

# Architecture and Community Design\_Aggregate Report

## ASSESSMENT REPORT ACADEMIC YEAR 2017 – 2018

ARCHITECTURE AND COMMUNITY DESIGN – ARCD MAJOR  
ARCHITECTURE AND COMMUNITY DESIGN – ARCD MINOR  
ARCHITECTURAL ENGINEERING – ARCE MINOR

### ARCHITECTURE AND COMMUNITY DESIGN (ARCD) MAJOR & MINOR

#### I. LOGISTICS & PROGRAM LEARNING OUTCOMES

1. Please indicate the name and email of the program contact person to whom feedback should be sent (usually Chair, Program Director, or Faculty Assessment Coordinator).

Feedback for the Architecture and Community Design major and minor programs should be sent to ARCD Program Director Seth Wachtel, slwachtel@usfca.edu.

2. Were any changes made to the program mission statement since the last assessment cycle in October 2017? Kindly state “Yes” or “No.” Please provide the current mission statement below. If you are submitting an aggregate report, please provide the current mission statements of both the major and the minor program.

Yes, there are changes to the ARCD major and minor program mission statement.

The revised mission statement for the ARCD major and minor is as follows:

Architecture and Community Design combines an introduction to the disciplines of architecture, urban design, and landscape design with an emphasis on the social sciences and the humanities. The program reflects the university's mission and commitment to building community toward a more just and humane world, within the larger framework of political and cultural issues. Students engage with and learn from the city and surroundings through innovative architectural design and real world projects that make a significant difference in the lives of underserved communities. Through this process, students learn to become

impassioned readers, interpreters, actors, and designers of their cities, institutions, and communities.

- 3. Were any changes made to the program learning outcomes (PLOs) since the last assessment cycle in October 2017? Kindly state “Yes” or “No.” Please provide the current PLOs below. If you are submitting an aggregate report, please provide the current PLOs for both the major and the minor programs.**

Yes – the PLOs of the ARCD major and minor program are:

Students will:

1. Demonstrate foundational knowledge of the historic development of architecture and cities and an overview of theories, analysis and criticisms related to historical buildings, landscapes, and cities.
2. Develop an understanding of modes of architectural observation, analysis and representation of the built environment, spatial and formal expression, and the role of society and culture in the process of architectural design.
3. Explain the importance of using architectural skills to work with diverse communities both locally and internationally to create positive social change in the built environment.
4. Articulate the various factors that affect the relationship of ecology and environment to cities and buildings.
5. Acquire the concepts of structure and materials in the design and construction of buildings, and methods of civil and structural engineering.

- 4. Which particular Program Learning Outcome(s) did you assess for the academic year 2017-2018?**

We assessed PLO #2 outcomes in course ARCD 110, a required class for both ARCD majors and minors.

## II. METHODOLOGY

5. Describe the methodology that you used to assess the PLO(s).

For example, “the department used questions that were inputted in the final examination pertaining directly to the <said PLO>. An independent group of faculty (not teaching the course) then evaluated the responses to the questions and gave the students a grade for responses to those questions.”

**Important Note** – WSCUC advises us to use “direct methods” which relate to a direct evaluation of a student work product. “Indirect methods” like exit interviews or student surveys can be used only as additional complements to a direct method.

For any program with fewer than 10 students: If you currently have fewer than 10 students in your program (rendering your statistical analysis biased due to too few data points), it is fine to describe a multi-year data collection strategy here. It would be important to remember that every 3 years, we would expect you to have enough data to conduct a meaningful analysis.

**Important: Please attach, at the end of this report, a copy of the rubric used for assessment.**

We looked at final project examples representing cumulative learning during the semester. Faculty collaboratively assessed the work products with assignment questions being directed to the faculty who taught the course. The course had three sections of 12 students each, so a sampling of 12 projects across the sections was used during the assessment. Since PLO #2 contains three distinct outcomes, each was evaluated based on the individual student work products reviewed.

### III. RESULTS & MAJOR FINDINGS

6. What are the major takeaways from your assessment exercise?

This section is for you to highlight the results of the exercise. Pertinent information here would include:

- a. how well students mastered the outcome at the level they were intended to,
- b. any trends noticed over the past few assessment cycles, and
- c. the levels at which students mastered the outcome based on the rubric used.

