ABET
Engineering Accreditation Commission

# E351 PROGRAM EVALUATOR REPORT FOR 2019-2020 VISITS

Instructions

*The Program Evaluator Report is **required** for each program being evaluated. It is completed by the Program Evaluator prior to and during the visit and left with the Team Chair. **Some technical societies require their evaluators to submit additional information. It is the responsibility of the evaluator to determine and meet this requirement.***

*A complete Program Evaluator Package consists of the following:*

- *Program Audit Form (E301/302/303/311)*
- *Program Evaluator Worksheet (E341)*
- *This Program Evaluator Report Form (E351), which includes*
  - *Basic Information Sheet*
  - *Curriculum Analysis*
  - *Transcript Analysis*
  - *Recommended Accreditation Action*
  - *Exit Statement*

*For a General Review Visit, complete all forms listed above and submit them to the Team Chair at the conclusion of the visit.*

*For an Interim Visit, the curriculum analysis and/or the transcript analysis may not be relevant. Complete those tables only if they are relevant to the identified shortcomings.*

*Complete the Curriculum Analysis Form and the Transcript Analysis Form (both a part of this E351 Program Evaluator Form) and the first column of the E341 Program Evaluator Worksheet before the visit. Submit a copy to the Team Chair before the visit or at the first team meeting as directed. Modify the forms during the visit as required.*

*The **Program Evaluator Worksheet (E341)**, the appropriate **Program Audit Form (E301/302/303/311),** the **Recommended Accreditation Action (in E351), and** the **Exit Statement to the Institution (in E351)** are of particular importance. Together, these form a basis from which the Team Chair will draft the Statement to the Institution. Only a copy of the **Program Audit Form (E301/302/303/311)** is to be left with the institution. Please, pay close attention to the instructions on these forms.*

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**PROGRAM EVALUATOR REPORT FOR 2019-2020 VISITS**
**BASIC INFORMATION SHEET**
*(RFE: Request for Evaluation Form)*

Evaluation of BS Program in Architectural Engineering
*RFE Degree Designation* — *Program Title as shown on the RFE*

At Sample University
*Official name of institution as shown on the RFE*

Dates of Visit: October 13-15, 2019

Evaluated by: PEV Name
*Name*

University of Example
*Address*

800-555-1212 (*Primary Phone*) 800-555-1212 (*Alternate Phone*)

PEVname@Example.Edu
*e-mail*

Society Represented by Program Evaluator: ASCE
*Society*

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

Architectural Engineering
*Program Criteria*

LIST OF PERSONS INTERVIEWED

| NAME | POSITION |
|---|---|
| Fill in all names. Pass around a sheet during the visit. Students may be grouped, e.g., capstone design class. | |
| | |
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**CURRICULUM ANALYSIS for BACHELOR'S LEVEL PROGRAM**
**(Not applicable to Master's Level Program)**

Institution *Sample University* Program *Architectural Engineering*

PLEASE COMPLETE THIS WORKSHEET PRIOR TO YOUR ARRIVAL AT THE INSTITUTION AND PROVIDE ONE COPY OF THE CURRICULUM ANALYSIS TO YOUR TEAM CHAIR BEFORE OR AT THE START OF THE VISIT AS DIRECTED. 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 5-1 of Self-Study | PEV's Evaluation |
| College-level Mathematics and Basic Sciences | 30 | 34 | 34 |
| Engineering Topics | 45 | 80 | >>45 |
| General Education | | 38 | 38 |

| Please List Below Any Applicable Program Criteria: | Is Program Criteria Requirement Met? (per Table 5-1 of Self-Study) | | Is Program Criteria Requirement Met? (per PEV evaluation) | |
|---|---|---|---|---|
| | YES | NO | YES | NO |
| Apply mathematics through differential equations, calculus-based physics, and chemistry | X | | X | |
| Building structures systems (synthesis☐, application☐, or comprehension x ), and engineering fundamentals supported (yes☐**X** or no☐) | X | | X? | |
| Building mechanical systems (synthesis☐, application☐, or comprehension☐**X**), and engineering fundamentals supported (yes☐**X** or no☐) | X | | X? | |
| Building electrical systems (synthesis☐, application **X,** or comprehension☐), and engineering fundamentals supported (yes☐ or no☐) | X | | X? | |
| Construction/construction management (synthesis **X** , application☐, or comprehension☐), and engineering fundamentals supported (yes☐ or no☐) | X | | X? | |
| Discuss the basic concepts of architecture in a context of architectural design and history | X | | X | |
| The design/synthesis level must be in a context that: | X | | X | |

| | | | | |
|---|---|---|---|---|
| (a) Considers the systems or processes from other architectural engineering curricular areas | | | | |
| (b) Works within the overall architectural design | X | | X | |
| (d) Includes computer-based technology and considers applicable codes and standards | X | | X | |
| (e) Considers fundamental attributes of building performance and sustainability | X | | X | |

**? = explore during visit**

| 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. | X | |
| Major design experience incorporates appropriate engineering standards and multiple realistic constraints. | X | |
| 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 PEV Worksheet (E341) and Program Audit Form (E301) as appropriate.

