how are these courses consistent with the mission of Amarillo College?

By offering continuing education credits in this program, the Energy Cluster provides existing workforce opportunities to expand the area workforce's educational training and job skills. (goal 6)

D.) Does the program have admissions policies?

No

E.) Is the program/department accredited?

No

F.) Is this program/discipline required to receive approval from an external agency or organization (other than the Texas Higher Education Coordinating Board) in order to offer courses?

No

II. Program's/Department's Improvements based on Planning, Evaluation and Assessment

A.) Identify at least one example of an improvement/revision which resulted from the annual PET forms for the last five years.

The department has performed six industrial training classes to meet industry needs in the past year. The department has revised curriculum changes that are more in line with the industrial trends. The department also revised the Advisory Committee's members and reestablished committee meetings.

B.) Identify at least one example of improvements/revisions which resulted from the last Program Review.

The department has increased the number of contract training classes provided by the program. The department has updated course curriculum material and delivery methods.

C.) Identify all the delivery approaches used for courses within this program/department: (Select all that apply).

traditional classroom, web

D.) Identify at least one example of an improvement/revision that is a response to accomplish a strategy or tactical objective within the Strategic Plan 2010-2015.

By developing the new renewable energy program the department has expanded technical training on the East Campus as stated in goal 1 of the Strategic Plan.

E.) Provide names and titles of those who determined the process used to assess outcomes of the program and/or courses in the department.

Dr. Shawn M. Fouts, Dean of Career & Technical Education; Dr. Kim Hays, Professor/Department Chair; Gil Carnahan, Assistant Professor/Program Coordinator; Terry Tucker, Instructor/Program Coordinator; Ronald Mashburn, Instructor/Program Coordinator; Dr. Douglas Pickle, Assistant Professor/Instructor; Anthony Thorpe, Instructor; Delane McUne, Instructor; Jeff Hale, Instructor; Robert Johnson, Instructor; Randy Sims, Instructor; John Vincent, Instructor.

1. Explain the primary reasons behind the competencies that were selected.

The program sets competencies based on our Advisory Committee recommendations. The industry informs us of the primary competencies we need to teach to meet industry requirements. By doing this, we are able to meet their needs as well as give our graduates a better chance at job placement. We can use the job placement chart to measure this. The department follows the *Workforce Education Course Manual (WECM)* which is a state of Texas approved inventory of current workforce education course guidelines available for use by public two-year colleges.

2. Identify the primary reasons for the assessment tool(s) selected.

In the past we have used the PET forms as our assessment tool. However, in the future a new type of form will be developed to measure this assessment. As a program, the department can use placement rate as one assessment tool.

3. Evaluate the assessment approaches to date.

In the past we used the PET forms to measure the assessment of this program. This new program review should set a bench mark for assessment in the future.

F.) For student or program/course outcome assessments, review the program's/department's five-year graph(s) of *quantitative* results or provide a brief narrative summary of *qualitative* results.

In some of the program areas over the previous five-year period we have had a decline of approximately 25%. This decline is due to changes in technology (example throw away computers) for this type of technician. There are many companies that will hire students that have not completed the program. Overall, this percentage is less than the state average. From 2004 to 2005 we had only a 10% decline. We see the need to change the focus and development of training to meet the new technology changes in the market. The field of energy has seen substantial growth recently and is expected to continue to grow. The programs of renewable energy and instrumentation/control have seen a significant growth rate and an increased need for new technicians.

