PROGRAM CONSULTANT REPORT FOR 2012-2013 VISITS

This is a preliminary form based on the 2012-2013 EAC Criteria

|  |  |
| --- | --- |
| Evaluation of Program in | CprE |
|  | Title of Program |

|  |  |
| --- | --- |
| At | UCR |
|  | Official Name of Institution |

|  |  |
| --- | --- |
| Dates of Visit: | 9-10 April 2012 |

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| --- | --- |
| Evaluated by: | ECJones |
|  | Name |

|  |  |
| --- | --- |
|  | 5289 Nolan Parkway, Oak Park Heights, MN 55082 |
|  | Address |

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|  | e-mail |

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Evaluation conducted in accordance with EAC General Criteria and the following applicable Program Criteria:

|  |  |
| --- | --- |
|  | Program Criteria |
|  |  |
|  | Electrical, Computer, and similarly name programs |
|  |  |

LIST OF PERSONS INTERVIEWED

|  |  |
| --- | --- |
| NAME | POSITION |
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##### CURRICULUM ANALYSIS

|  |  |  |  |
| --- | --- | --- | --- |
| Institution | UCR | Program | CprE |

PLEASE COMPLETE TWO DRAFT COPIES OF THIS WORKSHEET PRIOR TO YOUR ARRIVAL AT THE INSTITUTION AND PROVIDE ONE COPY OF THE CURRICULUM ANALYSIS TO YOUR TEAM CHAIR AT THE START OF THE VISIT. INCLUDE A COPY IN YOUR REPORT, REVISED AS NECESSARY TO REFLECT YOUR ANALYSIS OF ACTUAL COURSE CONTENT DURING THE VISIT.

|  |  |  |  |
| --- | --- | --- | --- |
| Curricular  Category | Number of Credits\* | | |
| Criteria  Requirement | Table I-1  of Self-Study | Visitor’s Evaluation |
| Mathematics and Basic Science | 48\*\* | na | na |
| Engineering Topics | 72\*\* | na | na |
| General Education | No specific requirement | na | na |
| Other |  |  |  |
| Please List Below Any Applicable Program Criteria Requirements: | | | |
| Breadth and Depth | Req’d | na | na |
| Advanced Mathematics | Req’d | na | na |
| P&S | Req’d | na | na |
| Hardware/software design/analysis | Req’d | na | na |
|  |  |  |  |

\* Enter minimum number of credits based upon a half-year as one-eighth of a four-year program or sixteen semester credits (or twenty-four quarter credits or equivalent), whichever is less.

\*\*These numbers presume a curriculum containing 192 or more quarter credits. If few, then the numbers are 25% and 37.5% of the total. For example, if 180 credits, then the requirements are 45 and 68 credits, rather than 48 or 72.

|  |  |  |  |
| --- | --- | --- | --- |
| Are curricular requirements met in each of the following areas? | | YES | NO |
|  | Major design experience based on knowledge and skills acquired in earlier course work. |  |  |
|  | Major design experience incorporates appropriate engineering standards and multiple realistic constraints. |  |  |
|  |  |  |  |
|  | Other requirements contained in applicable program criteria |  |  |

If “no” is checked in any of the above categories, please describe the specific weakness or deficiency on the Explanation of Shortcomings Form.

##### TRANSCRIPT ANALYSIS

|  |  |  |  |
| --- | --- | --- | --- |
| Institution | na | Program |  |

PLEASE COMPLETE TWO DRAFT COPIES OF THIS WORKSHEET PRIOR TO YOUR ARRIVAL AT THE INSTITUTION AND PROVIDE ONE COPY TO YOUR TEAM CHAIR AT THE START OF THE VISIT. PLEASE INCLUDE A COPY IN YOUR REPORT, REVISED IF NECESSARY TO REFLECT YOUR ANALYSIS OF ACTUAL COURSE CONTENT.