***Lead Society: American Society of Civil Engineers Cooperating Society: American Society of Heating, Refrigerating, and Air-Conditioning Engineers***

*These program criteria apply to engineering programs that include "architectural" or similar modifiers in their titles.*

***1. Curriculum***

*The program must demonstrate that graduates can apply mathematics through differential equations, calculus-based physics, and chemistry. The four basic architectural engineering curriculum areas are building structures, building mechanical systems, building electrical systems, and construction/construction management. Graduates are expected to reach the synthesis (design) level in one of these areas, the application level in a second area, and the comprehension level in the remaining two areas. The engineering topics required by the general criteria shall support the engineering fundamentals of each of these four areas at the specified level. Graduates are expected to discuss the basic concepts of architecture in a context of architectural design and history.*

*The design level must be in a context that:*
*(a) Considers the systems or processes from other architectural engineering*

*curricular areas,*
*(b) Works within the overall architectural design,*
*(c) Includes communication and collaboration with other design or construction team members,*
*(d) Includes computer-based technology and considers applicable codes and standards, and*
*(e) Considers fundamental attributes of building performance and sustainability.*

***2. Faculty***
*The program must demonstrate that faculty teaching courses that are primarily engineering design in content are qualified to teach the subject matter by virtue of professional licensure, or by education and design experience. It must also demonstrate that the majority of the faculty members teaching architectural design courses are qualified to teach the subject matter by virtue of professional licensure, or by education and design experience.*

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**TRANSCRIPT ANALYSIS for BACHELOR'S LEVEL PROGRAM**

Institution *Sample University* Program *Architectural Engineering*

PLEASE COMPLETE THIS WORKSHEET PRIOR TO YOUR ARRIVAL AT THE INSTITUTION AND PROVIDE IT TO YOUR TEAM CHAIR AT THE START OF THE VISIT. PLEASE SUBMIT THIS DOCUMENT AS PART OF THE FINAL DOCUMENTATION, 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 |
| College-level Mathematics and Basic Sciences | 30 semester hours or equivalent | 34 | 34 | 34 | 34 | 34 | 34 | | | | |
| Engineering Topics | 45 semester hours or equivalent | >> 45 | >> 45 | >> 45 | >> 45 | >> 45 | >> 45 | | | | |
| General Education | More than 0 | Y | Y | Y | Y | Y | Y | | | | |
| | | | | | | | | | | | |
| Please List Below Any Applicable Program Criteria: | | Is Program Criteria Requirement Met? YES or NO | | | | | | | | | |
| All students have same courses | | | | | | | | | | | |
| **See above** | | | | | | | | | | | |
| **All transcripts are basically the same with few electives** | | | | | | | | | | | |
| | | | | | | | | | | | |

* Computed as in curriculum analysis table.

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## TRANSCRIPT ANALYSIS for MASTER'S LEVEL PROGRAM

**ONLY USE for Master's Level Programs**

Institution *Sample University* Program *Architectural Engineering*

PLEASE COMPLETE THIS WORKSHEET PRIOR TO YOUR ARRIVAL AT THE INSTITUTION AND PROVIDE IT TO YOUR TEAM CHAIR AT THE START OF THE VISIT. PLEASE SUBMIT THIS DOCUMENT AS PART OF THE FINAL DOCUMENTATION, 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 |
| College-level Mathematics and Basic Sciences* | 30 semester hours or equivalent | | | | | | | | | | |
| Engineering Topics* | 45 semester hours or equivalent | | | | | | | | | | |
| 30 semester hours or equivalent beyond baccalaureate program | | | | | | | | | | | |
| | | | | | | | | | | | |
| Other Criteria: | | Is Criteria Requirement Met? YES or NO | | | | | | | | | |
| Curricular components of the baccalaureate level program criteria relevant to the master's level program name | | | | | | | | | | | |
| Mastery of a specific field of study or area of professional practice consistent with the master's program name and at a level beyond the minimum requirements of baccalaureate level programs | | | | | | | | | | | |
| | | | | | | | | | | | |
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*If the student has graduated from an EAC of ABET accredited baccalaureate program, the presumption is that these items have been satisfied.