To address this, among many other options, one option is to use a table showing the distribution, for example:

Level	Percentage of Students
Complete Mastery of the outcome	8.7%
Mastered the outcome in most parts	20.3%

Mastered some parts of the outcome	66%
Did not master the outcome at the level intended	5%

The assessed course ARCD 110 is a first-year, first semester, basic skills course for ARCD majors and minors. As the first architecture-related course for all majors and minors, the initial range of knowledge and skills of the students is quite broad, with some having some background in relatable skills and others having some to none. Assessing the final work product of the course proved a useful guide to overall learning outcome assessment, since exposure and skill levels became more uniform as the semester progressed.

**a. How well students mastered the outcome at the level they were intended to:**

PLO #2

Develop an understanding of modes of architectural observation, analysis and representation of the built environment, spatial and formal expression, and the role of society and culture in the process of architectural design.

PLO 2, area one:

Develop an understanding of modes of architectural observation, analysis and representation of the built environment.

Level	Percentage of Students
Mastered the outcome in most parts	4 of 12 = 33.3%
Mastered some parts of the outcome	7 of 12 = 58.3%
Did not master the outcome at the level intended	1 of 12 = 8.3%

PLO 2, area two:

Develop an understanding of modes of spatial and formal expression.

Level	Percentage of Students
Mastered the outcome in most parts	1 of 12 = 8.3%
Mastered some parts of the outcome	10 of 12 = 83.3%
Did not master the outcome at the level intended	1 of 12 = 8.3%

PLO 2, area three:

Develop an understanding of the role of society and culture in the process of architectural design.

Level	Percentage of Students
Mastered the outcome in most parts	0 of 12 = 0%
Mastered some parts of the outcome	10 of 12 = 83.3%
Did not master the outcome at the level intended	2 of 12 = 16.6%

**b. Any trends noticed over the past few assessment cycles:**

1. Increasing the architecture rendering and model making exercises and minimizing the small object drawing exercises appears to increase learning outcomes for area one of PLO 2.
2. Area two of PLO 2 requires the subsequent ARCD studios to attain any level of mastery.
3. Area three of PLO 2 requires the subsequent ARCD studios to attain any level of mastery.
4. The course is effective in leveling the skill and conceptual learning levels of most students.
5. Tightly defined final project descriptions appear to be key to better learning outcomes for area three of PLO 2.

**c. The levels at which students mastered the outcome based on the rubric used.**

See "a" above.

#### IV. CLOSING THE LOOP

7. Based on your results, what changes/modifications are you planning in order to achieve the desired level of mastery in the assessed learning outcome? This section could also address more long-term planning that your department/program is considering and does not require that any changes need to be implemented in the next academic year itself.

Our biggest issue is collecting the data. With 110+ majors and minors, we need a reliable system for collecting student work products that can be used as data, and keeping them in a place accessible to those writing these reports (as roles change). We have tried asking faculty to oversee students making digital submissions, with limited success. We intend to deliver more specific instructions to faculty members and dedicate a student assistant to collecting and organizing the work, and also to make it a requirement (of the students) to individually submit work digitally. Any other suggestions are welcome.

- 8. What were the most important suggestions/feedback from the FDCD on your last assessment report (for academic year 2016-2017, submitted in October 2017)? How did you incorporate or address the suggestion(s) in this report?**

We received very helpful and specific feedback on the mission statement and it has been made more succinct and reduced by 40%.

Based on PLO feedback, we reworked the wording of our PLOs, including the one described in this report.

## ADDITIONAL MATERIALS

Architecture and Community Design – Major and Minor

PLO #2: “Develop an understanding of modes of architectural observation, analysis and representation and the role of society and culture in the process of architectural design.”

