# Certificate Petroleum Technology

# Educational Effectiveness

# Assessment Plan

**(AY04 plan adopted for AY05)**

**Adopted by**

**The Certificate Petroleum Technology faculty: September 17, 2003**

Reviewed with curriculum changes by the Academic Assessment Committee as an information item: 5/4/18

Reviewed by the Faculty Senate as an information item: 5/4/18

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## Introduction

The purpose of this document is to outline a series of steps for determining the academic effectiveness of the UAA Certificate Petroleum Technology program.

The Certificate Petroleum Technology is designed to provide education/training that will enable individuals to obtain employment as instrument technicians who are responsible for the repair, maintenance, adjustment, and calibration of automatic controls used in refineries, chemical plants, pipelines, production facilities, and other industries where automatic control is used. In Alaska, this includes the process industries of oil and gas production, chemical manufacturing, petroleum refining, power generation and utilities, water and waste-water treatment, and seafood and other food processing.

This program serves two broad categories of students. Over half of the students are mature students returning to school from the work environment who are seeking to upgrade skills to allow them to re-enter the workforce, remain in the workforce, or otherwise enhance their employability. Most of the other students are recent high school graduates seeking to obtain vocational skills that will assist them in obtaining and retaining industrial jobs.

UAA/KPC, and specifically the A.A.S. in Industrial Process Instrumentation and the Certificate in Petroleum Technology program were instrumental in coordinating the newly formed A.A.S. Degree in Process Technology. These programs have benefited greatly from the goals and content coordinated between APICC, KPICC and KPC by being able to substitute newer courses for older Petroleum Technology courses being phased out.

Please see the A.A.S. Process Technology Program Educational Effectiveness Assessment Plan for more details on the direction taken by and recommended by APICC & KPICC (Alaska’s key industry consortium of leaders in industrial and process technology).

## Program Outcomes

The UAA Certificate Petroleum Technology Program outcomes:

The graduates of the UAA Certificate Petroleum Technology program will have the ability to:

1. **read P & ID drawings and piping isometric drawings;**
2. **a. identify typical pumps, compressors, and similar components;
b. identify typical transmitters, controllers & other instrument components**
3. **demonstrate punctuality and responsibility suitable to work place employment;**
4. **demonstrate basic communication skills to describe process operations and to participate in employee training programs;**
5. **perform basic mathematic manipulation skills.**

## Assessment Tools

For the purposes of this assessment plan draft, please keep in mind that APICC and KPICC have not distinguished between *objectives* and *outcomes.*, and that after the August 2003 review of the Certificate Petroleum Technology program, this assessment plan will be reviewed, revised, and/or phased out to meet any changes or new objectives and outcomes. That revision will be reflected in Version III of the plan to be developed for the AY05, although some recommendations may be processed and incorporated into the AY04 course content.

A description of the tools used in the assessment of the program outcomes and their implementation are summarized in Table 1. The tools and their relationships to the program outcomes are listed in Table 2.

There is a separate appendix for each tool that includes a more detailed description than is provided here and also describes the factors that affect the results and give examples of the tools and how they will be implemented.

The assessment tools may be used in total, or a sufficient number may be selected to accurately assess any given objective or outcome.

Table 1: Program Outcomes Assessment Tools and Administration

| **Tool** | **Description** | **Frequency/ Start Date** | **Collection Method** | **Administered by** |
| --- | --- | --- | --- | --- |
| Course Level Assessment | Assessment of courses relative to their own outcomes. Course results are mapped to program outcomes. | Each semester starting Spring 2004 | Reports submitted by instructors | Course Instructors (created by Assessment Coordinator) |
| Grades | GPA in grouped course subject categories. | Annually. Starting Spring 2004 | Grade Reports and/or Banner | Submitted by Faculty to Assessment Coordinator |
| Exit/Graduate/Alumni Survey | Perception survey of attainment of stated program outcomes, as seen by the graduating students. | Annually starting Spring 2005 | Hand delivered to students | Assessment Coordinator in conjunction with Advisors/Staff |
| Employer Survey | Perception survey of attainment of stated program outcomes, as seen by employers. | May be given annually, but no more than every three years to a given employer | Mail or personal interview | Assessment Coordinator in conjunction with Advisors/Staff |
| Instructor Impression | Instructors will evaluate outcomes for each course and interpret data from other course-level assessments | Each semester starting Spring 2004 | Assessment Coordinator prepares and gives to Faculty | Faculty returns to assessment coordinator for tabulation & reporting |

\* On-going plan to look into adding testing or data from NSTO, HAZWOP etc. test results.