Unduplicated Fall Headcount of Students Receiving Credit

Grade Reports or Enrolling in a Continuing Education Class

Energy Cluster	Year of Enrollment					
Program	2006	2007	2008	2009	2010	2011
INTC-Instrumentation and Control Technology	N/A	N/A	N/A	N/A	N/A	162
RENEW	*	*	*	*	19	272
Industrial Maintenance Technology	61	51	45	47	58	46

* This is a new

program that
didn't exist in the
years

SPRING 2011		FALL 2011		SPRING 2012								
End of Semester		Census Day		2nd week of class		3rd week of class						
Career & Technical Education Campus												
EST0	184	/	25	124	/	20	146	/	23	148	/	24
NTWK	142	/	23	59	/	26	62	/	21	64	/	22
IMT0	241	/	62	46	/	58	195	/	44	195	/	45
LINE	0	/	0	35	/	3	19	/	8	15	/	7
INTC	162	/	60	206	/	61	142	/	60	140	/	60
RNEW	272	/	234	229	/	170	142	/	164	144	/	166

1. What changes have been made in the curricula of the program/department because of the analysis of these results?

We have added a new Process Technology certificate at the Dumas campus with approximately 25 students. We have also added a degree and certificate program in Renewable Energy, and a certificate for Utility Power Workers.. The two new programs have approximately 180 majors. New course offerings will be added at the Hereford campus for the ethanol industry and the expanding wind energy industry. These new degrees should increase enrollment in the next year.

G.) Review the five-year graph(s) of course completions for the program/department.

1. Explain any increase or decrease that is more than a one-year anomaly.

We feel we have a high percentage of course completion. Some of the programs such as Renewable energy and Utility Power Workers are new programs. Any valid data has not been captured for these programs. Recent decline in enrollment has much to do with increase tuition cost with addition enrollment requirements such as the Bacterial Meningitis vaccination.

2. Provide the program's/department's plan of action for improving any identified problem or results from the implementation of the plan of action.

At this time we feel review any plans of action for improvement to see if any are needed. The department will continue to do what it has done to keep this percentage at its current rate.

H.) Does the program/department provide for alternative methods of awarding credit? (Select all that apply).

Advanced Placement, Credit by Exam, Credit for Experience

1. What approaches are used to assure outcomes are comparable to those expected of students who enrolled and completed the course?

Our dual-credit classes are evaluated to ensure that they meet the same competencies as the academic classes. The Credit by Exam is a comprehensive test over all elements of the course content. Students that are unable to achieve a passing grade must take the entire course to receive credit.

I.) For general education and/or core curriculum required by this program/department, identify the relevant competencies approved by the Academic Affairs Committee (see Catalog section entitled Degrees and Certificates: General Education Competencies).

The student is required to complete a minimum of 15 academic credits to be awarded an Associates of Applied Science degree.

1. Explain how outcomes for the competencies have been assessed and achieved and provide links to the documentation.

These outcomes are assessed by various academic programs. In the current catalog, page 45, it shows the requirements for Associates of Applied Science degrees. The program follows the requirements for general education.

2. Outline a plan for correcting any weaknesses.

Any corrections are reviewed yearly to assure that the requirements are met.

J.) Do students/graduates in this program/department have to be certified or licensed?

No

K.) For all technical programs/departments offering one or more technical programs (Associate in Applied Science or Certificates), review the program's/department's graphs of the results for job placement during the past five years.

1. Explain any increase or decrease that is more than a one-year anomaly.

There has been a significant increase due to the new demand in the wind industry.

2. Provide a plan of action for the identified problem.

Plan is to link the programs to the energy field and to support this growing demand.

III. Curricula

A.) Does the program/department have affiliation(s)/agreement(s)/contract(s) with any other entity for the purpose of delivering instructional content?

Yes

1. Review the affiliation(s)/agreement(s)/contract(s), consider Amarillo College's mission, and then make a recommendation to:

Continue with Revisions

2. Provide an analysis of the review.

The affiliations with the AWEA program is needed to promote our accreditation process. We are also looking at the accreditation with ISA to strengthen the Instrumentation and Control program.

B.) How many curricula changes were approved by the Academic Affairs Committee during the past five years?

6

1. Which steps in the curricula change process had faculty involvement prior to submitting the curricula proposal(s) to the Academic Affairs Committee.