Assessment Rubric

Course: ARCD 110, Studio 1: Drawing and Representation

Source material: Final Project

Outcome	Poor Achievement of Outcome	Average Achievement of Outcome [Benchmark Standard] Minimum desired knowledge	Very Good Achievement of Outcome
<p>PLO 2 area one: Develop an understanding of modes of architectural observation, analysis and representation of the built environment.</p>	<p>Student is unable to demonstrate skill using visual rhetoric, semiotics, or primary rendering skills within their project work.</p>	<p>Student is able to demonstrate basic skills within their project work using two or more of the following: visual rhetoric, semiotics, and/or primary rendering skills.</p>	<p>Student is able to demonstrate skill and marked improvement using visual rhetoric, semiotics, and primary rendering skills to represent abstract concepts within their project work.</p>
<p>PLO 2 area two: Develop an understanding of modes of spatial and formal expression.</p>	<p>Student is unable to demonstrate fluency with any one of the following skills within their project work: multiple image composition, contrast and hierarchy, or system-wide structure within their project work.</p>	<p>Student is able to demonstrate fluency with two of the following skills within their project work: multiple image composition, contrast and hierarchy, and/or system-wide structure within their project work.</p>	<p>Student is able to demonstrate fluency and marked improvement with all of the following skills within their project work: multiple image composition, contrast and hierarchy, or system-wide structure within their project work.</p>
<p>PLO 2 area three: Develop an understanding of the role of society and culture in the process of architectural design.</p>	<p>Student is unable to demonstrate an understanding through their architecture design process, that human safety and comfort, both functional, emotional, and cultural are central components of architectural practice.</p>	<p>Student is able to demonstrate, through their design process, an understanding that a fundamental part of architectural design is the integration of cultural sensitivity and emotional human safety and comfort.</p>	<p>Student is able to demonstrate a fluency of design process whereby emotional and cultural human comfort is incorporated in concert with structural and material considerations.</p>

# ARCHITECTURAL ENGINEERING – ARCE MINOR

## V. LOGISTICS & PROGRAM LEARNING OUTCOMES

9. Please indicate the name and email of the program contact person to whom feedback should be sent (usually Chair, Program Director, or Faculty Assessment Coordinator).

Feedback for the Architectural Engineering minor program should be sent to both ARCD Program Director Seth Wachtel, [slwachtel@usfca.edu](mailto:slwachtel@usfca.edu) and ARCE Minor Program Coordinator Hana Böttger, [hana.bottger@usfca.edu](mailto:hana.bottger@usfca.edu).

10. Were any changes made to the program mission statement since the last assessment cycle in October 2017? Kindly state “Yes” or “No.” Please provide the current mission statement below. If you are submitting an aggregate report, please provide the current mission statements of both the major and the minor program.

No, the first draft mission statement for the ARCE minor is as follows:

### ARCHITECTURAL ENGINEERING (ARCE) MINOR:

The minor in Architectural Engineering draws upon the strengths and offerings of the Architecture & Community Design program to provide students of all related majors a significant introduction to engineering study. This minor program promotes and provides students of adjacent majors the techniques of engineering problem solving, and collaboration with the engineering community as essential aspects of many design and science fields.

11. Were any changes made to the program learning outcomes (PLOs) since the last assessment cycle in October 2017? Kindly state “Yes” or “No.” Please provide the current PLOs below. If you are submitting an aggregate report, please provide the current PLOs for both the major and the minor programs.

Note: Major revisions in the program learning outcomes need to go through the College Curriculum Committee (contact: Professor Joshua Gamson, [gamson@usfca.edu](mailto:gamson@usfca.edu)). Minor editorial changes are not required to go through the College Curriculum Committee.

Yes – the (significantly) revised PLOs of the ARCE minor program are:

Students will:



2. develop and demonstrate knowledge of foundational physics and math skills to apply to techniques of engineering design and engineering science.
2. demonstrate a basic physical intuition for engineering concepts, by incorporating engineering as an integral part of the design process.
3. work with local and international communities to design solutions which best serve the needs of a partnering community.
4. gain knowledge of and exposure to design and engineering decisions creating positive change in the environment, both socially and ecologically.

**12. Which particular Program Learning Outcome(s) did you assess for the academic year 2017-2018?**

We have just rewritten all four PLO's, and focused on the assessment of PLO #4, whose spirit is the same as before. (They are each of the same spirit as their earlier versions, just hopefully worded a little better).

## **VI. METHODOLOGY**

**13. Describe the methodology that you used to assess the PLO(s).**

**For example, “the department used questions that were inputted in the final examination pertaining directly to the <said PLO>. An independent group of faculty (not teaching the course) then evaluated the responses to the questions and gave the students a grade for responses to those questions.”**

**Important Note** – WSCUC advises us to use “direct methods” which relate to a direct evaluation of a student work product. “Indirect methods” like exit interviews or student surveys can be used only as additional complements to a direct method.

For any program with fewer than 10 students: If you currently have fewer than 10 students in your program (rendering your statistical analysis biased due to too few data points), it is fine to describe a multi-year data collection strategy here. It would be important to remember that every 3 years, we would expect you to have enough data to conduct a meaningful analysis.