Table 2: Association of Assessment Tools to Program Outcomes

|  | CLA | Grades | Exit/Graduate/ Alumni Survey | Employer Survey | Instructor Impression |
| --- | --- | --- | --- | --- | --- |
| **read P & ID drawings and piping isometric drawings** | 1 | 1 | 1 | 1 | 1 |
| **identify typical pumps, compressors, and similar components** | 1 | 1 | 1 | 1 | 1 |
| **identify typical transmitters, controllers & other instrument components** | 1 | 1 | 1 | 1 | 1 |
| **demonstrate punctuality and responsibility suitable to work place employment\*** | 1 | 1 | 1 | 1 | 1 |
| **demonstrate basic communication skills to describe process operations and to participate in employee training programs** | 1 | 1 | 1 | 1 | 1 |
| **perform basic mathematic manipulation skills** | 1 | 1 | 1 | 1 | 1 |

\* All technology courses taught by Allen Houtz (and David Spann, I think) count attendance as part of the evaluation tools.

## Assessment Implementation & Analysis for Program Improvement

General Implementation Strategy

Kenai Peninsula College has appointed an Assessment Coordinator who will work with the staff and faculty to collect the data indicated in Tables 1 and 2. This coordinator will also provide support for Course-Level assessment and other assessment activities as needed. The assessment coordinator will work with staff and faculty to assemble the data and forward it to the director of KPC for final report preparation. The final report will be reviewed by the program faculty before submitting it to the UAA Academic Affairs assessment coordinator.

Method of Data Analysis and Formulation of Recommendations for Program Improvement

The faculty of the Business and Industry is to meet at least once a year with APICC and KPICC to review the data collected using the assessment tools. This meeting should result in recommendations for program changes that are designed to enhance performance relative to the program’s objectives and outcomes. The results of the data collection, an interpretation of the results, and the recommended programmatic changes are to be forwarded to the office of Academic Affairs (in the required format) by the end of May each year. A plan for implementing the recommended changes, including of advertising the changes to all the program’s stakeholders, is also to be completed at this meeting.

The proposed programmatic changes may be any action or change in policy that the faculty deems as being necessary to improve performance relative to programs objectives and outcomes. Recommended changes should also consider workload (faculty, staff, and students), budgetary, facilities, and other relevant constraints. A few examples of changes made by programs at UAA include:

* changes in course content, scheduling, sequencing, prerequisites, delivery methods, etc.
* changes in faculty/staff assignments
* changes in advising methods and requirements
* addition and/or replacement of equipment
* changes to facilities

Modification of the Assessment Plan

The faculty, after reviewing the collected data and the processes used to collect it, may decide to alter the assessment plan. Changes may be made to any component of the plan, including the objectives, outcomes, assessment tools, or any other aspect of the plan. The changes are to be approved by the faculty of the program. The modified assessment plan is to be forwarded to the dean/director’s office and the Office of Academic Affairs.

## Appendix A: Exit/Graduate/Alumni Survey

Tool Description:

The alumni survey asks graduates of the program to rate their performance relative to the program’s objectives. Additionally, alumni are asked to rate the importance of the program objectives from their viewpoint. A sample of the survey instrument is included on the following pages.

Surveys are distributed to alumni who have graduated one, three, and five years prior to the survey administration. The results are gathered by the school staff.

Factors that affect the collected data:

A number of factors need to be taken into consideration when analyzing the data. The following factors are those that we have identified.

* Low return rates. It has proven difficult get a good return rate from the alumni, even with follow up phone calls. This reduces the accuracy of the results.
* Some graduation years have not responded to the survey. The result is that the data is skewed to the viewpoint of a subset of our graduates.

How to interpret the data:

Care should be taken to investigate and discuss the factors influencing the results before interpreting the outcome. The results of the surveys should also be compared against employer surveys to get a clear picture of program performance. Be aware that there is not a direct connection in the two surveys between the employers and the alumni who work for them.

Sample Survey:

A sample survey is provided on the next page. An electronic version, such as SurveyMonkey.com, may be developed to replace this version. The questions and data collected will be the same.

Tabulating and Reporting Results:

The survey is prepared by the assessment coordinator and/or the faculty. The survey may be administered by the staff, assessment coordinator and/or the faculty. The assessment coordinator receives the results and tabulates them for use in faculty outcomes review and assessment report.