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ABET  Curricular  Category | Number of Credits\* | | | | | | | | | | |
| ABET Criteria  Requirement | Credits Actually Earned by Student Number | | | | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Mathematics and Basic Sciences |  |  |  |  |  |  |  |  |  |  |  |
| Engineering Topics |  |  |  |  |  |  |  |  |  |  |  |
| General Education |  |  |  |  |  |  |  |  |  |  |  |
| Other |  |  |  |  |  |  |  |  |  |  |  |
| Please List Below Any Applicable Program Criteria Requirements: | | | | | | | | | | | |
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\* Computed as in curriculum analysis table.

**POSSIBLE ACCREDITATION ACTION**

|  |  |  |  |
| --- | --- | --- | --- |
| Institution |  | Program |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | NGR | This action indicates that the program is in full compliance with the applicable criteria. This action is taken only after a general review and has a typical duration of six years. | | |
|  |
|  | RE | This action indicates that satisfactory remedial action has been taken by the institution with respect to weaknesses identified in the prior IR action. This action is taken only after an IR evaluation. This action extends accreditation to the next general review and, thus, has a typical duration of either two or four years. | | |
|  |
|  | VE | This action indicates that satisfactory remedial action has been taken by the institution with respect to weaknesses identified in the prior IV action. This action is taken only after an IV evaluation. This action extends accreditation to the next general review and, thus, has a typical duration of either two or four years. | | |
|  |
|  | SE | This action indicates that satisfactory remedial action has been taken by the institution with respect to deficiencies identified in the prior SC action. This action is taken only after a SC evaluation. This action typically extends accreditation to the next general review and, thus, has a duration of from one to five years. | | |
|  |
|  | IR | This action indicates that compliance with applicable criteria should be strengthened to ensure that the quality of the program will not be compromised prior to the next review. The nature of the weaknesses are such that an on-site visit will not be required to evaluate the remedial actions taken by the institution. A report focusing on the remedial actions taken by the institution will be required. This action has a typical duration of two years. | | |
|  |
|  | IV | This action indicates that compliance with applicable criteria should be strengthened to ensure that the quality of the program will not be compromised prior to the next review. The nature of the weaknesses are such that an on-site visit will be required to evaluate the remedial actions taken by the institution. This action has a typical duration of two years. | | |
|  |
|  | SC | This action indicates that a program has deficiencies such that the program is not in full compliance with the applicable criteria. An on-site visit will be required to evaluate the actions taken by the institution to remove the deficiencies. This action has a typical duration of one year. | | |
|  |
|  | NA | This action indicates that a program has deficiencies such that the program is in continued non-compliance with the applicable criteria. This action is usually taken only after a SC evaluation or the evaluation of a new, unaccredited program. Accreditation is generally not extended as a result of this action. | | |
|  |
| If this is a new program, indicate the date at which accreditation is to begin (See Section II.C.4. of the Accreditation Policy and Procedure Manual.) | | | |  |

**Level of Implementation Form**

Each evaluator completes this form at the conclusion of the visit. Each program has completed this form before the visit and the data for all visits during the current cycle will be accumulated for analysis after the current accreditation cycle is completed. The data gathered from the institutions will not be available to any part of the accreditation decision-making process.

|  |  |  |  |
| --- | --- | --- | --- |
| Institution | UCR | Program | UCR |
| Evaluator | ECJ |  |  |

|  |  |
| --- | --- |
| **Implementation Factor** | **Score (1-5)** |
| Educational Objectives | 3 |
| Constituents | 3 |
| Processes | 3 |
| Outcomes Assessment | 3 |
| Results | 3 |
| System | 3- |

**Instructions:**

Report implementation factors for the engineering unit as a whole and for each program being evaluated. Data on this table should reflect the current level of implementation. Refer to Figure 1,*Matrix for Implementation Assessment,* for descriptions of implementation levels. Enter a numerical value that most accurately describes the level of implementation.