C.) Is any program within the department a technical program (e.g. AAS or certificate)?

Yes

1. When was the last advisory committee meeting.

Renewable Energy Program – Wind and Solar advisory meet on 9/23/2011. The Electronics System Technology advisory meeting was on 10/07/2011. The instrumentation and Control meeting was on 02/10/2012. The next scheduled advisory meeting for the combined programs is on the Moore campus on April 3, 2012. The next scheduled combined advisory meeting for the Amarillo campus will be November 16, 2012

2. Provide a link to the minutes of the last advisory committee(s) minutes in the Electronic Archives.

<http://www.actx.edu/archives/index.php?module=article&view=36>

3. Provide a link to the appropriate committee membership of the advisory committee(s) in the Electronic Archives.

<http://www.actx.edu/archives/index.php?module=article&view=37>

IV. Enrollment Data

A.) After receiving the five-year graph(s) indicating the number of students enrolled in the program/department, by total students, number of full-time equivalents, and number of completers, determine if there is more than a one-year anomaly.

1. If so, provide the faculty and staff analysis of their assessment of the problem.

The faculty feels that industry is hiring technicians with little or no education. There is a significant demand for this type of technician and companies are competing against each other for employees. Traditionally, when the job market is good, educational enrollment decreases. People are getting jobs in this field without formal education.

2. Create an action plan for needed improvement and commendation for any dramatic improvement.

We plan to visit with industry and set up a co-op program so that companies can use

our students while they are enrolled in classes. The department is also adding different certificate programs to meet the changing needs of industry. The ethanol program is an example of this.

B.) For programs/departments with majors, review the graphs of program majors and the number of new majors by year.

1. Provide an analysis of the program's/department's faculty and staff assessment of the problem and an action plan for needed improvement and commendation for any dramatic improvement.

The program has shown a steady decrease over the past five years. This is due to a high job market and many people are getting employment in this field without any formal education. The department chair and the department faculty plan to visit industry and to attend as many career days as possible. The addition of the new certificates should help increase enrollment. The department feels that program specific advertisement would also increase enrollment numbers.

V. Resources

A. Faculty

1.) Review the five-year graph(s) of the student to faculty ratio in the program/department.

a. Explain any increase or decrease that is more than a one-year anomaly.

A significant decrease occurred from 2011 to 2012 due to increase tuition cost with addition enrollment requirements such as the Bacterial Meningitis vaccination. Some of the programs such as Renewable energy and Utility Power Workers are new programs. Any valid data has not been captured for these programs. Recent decline in enrollment in some programs have to do with changes in technology and the job market. This is one reason to review the change of cluster of the programs and change in curriculum. Due to the new certificate and degree plans, the student to faculty ratio should start increasing in the next year or two. Due to the size of the labs and available equipment, the department is restricted to the number of students in each class.

b. Provide an action plan for improvement of any identified problem.

As a department we are going to do a better job on course offerings and course setup to ensure larger numbers per class. Some classes will only be offered once a year which is also due to a reduction in faculty after the current year.

2.) In the database for Roster of Instructional Staff (also known as Roster of Faculty), review the credentials of each full-time and part-time faculty member within the program/department. If any faculty member does not meet the SACS and THECB requirements, evaluate whether additional documentation is significant to grant an exemption.

At present time all full-time and part-time faculty members meet the SACS and THE CB requirements.

3.) List the names and the last date for all full-time faculty evaluations based on the schedule indicated in the Faculty Performance Review (FPRP).

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4.) List the names of each part-time faculty and the last date of evaluation by students and supervisor for each course taught.

This program does not have part-time faculty at this time. The Solar program does have a lab assistant that is paid under a NSF grant.

5.) Amarillo College's Board Policy Manual defines each faculty member's academic freedom as 'full freedom in the classroom in discussing the subject being taught and to pursue research and publications. However, a faculty member must not attempt to force on students a personal viewpoint and must at all times allow for diversity of opinion.' Has anyone in the program/department filed a grievance for violation of the aforementioned academic freedom?