**UAA Kenai Peninsula College**

**Certificate Petroleum Technology**

**2005 Exit/Graduate/Alumni Survey**

The Certificate Petroleum Technology Program has received mandates from the University of Alaska Anchorage to implement an outcomes-based assessment program. As a part of the program, we are surveying alumni and employers of alumni to find ways of improving our program. Your feedback will go a long way in helping us determine how well we are doing and what we can do to better serve our students, alumni, and the engineering community.

Please enter the year that you received your certificate \_\_\_\_\_\_\_\_

Primary Petroleum Technology field that you work in:

 Gas Production Oil Production Refining

 Chemical Gas Processing Water/Waste Water Processing

 Food Processing Power Generation Not working in Petroleum Technology

 Mining Ore Processing

 Other Certificate Petroleum Technology: \_\_\_\_\_\_\_\_

Your primary job function:

 Plant Operator Plant Maintenance

 Supervisor of Skilled Trades Personnel Contract Support Personnel

 Operator in Training Utility Person/Roustabout

 Other: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Type of organization that you work for:

 Oil Producing Gas Producing Contract Services

 Municipality Power Generation Food Processing

 State Agency Testing/Reliability Research & Development

 Other: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Number of employees at your work site:

 < 10 10 – 25 26-50 51-100 101-500 501-1000 > 1000

Number of employees at worldwide sites: no other sites

 < 10 10 – 25 26-50 51-100 101-500 501-1000 > 1000

Other information (check all that apply):

 Currently Hold a Valid Drivers License

 Safety Credentials are Current

 Have participated in continuing education activities

 Have earned another Two or Four Year degree in a field other than Certificate Petroleum Technology

The UAA Certificate Petroleum Technology Program has three main educational objectives. In this survey, we ask for your opinion relative to each of these eight objectives. **First**, rate the importance of each objective relative to your employment experience since graduation. Please note that importance relates to your personal needs and not to the importance as it may apply to others in their employment experiences. **Second**, rate each item according to how well you think you are able to function in relation to each objective. Please feel free to use the space after the list to briefly explain any of your responses, especially if you feel the preparation of the graduates was less than adequate.

The objectives of the UAA Certificate Petroleum Technology Program are to produce graduates who:

|  |  | **Importance of this objective to your employment** |  | **How well are you able to function in this objective** |
| --- | --- | --- | --- | --- |
|  |  | *Not Important* | *Somewhat Important* | *Important* | *Very Important* | *Extremely Important* |  | *Unacceptable* | *Poor* | *Good* | *Very Good* | *Outstanding* |
| **1.** | **read P & ID drawings and piping isometric drawings** |  |  |  |  |  |  |  |  |  |  |  |
| **2a.** | **identify typical pumps, compressors, and similar components** |  |  |  |  |  |  |  |  |  |  |  |
| **2b.** | **identify typical transmitters, controllers & other instrument components** |  |  |  |  |  |  |  |  |  |  |  |
| **3.** | **demonstrate punctuality and responsibility suitable to work place employment** |  |  |  |  |  |  |  |  |  |  |  |
| **4.** | **demonstrate basic communication skills to describe process operations and to participate in employee training programs** |  |  |  |  |  |  |  |  |  |  |  |
| **5.** | **perform basic mathematic manipulation skills** |  |  |  |  |  |  |  |  |  |  |  |

| How would you rate your overall preparation to: | *No Opinion* | *Extremely Satisfied* | *Very Satisfied* | *Satisfied* | *Somewhat Satisfied* | *Not Satisfied* |
| --- | --- | --- | --- | --- | --- | --- |
| be a process operator/technician? |  |  |  |  |  |  |
| obtain your first job after graduation? |  |  |  |  |  |  |
| transition into your first job? |  |  |  |  |  |  |
| compete professionally as an operator/technician? |  |  |  |  |  |  |

|  | *Yes* |  | *No* |  | *Maybe* |  |
| --- | --- | --- | --- | --- | --- | --- |
| Would you recommend UAA Certificate Petroleum Technology education to a friend or relative? |  |  |  |  |  |  |

Please list up to three major strengths of your Certificate Petroleum Technology education or other UAA experiences.

Please list up to three areas for improvement in our Certificate Petroleum Technology program or other aspects of KPC.

With respect to the previous question, do you have any suggestions on how KPC could address these improvements?

What can the KPC Certificate Petroleum Technology program do to better serve the needs of future graduates?