**While this form has been deleted for official visits, it may provide additional information to the institution as a part of a consulting visit.**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Educational**  **Objectives** | **Constituents** | **Processes** | **Outcomes**  **Assessment** | **Results** | **System** |
| **1** | Not well defined | Informal contact | Few, if any processes defined and documented | Limited to  ad hoc efforts | Anecdotal | None evident |
| **2** | Broadly defined  and documented;  clearly tied to mission;  evidence of  constituent input | Somewhat involved in defining objectives and  desired outcomes,  and assessment | Some major processes defined and documented; clearly tied to mission and program objectives | Some outcomes defined and improved in systematic manner;  problems recognized  and corrected | Satisfactory outcomes; some evidence of positive trends in areas deployed | Early stages;  partial deployment  within the program  and college |
| **3** | Comprehensive;  defined, documented'  and measurable;  clearly tied to mission and constituent needs | Clearly involved in  defining objectives and  desired outcomes,  and assessment;  evidence of some  sustained strategic  partnerships | Processes for all major elements of criteria defined, documented, and controlled; clearly tied to mission, program objectives, and  constituent needs | All major outcomes defined; systematic evaluation and process  improvement in place;  problems anticipated and prevented | Good outcomes;  positive trends  in several major areas; some evidence that results caused by systematic approach | In place;  deployed throughout  the program  and college;  driven by mission  and objectives |
| **4** | Comprehensive;  defined, documented  and measurable;  clearly tied to mission; responsive to  constituent needs;  systematically reviewed and updated | High degree of  involvement in  defining objectives and  desired outcomes;  evidence of many sustained strategic partnerships in all constituent groups | Processes for all elements of criteria are quantitatively understood and controlled; clearly tied to mission, program objectives, and  constituent needs | All outcomes defined; systematic evaluation and process improvement  in place; many support areas involved; sources of problems understood  and eliminated | Excellent outcomes; positive trends  in most areas;  evidence that results caused by systematic approach | Integrated;  deployed throughout  the program,  college, and  support areas;  driven by mission  and objectives |
| **5** | Comprehensive;  defined documented, measurable and flexible;  clearly tied to mission;  readily adaptable to meet constituent needs;  systematically reviewed and updated | High degree of  involvement in  defining objectives and  desired outcomes, assessment; and  improvement cycles;  sustained evidence of  strategic partnership with  all key constituents | Processes for all elements of criteria are quantitatively understood and controlled; clearly tied to mission, program  objectives, and  constituent needs;  seen as benchmarks  by other institutions | All outcomes defined; systematic evaluation and  process improvement  in place; all support  areas involved;  common sources of  problems understood  and eliminated | World-class outcomes; sustained results;  results clearly caused by systematic approach | Sound, highly integrated system;  deployed throughout  the program, college,  and institution;  driven by mission  and objectives |

**Figure 1. Matrix for Implementation Assessment**

**Recommendations**

**Please list your recommendations to the institution that are intended to improve their visit preparation.**

1. The ComS program and the CprE program will be evaluated by different persons, though they will work together, depending on how the teams are managed. While this may not be the exact structure, one possible structure is that there will be one CprE Program Evaluator (PEV) and a Team Chair for ComS with one additional PEV, thus 3 persons looking at the two programs.
2. The CprE program is under the purview of the Engineering Accreditation Commission, (EAC), while ComS is under the purview of the Computing Accreditation Commission (CAC). While at a high level their processes are quite similar, at “grass roots” there are differences as each develops its own detailed procedures.
3. The Criteria for the two commissions are different, especially with regard to outcomes, faculty and curricula.
4. Some sections may well be nearly identical: But be sure to keep the program names correctly listed in the two self-studies. Others are quite different.
   1. Background--Similar
   2. Criterion 1, Students--similar
   3. Criterion 2—Constituent Interactions. Similar
   4. Criterion 2. The PEOs are different.
   5. Criterion 3—Totally independent. Note that the ComS outcomes must include 2 outcomes from the program criteria. This means that the mappings to the PEOs are different.
   6. Criterion 4—
      1. The assessment techniques may well be the same, but different **outcomes are addressed.**
      2. **Be sure to separate data for outcomes, as well as PEOs, for the two programs. Do not intermix the data, as the required outcomes are different.**
   7. Criterion 5—totally different
   8. Criterion 6—Much similarity. The “workload table” has a column that may well be used to say what percentage of time a given faculty member devotes, to CprE, and what percentage to ComS. This is the last column to the right.
   9. Criterion 7—virtually identical
   10. Criterion 8—virtually identical
   11. Criterion 9. Totally different. Some programs combine Criterion 5 and 9, with appropriate references. Worth considering.
5. The draft self-study does not fully describe the processes in which the External Advisory Board is involved and contributing. This actually appears to be a strength.