## RECOMMENDED ACCREDITATION ACTION FORM

**Institution** *Sample University* **Program** *Architectural Engineering*

**Evaluator** *PEVname*

| | | |
|---|---|---|
| _X_ | NGR | This action indicates that the program has no Deficiencies or Weaknesses. This action is taken only after a Comprehensive 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 review. This action extends accreditation to the next General Review and 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 review. This action extends accreditation to the next General Review and 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 all Deficiencies and Weaknesses identified in the prior SC action. This action is taken only after either a SCR or SCV review. This action typically extends accreditation to the next General Review and has a typical duration of either two or four years. |
| ___ | IR | This action indicates that the program has no Deficiencies but has one or more Weaknesses. The Weaknesses are such that a progress report will be required to evaluate the remedial actions taken by the institution. This action has a typical duration of two years. |
| ___ | IV | This action indicates that the program has no Deficiencies but has one or more Weaknesses. The Weaknesses are such that an on-site review will be required to evaluate the remedial actions taken by the institution. This action has a typical duration of two years. |
| ___ | SCR | This action indicates that a currently accredited program has one or more Deficiencies. The Deficiencies are such that a progress report will be required to evaluate the remedial actions taken by the institution. This action has a typical duration of two years. This action cannot follow a previous SC action for the same Deficiency(s). |
| ___ | SCV | This action indicates that a currently accredited program has one or more Deficiencies. The Deficiencies are such that an on-site review will be required to evaluate the remedial actions taken by the institution. This action has a typical duration of two years. This action cannot follow a previous SC action for the same Deficiency(s). |
| ___ | NA | This action indicates that the program has Deficiencies such that the program is not in compliance with the applicable criteria. This action is usually taken only after a SCR or SCV review, or the review of a previously unaccredited program. Accreditation is not extended as a result of this action. |

If this is a **new program**, indicate the date at which accreditation is to begin. Normally accreditation is retroactive for one year such that it applies to all students who graduated after October 1 of the year preceding the on-site review (see the "retroactive year" column in the Program Information section of the Request for Evaluation Form and section I.E.6 of the Accreditation Policy and Procedure Manual). **Initial Accreditation Date:**_____

## EXIT STATEMENT TO THE INSTITUTION

**INSTRUCTIONS** (NOT to be read at exit meeting)

The sample exit statement that follows should be used as a template for overall outline and organization, but the wording should represent the Program Evaluator's findings for the current visit relative to the applicable General Criteria, Program Criteria, and Accreditation Policy and Procedure Manual (APPM). **Please refer to E402 Statement Writing for Program Evaluators for example appropriate language and construction for each component of the statement.**

The PEV 341 form might be pasted here to help guide the exit statement.

| | | | | | |
|---|---|---|---|---|---|
| Building electrical (synthesis, application, or comprehension), and engineering fundamentals supported (yes or no) | C | C | C | C | SSR indicates that circuits is the only experience AE students receive.<br>AE XXX illustrates a small amount of content in electrical systems. Student work product weakly supports comprehension.<br>Further review and discussion indicates a concern. |
| Construction/construction management synthesis, application, or comprehension), and engineering fundamentals supported (yes or no) | W | C | C | C | SSR does not indicate a construction experience<br>The synthesis experience slightly includes construction.<br>Further review and discussion indicates a concern. |

PROGRAM EXIT STATEMENT

**(**TO BE READ AT EXIT MEETING – DO NOT LEAVE A COPY WITH THE INSTITUTION)

Introduction

The BS Architectural Engineering program is relatively new and has requested a review of initial accreditation. The program is housed in the College of Engineering and has 108 students, 11 faculty members, three faculty associated with other units, two lecturers. 6 faculty are architects, 2 are engineers, and 3 have other experience such as construction. The program awarded 26 bachelor's degrees in the 2018-19 academic year.

Program Strengths

1. The architectural engineering program has 156-hour BS degree. It has many design studio courses that are beyond the requirements for a BS degree. These experiences use BIM to effectively address integrating building systems.

Program Deficiencies

None

Program Weaknesses

None

Program Concern

1. Program Criteria. The program criteria requires one of the subdisciplinary areas be addressed at the synthesis level. The program identifies construction/construction management as this subdisciplinary area. The student work product and other evidence illustrate building systems integration is strong; however, activities associated with estimating/scheduling/project management endeavors are not significantly addressed at the synthesis level, negatively impacting student learning of construction/construction management. Strength of compliance with this criterion is lacking.

2. Program Criteria. The program criteria requires all subdisciplinary areas be addressed at the comprehension (or higher) level. The program identifies building electrical systems as this subdisciplinary area. The student work product and other evidence illustrate limited content at the comprehension level; therefore, negatively impacting student learning of building electrical systems. Thus, strength of compliance with this criterion is lacking.

3.