## Appendix B: Employer Survey

Tool Description:

The employer survey asks employers to rate the performance of their employees who have graduated from UAA/KPC relative to the program’s objectives. Additionally, employers are asked to rate the importance of the program objectives from their viewpoint. A sample of the survey instrument is included on the following pages.

Employers of our graduates are obtained from Alaska Department of Labor reports, faculty lists in industry contacts, or other local means. Approximately third of the employers are surveyed each year, not to exceed more than one printed survey per three years per employer. The results are gathered by the school staff.

Factors that affect the collected data:

A number of factors need to be taken into consideration when analyzing the data. The following factors are those that we have identified.

* Low return rates. It has proven difficult get a good return rate from the employers, even with follow up phone calls. This reduces the accuracy of the results.
* Some classification groups have not responded to the survey. The result is that the data is skewed to the viewpoint of a subset of the employers of our graduates.
* Many employers resent being sent surveys (or personal interviews) and will not participate.
* It may be possible that the employer is not aware of all the UAA graduates in their employ. This leads to an assessment that is not representative across the group.

How to interpret the data:

Care should be taken to investigate and discuss the factors influencing the results before interpreting the outcome. The results of the surveys should also be compared against alumni surveys to get a clear picture of program performance. Be aware that there is not a direct connection in the two surveys between the employers and the alumni who work for them.

Sample Survey:

A sample survey is provided on the next page. An electronic version may be developed to replace this version. The questions and data collected will be the same.

Tabulating and Reporting Results:

The survey is prepared by the faculty. The survey is administered by the staff. Staff receives the results and tabulates them for use in faculty outcomes review.

**UAA /Kenai Peninsula College**

**Certificate Petroleum Technology**

**2005 Employer Survey**

The UAA/Kenai Peninsula College Certificate Petroleum Technology Program has received mandates from the University and to implement an outcomes-based assessment program. As a part of the program, we are surveying alumni and employers of alumni to find ways of improving our program. Your feedback will go a long way in helping us determine how well we are doing and what we can do to better serve our students, alumni, and the Process Industries. Please contact David Spann at Kenai Peninsula College Certificate Petroleum Technology Department (907 262-0365) if you have any questions regarding this survey.

The UAA Certificate Petroleum Technology program has five educational objectives. In this survey, we ask for your opinion relative to each of these seven objectives. First, rate how important each is relative to your organization. Please note that importance relates to the needs of your organization and not to the importance of the item as it may apply to other organizations. Second, rate each item relative to how well you think our graduates are able to function relative to each objective. Please feel free to use the space after the list to briefly explain any of your responses, especially if you feel the preparation of the graduates was less than adequate.

The objectives of the UAA Certificate Petroleum Technology Program are to produce graduates who:

|  |  | **Importance of this objective to your work place** |  | **How well are KPC graduates able to function in this objective** |
| --- | --- | --- | --- | --- |
|  |  | *Not Important* | *Somewhat Important* | *Important* | *Very Important* | *Extremely Important* |  | *Unacceptable* | *Poor* | *Good* | *Very Good* | *Outstanding* |
| **1.** | **read P & ID drawings and piping isometric drawings** |  |  |  |  |  |  |  |  |  |  |  |
| **2a.** | **identify typical pumps, compressors, and similar components** |  |  |  |  |  |  |  |  |  |  |  |
| **2b.** | **identify typical transmitters, controllers & other instrument components** |  |  |  |  |  |  |  |  |  |  |  |
| **3.** | **demonstrate punctuality and responsibility suitable to work place employment** |  |  |  |  |  |  |  |  |  |  |  |
| **4.** | **demonstrate basic communication skills to describe process operations and to participate in employee training programs** |  |  |  |  |  |  |  |  |  |  |  |
| **5.** | **perform basic mathematic manipulation skills** |  |  |  |  |  |  |  |  |  |  |  |

| How would you rate the overall preparation of KPC Certificate Petroleum Technology graduates to: | *No Opinion* | *Extremely Satisfied* | *Very Satisfied* | *Satisfied* | *Somewhat Satisfied* | *Not Satisfied* |
| --- | --- | --- | --- | --- | --- | --- |
| be a process operator? |  |  |  |  |  |  |
| compete professionally as a process operator? |  |  |  |  |  |  |
|  | *Yes* |  | *No* |  | *Maybe* |  |
| Would you recommend KPC Certificate Petroleum Technology education to a friend or relative? |  |  |  |  |  |  |

Please list up to three major strengths of your KPC Certificate Petroleum Technology employees.