**2011-2012 PROGRAM EVALUATOR WORKSHEET**

|  |  |  |  |
| --- | --- | --- | --- |
| **Institution** | **UCR** | | |
| **Program Name** | **CprE** | **Program Evaluator** | **ECJ** |
| **Team Chair** | **na** | **Visit Dates** | **9-10 April 2011** |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Use “C” for concern, “W” for weakness, and “D” for deficiency** | Pre-visit Est. | Day 0 | Day 1 | Exit Stmt |
| **If the program has no deficiencies or weaknesses,** c**heck this line.** |  |  |  |  |
| **1. STUDENTS** |  |  |  |  |
| Evaluate student performance |  |  |  |  |
| Advise regarding curricular and career matters |  |  |  |  |
| Monitor student progress |  |  |  |  |
| Policies for acceptance of transfer students in place and enforced |  |  |  |  |
| Process for validation of transfer credits |  |  |  |  |
| Procedure to ensure all students meet all program requirements |  |  |  |  |
| **2. PROGRAM EDUCATIONAL OBJECTIVES** | **C** |  |  |  |
| Published and consistent with mission and these criteria | C |  |  |  |
| Process demonstrating objectives based on needs of constituencies | C |  |  |  |
| Documented and effective process, involving program constituencies, for the periodic review and revision of PEOs | C |  |  |  |
| **3. STUDENT OUTCOMES (abridged)** | **OK** |  |  |  |
| Appropriate, documented student outcomes that will prepare graduates to attain the program educational objectives. |  |  |  |  |
| (a) ability to apply knowledge of math, engineering, and science |  |  |  |  |
| (b1) ability to design and conduct experiments |  |  |  |  |
| (b2) ability to analyze and interpret data |  |  |  |  |
| (c) ability to design system, component or process to meet needs within realistic constraints |  |  |  |  |
| (d) ability to function on multi-disciplinary teams |  |  |  |  |
| (e) ability to identify, formulate, and solve engineering problems |  |  |  |  |
| (f) understanding of professional and ethical responsibility |  |  |  |  |
| (g) ability to communicate effectively |  |  |  |  |
| (h) broad education |  |  |  |  |
| (i) recognition of need by an ability to engage in life-long learning |  |  |  |  |
| (j) knowledge of contemporary issues |  |  |  |  |
| (k) ability to use techniques, skills, and tools in engineering practice |  |  |  |  |
| Additional student outcomes articulated by program objectives |  |  |  |  |
| Student outcomes including additional outcomes that prepare students to attain PEOs |  |  |  |  |
| **4. CONTINUOUS IMPROVEMENT** | **W/C** |  |  |  |
| An assessment and evaluation process that periodically documents and demonstrates the degree to which the program educational objectives are attained. | **C** |  |  |  |
| Documented processes for assessing and evaluating the extent to which the student outcomes are being attained | **OK** |  |  |  |
| Evaluation results used systematically as input for continuous improvement activities--areas of concern identified, changes made and documented, effects re-assessed, and new results evaluated. | **W/C** |  |  |  |
| **5. CURRICULUM** | **NO Data** |  |  |  |
| Devotes adequate attention and time to each component, consistent with the outcomes and objectives of the program and institution |  |  |  |  |
| One year of college-level mathematics and basic sciences |  |  |  |  |
| One and one-half years of engineering topics |  |  |  |  |
| General education component, consistent with program and institutional objectives |  |  |  |  |
| Culminates in a major design experience based on knowledge and skills acquired in earlier course work |  |  |  |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **6. FACULTY** | **No Data** |  |  |  |
| Sufficient number and competencies to cover all curricular areas |  |  |  |  |
| Adequate levels of student-faculty interaction |  |  |  |  |
| Adequate levels of student advising and counseling |  |  |  |  |
| Adequate levels of university service activities |  |  |  |  |
| Adequate levels of professional development |  |  |  |  |
| Adequate levels of interaction with practitioners and employers |  |  |  |  |
| Appropriate qualifications |  |  |  |  |
| Sufficient authority |  |  |  |  |
| Overall competence |  |  |  |  |
| **7. FACILITIES** | **ok** |  |  |  |
| Classrooms |  |  |  |  |
| Laboratories |  |  |  |  |
| Equipment and tools |  |  |  |  |
| Computing and information infrastructure |  |  |  |  |
| Library |  |  |  |  |
| **8. SUPPORT** | **ok** |  |  |  |
| Sufficient to assure quality and continuity of the program |  |  |  |  |
| Sufficient to attract and retain a well-qualified faculty |  |  |  |  |
| Sufficient to acquire, maintain, and operate facilities and equipment |  |  |  |  |
| Support personnel and institutional services adequate |  |  |  |  |
| **9. PROGRAM CRITERIA for EE and for CprE** | **Probably ok** |  |  |  |
| Curricular topics consistent with objectives |  |  |  |  |
| Breadth and Depth |  |  |  |  |
| Advanced Mathematics (If CprE Includes Discrete Mathematics) |  |  |  |  |
| Probability and Statistics |  |  |  |  |
| Hardware/Software Design/Analysis |  |  |  |  |
| **10. MASTERS level or Policies And Procedures** |  |  |  |  |
|  |  |  |  |  |