No

B. Library

1.) Which of the following library collections/resources/services have been used by faculty, staff and/or students within the past five years? (Select all that apply)

Advanced Placement, Credit by Exam, Credit for Experience Circulating collection, Reference collection, Electronic journals, Circulating

collection, Electronic books

2.) Which two or three collection/resources/services should be improved to support Amarillo College's mission regarding teaching and service?

None at this time. Services are adequate for current student needs.

3.) Does your program/department have discipline accreditation?

No

C. Technology and Security/Privacy

1.) After assessing the strengths and weaknesses of the program's/department's access to technology, what improvements would ensure that the students have access and training in the use of technology?

To maintain and consistently upgrade the program labs as new technology develops.

2.) What improvements would ensure that students use technology?

Upgrading existing labs at all campuses will give more options and opportunities.

3.) Review program/department operations. Does any operation present the possibility for violations of security, confidentiality, or integrity of student records?

No

D. Support Services for Students

1.) Which support services need to be strengthened to better serve students in this program/department?

Lab technicians are needed to open the labs when they are not being used by a class. This will enable a student to have extra time to complete lab projects as need and have use of assistance from a tutor in the lab.

a. Explain what aspects of the services need to be strengthened.

The availability of tutors to assist students in being successful in their class work.

2.) Describe any indicators or problems that prevent a healthy, safe and secure environment for the students, faculty and staff of this program/department.

The need for safety precautions to be installed in all labs to prevent injury to the students.

3.) Describe any indicators or problems that hamper adequate physical facilities, both on and off campus, to meet the needs of the program/department.

Capital equipment in the labs.

VI. Budget

A.) Which program/department outcomes have resulted in budget requests to date?

The new Renewable Energy lab was built with grant funds provided by Amarillo Economic Development Corporation. The new Utility Power Workers program was built with grant funds provided by Amarillo Economic Development Corporation. The new Solar option was built with grant funds from the National Science Foundation grant. The development of these programs will result in additional cost to maintain equipment and supplies on an annual basis. The Renewable Energy program received a National Science Foundation grant. The grant says that AC will start a Solar Energy Technician program. 1.) Amarillo has committed to support the maintenance and growth of the Solar Energy Program after NSF funds end. 2.) AC will provide ongoing institutional funds to support faculty and staffing of the Solar Energy Tech labs. 3.) AC will continue to supply classrooms, lab and basic lab equipment, facilities for faculty, and provide institutional funding after grant completion for these areas.

B.) Project the program's/department's strategic initiatives for the next five years based on the program's/department's outcomes.

Our strategic initiative for the next five years is to increase student enrollment. The department plans to do this by attending career days at the area high schools and by visiting with area industries to ensure we can keep the program current with their needs. As the industry needs change, the program will change to continue to meet these needs. The program is going to seek ways to fund program specific advertisement. An increase in night classes will be offered to attract the full-time employee and allow them to increase their skill level to stay up with newer technology. The program will update the labs as technology changes in the future.

VII. Publications

A.) If the program/department publishes any advertising or recruitment documents (electronic or paper), do the documents accurately represent Amarillo college and the program/department?

Yes

B.) Does the program/department publish any documents (electronic or paper) with references to SACS accreditation?

Yes

1. Are the references in compliance with SACS approved statement?

Yes

VIII. Other

A.) State any additional comments/concerns which may impact this program/department during the next five years.

With the new technology classes being offered in Dumas and projected to begin classes in Hereford in Fall 2012, this will result in requiring the department faculty to travel to the other campuses and hire new faculty members for those campuses. To be a viable program and to meet the needs of industry, the equipment must be consistently upgraded to allow the program to have state-of-the-art equipment. This will better prepare the student to meet the constant change that industry is implementing in their own companies.