Please list up to three areas for improvement in our Certificate Petroleum Technology programs or other aspects of UAA.

With respect to the previous question, do you have any suggestions on how KPC could address these improvements?

What can the KPC Certificate Petroleum Technology program do to better serve the needs of your organization?

**Demographics:**

Type of Organization:

 Federal Gov. State Gov. Design Consulting

 Construction Sales Other Consulting

 Educational Testing/Reliability Research & Development

 Other: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Certificate Petroleum Technology Field(s) that your firm works in (check all that apply):

 Gas Production Oil Production Refining

 Chemical Gas Processing Water/Waste Water Processing

 Food Processing Power Generation Not working in Process Technology

 Mining Ore Processing Other Process Technology: \_\_\_\_\_\_\_\_

Primary Job Function of Certificate Petroleum Technology graduates (check all that apply):

 Plant Operation

 Plant Maintenance

 Supervisor of technical Trades personnel

 Contractual Support for Plant Operations

 Safety Monitor

 Need To find other Job Duties For Process operators/technicians.

 Other: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Number of total employees at your work site:

 < 10 10 – 25 26-50 51-100 101-500 501-1000 > 1000

Approximate number of employees with UAA Certificate in Petroleum technology at your work site:

 < 10 10 – 25 > 25

Number of total employees at worldwide sites: no other sites

 < 10 10 – 25 26-50 51-100 101-500 501-1000 > 1000

Thank you for taking the time to complete this survey. Please return it in the enclosed self addressed, stamped, envelope to:

Kenai Peninsula College

34820 College Drive

Soldotna, AK 99669

## Appendix C: Alaska Dept. of Labor Data

(This tool will not likely be utilized until OPRA is set up to coordinate data collection.)

Tool Description:

A list of Social Security numbers of all Certificate Petroleum Technology graduates is provided to the Alaska Department of Labor (ADOL) every two years along with a request for specific data about the employment of these people in the first two quarter of the year. The data requested, and provided by the ADOL, includes:

* Number of Certificate Petroleum Technology graduates that earned wages in Alaska the given time period.
* The job classifications of the graduates and how many are in each job classification
* The employers of the graduates.
* The industries that the graduates work in and how many in each industry.
* The regions of the state that the graduates work in and how many in each region.
* The number of graduates in each pre specified salary range.

The list of SSNs and the interface with the ADOL are performed by the school staff.

Factors that affect the collected data:

A number of factors need to be taken into consideration when analyzing the data. The following factors are those that we have identified.

* The data is reported only for those graduates who earn wages within Alaska. It is assumed that most of the remaining are working out of state, though it is known that there are a few graduates who are not employed, by choice, who remain in Alaska. There is no way to know exactly how many have chosen not to work but have remained in state.
* It is generally assumed that this data is representative of the graduates that are working out of state as well, an assumption that may not be accurate.
* The results are tied to the general health of the economy. When the economy is good, there are ample technical positions available and the data is a good indicator of employability. The value of the data becomes questionable when there is a general down turn in the local economy.

How to interpret the data:

This data is used to determine the employability of our graduates. For assessment purposes, the percentage of the Alaska employed graduates who are working in a Certificate Petroleum Technology discipline is used as an indicator of employability. As historical data becomes available, the trend data will be used by the faculty in their assessment. This data should be viewed in light of the current status of the local economy.

Tabulating and Reporting Results:

The data is collected and reported by the staff. The data is provided to the faculty for use in their analysis of the program objectives.

## Appendix D: Course-Level Assessment -- Student Survey

One Certificate Petroleum Technology program-wide mandated course-level assessment tool is the student survey. See the attached excel spreadsheet for a sample course-level survey.

Tool Description:

The student survey is used to obtain student perceptions about their abilities, relative to the published course outcomes, as the result of their participation in a course. The tool can also be used to determine if the objectives of some prerequisite courses have been met as well. The tool is also used to obtain other data that helps with the interpretation of the student self-assessment.

Factors that affect the collected data:

Surveys are strongly influenced by a number of factors.