**2011-2012 PROGRAM EVALUATOR WORKSHEET**

**For each Deficiency (D), Weakness (W) and/or Concern (C) shown on the preceding program evaluator worksheet, please summarize the basis for your conclusion in the appropriate box.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Institution** | UCR | | | |
| **Program Name** | | EE | **Program Evaluator** | ECJ |

|  |  |
| --- | --- |
| **1. STUDENTS** |  |
| Evaluate student performance |  |
| Advise regarding curricular and career matters |  |
| Monitor student progress |  |
| Policies for acceptance of transfer students in place and enforced |  |
| Process for validation of transfer credits |  |
| Procedure to ensure all students meet all program requirements |  |
| **2. PROGRAM EDUCATIONAL OBJECTIVES** |  |
| Published and consistent with mission and these criteria |  |
| Process demonstrating objectives based on needs of constituencies |  |
| Documented and effective process, involving program constituencies, for the periodic review and revision of PEOs |  |
| **3. STUDENT OUTCOMES** | **OK** |
| Appropriate, documented student outcomes that will prepare graduates to attain the program educational objectives. |  |
| (a) ability to apply knowledge of math, engineering, and science |  |
| (b1) ability to design and conduct experiments |  |
| (b2) ability to analyze and interpret data |  |
| (c) ability to design system, component or process to meet needs within realistic constraints |  |
| (d) ability to function on multi-disciplinary teams |  |
| (e) ability to identify, formulate, and solve engineering problems |  |
| (f) understanding of professional and ethical responsibility |  |
| (g) ability to communicate effectively |  |
| (h) broad education |  |
| (i) recognition of need by an ability to engage in life-long learning |  |
| (j) knowledge of contemporary issues |  |
| (k) ability to use techniques, skills, and tools in engineering practice |  |
| Additional student outcomes articulated by program objectives |  |
| Student outcomes including additional outcomes that prepare students to attain PEOs |  |
|  |  |
| **4. CONTINUOUS IMPROVEMENT** |  |
| An assessment and evaluation process that periodically documents and demonstrates the degree to which the program educational objectives are attained. | **In process** |
| Documented processes for assessing and evaluating the extent to which the student outcomes are being attained | **Well developed system** |
| Evaluation results used systematically as input for continuous improvement activities--areas of concern identified, changes made and documented, effects re-assessed, and new results evaluated. | **Appears to exist but not fully described in draft self study.** |
|  |  |
| **5. CURRICULUM** | **No Data** |
| Devotes adequate attention and time to each component, consistent with the outcomes and objectives of the program and institution |  |
| One year of college-level mathematics and basic sciences |  |
| One and one-half years of engineering topics |  |
| General education component, consistent with program and institutional objectives |  |
| Culminates in a major design experience based on knowledge and skills acquired in earlier course work |  |
| **6. FACULTY** | **No Data** |
| Sufficient number and competencies to cover all curricular areas |  |
| Adequate levels of student-faculty interaction |  |
| Adequate levels of student advising and counseling |  |
| Adequate levels of university service activities |  |
| Adequate levels of professional development |  |
| Adequate levels of interaction with practitioners and employers |  |
| Appropriate qualifications |  |
| Sufficient authority |  |
| Overall competence |  |
| **7. FACILITIES** |  |
| Classrooms |  |
| Library |  |
| Laboratories |  |
| Equipment and tools |  |
| Computing and information infrastructure |  |
| **8. SUPPORT** |  |
| Sufficient to assure quality and continuity of the program |  |
| Sufficient to attract and retain a well-qualified faculty |  |
| Sufficient to acquire, maintain, and operate facilities and equipment |  |
| Support personnel and institutional services adequate |  |
| **8. PROGRAM CRITERIA—for EE and CprE** | **No Data** |
| Curricular topics consistent with objectives |  |
| Breadth and Depth |  |
| Advanced Mathematics (If CprE Includes Discrete Mathematics) |  |
| Probability and Statistics |  |
| Hardware/Software Design/Analysis |  |
| **9. MASTER’S level or Policies and Procedures** |  |
|  |  |