**Important: Please attach, at the end of this report, a copy of the rubric used for assessment.**

We looked at term research papers from the course *ARCD 310: Intro to Construction Materials* (required for the minor, a class of 12 students) to illustrate students' mastery of PLO #4: "Students will gain knowledge of and exposure to design and engineering decisions creating positive change in the environment, both socially and ecologically." Each paper was judged for 1) understanding of the context of the problem, 2) integration of technical information, and 3) relevance of proposed idea or conclusions.

There are currently 19 students enrolled in the minor program and a typical required or expected elective course has about 12. The course mentioned above had 12 students in Fall 2017.

## VII. RESULTS & MAJOR FINDINGS

### 14. What are the major takeaways from your assessment exercise?

This section is for you to highlight the results of the exercise. Pertinent information here would include:

- d. how well students mastered the outcome at the level they were intended to,
- e. any trends noticed over the past few assessment cycles, and
- f. the levels at which students mastered the outcome based on the rubric used.

To address this, among many other options, one option is to use a table showing the distribution, for example:

Level	Percentage of Students
Complete Mastery of the outcome	8.7%
Mastered the outcome in most parts	20.3%
Mastered some parts of the outcome	66%
Did not master the outcome at the level intended	5%

Since the students typically pursuing the ARCE minor are ARCD majors (in the fall 2017 course used here there were 11 ARCD majors and one DSGN major), these students have already received a significant amount of context-rich, project-oriented education. Also, since they have self-selected and have been allowed into this minor program only after exhibiting satisfactory performance in earlier courses,

they are very unlikely to perform at a very low level. From the sample size of 12 students in the Fall 2017 class, we found the following:

Excellent mastery – 75%

Satisfactory mastery – 25%

Major finding: Upon using the attached rubric, it became clear that the second item, about technical analysis, needs to be revisited (the rubric element itself), because in many cases these students choose topics to study which are in the realm of alternative materials or methods, for which there are very few published scholarly works of research. The relatively narrow definition of “scholarly peer-reviewed article” is a little too narrow as a basis for determining whether these students are interpreting proper technical information. We will need to reword this somewhat in order to account for the innovative materials and methods that are being studied.

## VIII. CLOSING THE LOOP

- 15. Based on your results, what changes/modifications are you planning in order to achieve the desired level of mastery in the assessed learning outcome? This section could also address more long-term planning that your department/program is considering and does not require that any changes need to be implemented in the next academic year itself.**

Our biggest issue is collecting the data. We need a reliable system for collecting student work products that can be used as data, and keeping them in a place accessible to those writing these reports (as roles change). We have tried asking faculty to oversee students making digital submissions, with limited success. We intend to deliver more specific instructions to faculty members and dedicate a student assistant to collecting and organizing the work, and also to make it a requirement (of the students) to individually submit work digitally. Any other suggestions are welcome.

**16. What were the most important suggestions/feedback from the FDCD on your last assessment report (for academic year 2016-2017, submitted in October 2017)? How did you incorporate or address the suggestion(s) in this report?**

We received very helpful and specific feedback on the wording of the PLOs, and they were all modified, hopefully improved. Especially helpful was the reminder that a minor program is not meant to provide mastery of skills which typically take a whole major program to master. The wording of the PLOs should reflect the fact that it is a “taste” of that discipline, and we have attempted to improve them with this in mind.

## ADDITIONAL MATERIALS

Architectural Engineering Minor

PLO #4: “Students will gain knowledge of and exposure to design and engineering decisions creating positive change in the environment, both socially and ecologically.”

Assessment Rubric

Course: ARCD 310: Intro to Construction Materials

Source material: Term research paper (over 6 weeks, 1 per student)

	0 (not making it)	1 (approaching)	2 (meets outcome)
understanding of <b>context of problem</b> : background research, regional/cultural context	background research and conclusions disconnected from or missing regional/cultural context	proposal/conclusion is appropriate for regional/cultural context	background research and innovative proposal tie directly to each other and into regional/cultural context
integration of <b>technical information</b> : citing and analysis of others' research	few and poor quality references, disconnected or irrelevant data/studies	acceptable references, direct interpretation	excellent, varied and well-organized references analyzed well - both technical and socio-cultural
<b>relevance of proposed idea</b> or conclusion: next step in research, new proposal using info	no proposal of further research or clear conclusions made	solid observations, tentative proposal or conclusion made	makes link across previously unlinked elements, innovative proposal for further study