* The standard set by the instructor. A low standard tends to result in fairly high values in Course-Level assessments. Students will not know if the standard was appropriately set until they leave the course and have to apply the knowledge and skills learned, so both the student perceptions and the instructor-introduced measures may tend to be higher than is reasonable if the standards are set too low. The opposite effect is seen when the standards are set too high. The level of the standard should be determined by the program faculty so that comparison between instructors is valid.
* The timing of the administration of the survey. For example, if given at the conclusion of a particularly difficult examination, the results often tend to be lower. If given before other assessment activities (such as exams or project completion), the values may tend to be higher.
* In interpersonal relationships between the class and the instructor. Students that have a good bond with an instructor tend to be less critical. Students that feel a gulf between them and the professor tend to underrate the experience. Both conditions are particularly true if they feel that the results of the survey will be used to evaluate the professor.

How to interpret the data:

Care should be taken to investigate and discuss the factors influencing the results before interpreting the outcome. The results of the surveys should also be compared against other measures to get good picture of program performance.

Tabulating and Reporting Results:

The course instructor will tabulate and report the results as a part of their course assessment report.

(See excel spreadsheet for course-level assessment survey.)

## Appendix E: Grade Data

Tool Description:

While many factors may affect a student’s grade in a course, a student’s proficiency in the subject matter is generally indicated by the grade that the student earns in the course. A student’s proficiency in a subject area can be determined by looking at the student’s grades in all relevant courses. When looking at the proficiency of the student body as a whole, the course GPA may give an indication of the proficiency of the students and the quality of the course.

To evaluate many of its educational goals, the Certificate Petroleum Technology program will maintain a database of course grade point averages (GPA’s) each semester and a historical graph of these GPA’s. Courses to be included in the database are those courses that apply to the Certificate Petroleum Technology program and are taught by the UAA Community and Technical College (all PTR and PETR courses). The course instructor’s name and the number of students in the course are to be clearly associated with each course GPA record and on the graph.

Factors that affect the collected data:

In evaluating the resulting data it must be noted that the factors influencing course GPAs are numerous and difficult to separate. Some of the factors include the preparation and basic academic abilities of the student, the quality of the presentation of the material by the instructor, the quality of reference material, and the grading philosophy of the instructor.

How to interpret the data:

The data will not be a very precise indicator of student performance until the faculty come to a consensuses regarding grading philosophy and performance standards. Spikes and dips in the data should be viewed in relation to the instructors who where assigned to the courses. As with other data, this should be compared with other data used to assess the same outcomes.

Sample Data: (this is only sample data – not actual data for any particular course)

| **PETR 155 – Blue Print Reading** | **Student Statistics** |
| --- | --- |
|  **Average Grade** | **3.36** |
|  **# Passed** | **18** |
|  **# Audits** | **2** |
|  **# Failed/Withdrawn** | **2** |
|  **# Incompletes** | **1** |

Tabulating and Reporting Results:

The staff prepares a summary of grade data on all PRT (and possibly PETR) courses taught each year, by section. The staff also computes the GPA, for the year, over the course groupings identified below.

## Appendix F: Instructor Impression

Tool Description:

Instructors will receive the tabulated results of the student impression data (student course-level assessments). The instructor will evaluate the course based on the same course-level outcomes that the students rated.

Instructors will evaluate outcomes for each course he or she teaches and express his or her opinion of how well that outcome was taught and/or received by the students. Instructors will also indicate the value of each outcome to the overall objectives of the program.

Factors that affect the collected data:

In evaluating the resulting data it must be noted that the factors influencing an instructor’s impression or opinion will be subjective. SBA faculty should meet to discuss the significance of any impressions, opinions, and recommendations, and include any actions or recommendations in the assessment plan report.

Sample Survey: can be found in the KPC Assessment folder – both tabulated student data, grade data and class statistics, as well as the instructor impression surveys for each course.

Tabulating and Reporting Results:

The staff prepares a survey for each course to be completed by the instructor of each course. The staff (and/or assessment coordinator) will tabulate results if appropriate (for courses with more than one section taught in a given semester), or provide the assessment to the SBA faculty to review.

## Appendix G: Listing Of The Course Groupings Associated With Each Outcome

**Outcome #1: read P & ID drawings and piping isometric drawings**

PETR 144\*, 155, 240

**Outcome #2a: identify typical pumps, compressors, and similar components**

PRT 130, PRT 230

**Outcome #2b. identify typical transmitters, controllers & other instrument components**

PRT 140, 144, 240

**Outcome #3: demonstrate punctuality and responsibility suitable to work place employment**

PRT 101, 144, 230, 240

**Outcome #4: demonstrate basic communication skills to describe process operations and to participate in employee training programs**

PRT 101, 144, 230, 240

**Outcome #5: perform basic mathematic manipulation skills**

PRT 140, 144, 230, 240

\*PRT144 = PETR144