**SUGGESTIONS FOR A GOOD VISIT AND SELF STUDY—2012-2013**

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1. The displays of student work are most important. A good student work display goes a long way to ensuring a successful visit. Some ideas:

a. The first page for every course display book should be the ABET syllabus form from the self study.

b. Use DESIGN tags, or some convenient method, to call attention to design activities in all classes that have significant design activity.

c. For each course, one to three of the outcomes will receive primary attention. In all probability, some of these will be those assessed. Call attention to these with colored OUTCOME “(SPECIFY WHICH)” tags.

d. Be sure that the design displays show that papers in draft form have been submitted for correction of both technical content, inadequate discussions, and writing errors. Good writing is just as important as good mathematical analysis. Have a 100% sample of design projects, with video recordings of presentations, posters, reports, models if any, anything that helps show the quality of your design sequence.

2. Include in the displays minutes of Advisory Committee meetings. Also include records of student forums, alumni meetings, etc.

3. Before the visit, someone in the program will be regularly interacting with the program evaluator. Some suggestions:

a. Respond as quickly as possible. If the primary responder is unavailable, have a secondary responder.

b. Someone from the department, preferably the department chair, should meet the evaluator at the airport if at all possible. For international visits, if visas are required, inform the evaluator well in advance of the visit. If possible, have someone meet the evaluator at the arrival gate to facilitate passport control and customs.

c. Give the evaluator access to the department web sites. This shows openness. Well before the visit, make sure all the links on your website are working and current.

d. Have your program educational objectives on your web site and make sure that they correspond to the wording in all other publications. One of the first things a program evaluator will check is the listing of objectives on your public web site.

4. You will be asked to send 6-10 transcripts in advance. In the US, this is authorized, according to ABET legal opinion, in the Family Educational Rights and Privacy Act (Buckley amendment). You may use a code so as not to indentify individual students.

a. Be sure that substitutions, waivers, transfer credits, etc., are clearly documented and approved by an appropriate authority.

b. If major changes exist between the curriculum these students followed and the one in the self study, make sure this is clear. Include the earlier curriculum, either in the self study or with the transcripts.

c. Send along worksheets, degree audits—anything that helps the evaluator understand your advising process.

5. Always escort the visitor from place to place. Don’t let the evaluator get lost. A student escort is often a good idea.

6. Have computer access ready for the visitor when that person arrives the first time. Have an office space where the visitor can work. Also, in recommending hotels for the team, suggest hotels with free (included in the room charge) internet access or arrange a university rate for internet access, if possible.

7. Inform the students about the visit and its importance to them.

8. Some visitors like to have people visit them in their temporary office; others like to visit folks in their own offices.

9. Visitors will want to meet with students—different evaluators have different algorithms for choosing students. Normally they will want to see seniors.

10. As an overall general comment, try to present a very positive attitude throughout the self-study. Begin a section with a positive statement such as “*The XE program at the UZYX has a strong faculty that earned their degrees at a variety of outstanding universities, is active in professional development and research, and serves the students.”* Then go on and show why you say this.

11. Throughout all documents, give URLs for material on the web that might amplify what is being said. Make sure all links work. Make sure that there are no differences between what is said in the self study, the catalog, and on the web.

12. Criterion 2 requires that program objectives be consistent with institutional mission and based on constituent needs and that objectives meet the definition in the ABET criteria. It further requires a documented and effective process, involving program constituencies, for the review and revision of program educational objective. Beginning in 2011, assessment and evaluation of the attainment of program educational objectives is in Criterion 4.

13. Criterion 3 requires programs to list their student outcomes and demonstrate how the outcomes prepare graduates to attain the program educational objectives. Beginning in 2011, the requirement for assessment of attainment of outcomes is in Criterion 4. It is a faculty responsibility, though outside evaluators may help in some cases. Three independent assessments are suggested.

* 1. Course level, direct assessment by the faculty of individual outcomes (not overall course grades).
  2. Program level, of senior design and/or portfolios, by faculty. This is a spot where members of the advisory board or their designees may be (not required) asked to render informed opinions as to the student achievement of outcomes.
  3. Indirect, i.e. self assessment by students of their opinions as to their abilities with respect to the outcomes, and their opinions of the importance of the outcomes “a-k”.

14. Criterion 4 is the essence of continuous improvement, whether ABET, ISO 9000, or other. All of us can do better, and of course the reason for assessing performance is to get useful and usable data for guiding improvements. Here is one suggestion. Choose three or more outcomes where you are less than satisfied with the student performance, based on Criterion 4 assessment data. This should result from the assessment data, not anecdotes. In this section, you are not limited to assessment data. Institutional research data can be extremely useful. Student group data can give you a lot of good ideas. The important aspect is to have and to use data resulting from valid procedures. While anecdotes can lead to areas for investigation, by themselves they are generally insufficient.

* 1. Make appropriate changes in the courses or other activities.
  2. Assess the changes as quickly as possible.
  3. Analyze the data.
  4. Draw conclusions as to the effect of the change.
  5. This will show “closing the loop”.

15. Constituent involvement is **not** required for outcomes assessment, though it may be useful. This is entirely a faculty responsibility.

16. **New programs**. The assessment of the achievement of Program Educational Objectives (PEOs) requires data collection relevant to the performance of program graduates **several** (typically 3-5) **years** after graduation. But program leaders and students do not want to wait this long. Following are some suggestions as to how to approach this issue.

a. Design a process for assessing the achievement of PEOs to be implemented in about 3 years, and document this carefully in the self-study.

b. Many programs have exit interviews and/or exit surveys of students. While these students cannot provide data as to what they will achieve in the future, they can answer questions such as: *As you graduate from this program, how well do you believe you are prepared to attain each of the following Program Educational Objectives:.* Then follow this with a Likert scale. Of course this is a self confidence question, but some new programs have found these questions to be informative.

c. In the preceding exit survey, ask 2-3 questions that elicit information about the plans of the new graduates?

d. When you get the due-process response, immediately send out an on-line survey to the graduates who have been out for perhaps 8 months. Find out what they are doing in light of the PEOs. Of course, this is not 3-5 years, but it is a preliminary indicator.

e. PEOs are, among other things, marketing tools. They tell the student something about what to expect in the program they are considering. Ask the graduating seniors to evaluate the PEOs for their success (or lack thereof) in attracting students. Again, use a Likert scale.

17. Safety is always an issue. Probably in Section 7, Facilities, programs could discuss how they maintain appropriate safety standards, educate students in such matters, etc. Make sure that all labs are in fact safe! When the program evaluator visits the labs have safety signs displayed, emergency telephone numbers, and other necessary safety equipment (e.g., emergency shut-off, chemical shower, eye-wash stations, fume hoods, goggles, chained-down gas cylinders, proper material storage) in place and working.

18. Make sure that all self studies use exactly the same university and college mission/goal/objectives statements.

19. The next page is based on typical schedules we have used when chairing teams. It shows both a PEV and a team chair schedule. The team chair will likely suggest a draft schedule and a final schedule will be developed by the Dean’s Office for the team chair, and the department head/chair for the individual program evaluators. (The titles presume a “typical” organization. International visits may require 3 days, rather than 2.) Coordinate the individual program evaluator schedule with the Dean’s Office for team activities common to all the program evaluators

20. There is a workshop for deans and team chairs at the annual meeting in Washington, typically Thursday of the 3rd week of July. The Associate Dean and/or Dean should plan to attend.

SAMPLE EAC TEAM-MEMBER or PROGRAM EVALUATOR SCHEDULE

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Day 0, Typically a Sunday** | | | | | | |
| Time | **EAC Program Evaluator(s)** |  | Time | **EAC Team Chair** |  | Comments |
| 11:00-13:00 | Initial team meeting and private lunch, |  | 11:00-13:00 | Initial team meeting and private lunch. |  | Travel time must be considered |
| 13:00-14:00 | Laboratory Tour |  | 13:00-14:00 | Laboratory Tour |  |  |
| 14:00-17:00 | Review Course and Assessment Materials |  | 14:00-17:00 | Review Course and Assessment Materials |  |  |
| 17:00-19:00 | Private Team Meeting. Usually but not always at hotel. |  | 17:00-19:00 | Private Team Meeting. Usually, not always, at hotel. |  |  |
| 19:00-21:00 | Private Team Dinner Meeting |  | 19:00-21:00 | Private Team Dinner Meeting |  | Start to draft report |
|  |  |  |  |  |  |  |
| **Day 1, Typically a Monday** | | | | | | |
| 08:00-09:00 | Initial Conference with the Dean and the entire team |  | 08:00-09:00 | Initial Conference with the Dean and the entire team |  | Consider travel time |
| 09:00-11:45 | Visit with Program Head, Department Head, Selected Faculty Members |  | 09:00-11:45 | Visit with Dean, Associate Dean, Provost, Selected University Officials |  |  |
| 11:45-13:00 | Lunch |  | 11:45-13:00 | Lunch |  | This lunch is almost always hosted by the institution, which chooses the guest list. |
| 13:00-14:00 | Visit one or two support programs as requested by Team Chair |  | 13:00-16:45 | Continue Visits to Selected University and College Officials |  |  |
| 14:00-16:45 | Visit with Selected Faculty Members, Advisors, and especially students. Review student work and assessment as questions have arisen. |  |  |  |  |  |
| 16:45-17:00 | End of Day Visit with Program /Department Head. Discuss findings, answer and possibly pose new questions. |  | 16:45-17:00 | End of Day Visit with Dean. |  | While not required, it is often an effective use of time. |
| 17:00-19:00 | Private Team Meeting. Usually but not always at hotel. |  | 17:00-19:00 | Private Team Meeting. Usually at hotel. |  |  |
| 19:00-21:00 | Private Team Dinner Meeting |  | 19:00-21:00 | Private Team Dinner Meeting |  | Continue drafting report after meetings |
|  |  |  |  |  |  |  |
| **Day 2, Typically a Tuesday** | | | | | | |
| 08:00-09:30 | Visit with Department or Program Head, Selected Additional Faculty, Students, Advisors, Accreditation Committee, as needed. |  | 08:00-11:30 | Draft report to the institution and review drafts of team members |  |  |
| 09:30-11:30 | Draft Report. Request approval by Team Chair |  |  |  |  |  |
| 11:30-12:00 | Mini Exit Interview with Program Head or Chair |  | 11:30-12:00 | Mini Exit Interview with Dean |  |  |
| 12:00-14:00 | Working Lunch. Put finishing touches on reports. |  | 12:00-14:00 | Working Lunch. Put finishing touches on reports |  |  |
| 14:00-15:00 | Exit Interview, Usually with University President |  | 14:00-15:00 | Exit Interview, Usually with University President |  | President chooses attendees |
| 15:00 | Depart Campus |  | 15:00 | Depart Campus |  |  |