

UNIVERSITY OF MIAMI
2015 Academic Program Assessment Report

School/College: School of Architecture

Program Name and Degree: Bachelor of Architecture

Program Assessment Designee: Denis Hector

Mission Statement and Program Outcomes/Objectives

School of Architecture Mission Statement:

- Prepare students for professional leadership and lifelong learning in architecture, urbanism and related fields.
- Preserve and develop knowledge for the profession through research and practice.
- Share knowledge locally and internationally through community service.
- Promote building and community design goals of environmental responsibility, social equity and economic sustainability.
- There have been no changes to the program mission /objectives since last report sent to Planning, Institutional Research, and Assessment (PIRA).

- The **Bachelor of Architecture** is a, 5 year, 171 credit professional degree program accredited by the National Architectural Accrediting Board (NAAB). The curriculum is designed to fulfill NAAB conditions including 32 Student Performance Criteria (SPC). The program was last reviewed in 2011 and received a full term of reaccreditation with all conditions of accreditation met.

The architecture course work is organized around a sequence of 10 semester-long architectural design studios (6 credit with 9 contact hour per week) comprising 60% of the architectural credit hours. Design studios are central to the education of an architect with assigned building design projects in each studio incorporating both knowledge from accompanying lecture courses and the lessons of the previous design studios. The first six design studios which are taken in the first three years of the program comprise the core knowledge base of the program while the remaining four studios which are taken in the fourth and fifth years of the program offer students the opportunity to select specific areas of architectural design. At the end each semester students in the program each make a 10-15 minute oral presentation of their semester's building design project to a panel of faculty and outside reviewers which is followed by 20 minutes of discussion and comment.

Student Learning Outcomes and Related Measures

- The Architectural Design Studio end of semester presentations have been selected as the locus for measuring student outcomes based on their centrality to the curriculum, the opportunity to observe results across the program and the consistent structured presentation format. The Assessment Outcomes to be

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Office of Planning, Institutional Research, and Assessment (PIRA)
by the specified due date

Thank you for your assistance!

Revised 3/12/2013

evaluated have been chosen from the Student Performance Criteria in the current NAAB Conditions for Accreditation. The SPCs selected for the Outcomes Assessment relate to Critical Thinking and Representation which stipulates that: *"Architects must have the ability to build abstract relationships and understand the impact of ideas based on research and analysis of multiple theoretical, social, political, economic, cultural and environmental contexts. This ability includes facility with the wider range of media used to think about architecture including writing, investigative skills, speaking, drawing and model making."*

(2009 Conditions for Accreditation, National Architectural Accrediting Board, Inc. p.21)

Criteria A.1. Communication Skills, A. 2. Design Thinking Skills, A. 3. Visual Communication Skills and A. 6. Fundamental Design Skills have been selected as Outcomes as they are expected to be evidenced at all levels of the design studio curriculum. The assessment is aided by a rubric created for design reviews and completed by the design faculty of the school and visiting design critics. The assessments is measured on a 5 point scale in which a score of 1 represents a measure of *Deficient: exhibits significant deficiencies in knowledge or skills*, a score of 5 represents *Distinguished: significantly exceeds expectations all areas of knowledge and skill* and the median score of 3 represents a measure of *Competent: completely satisfies the criteria for knowledge and skill*.

Outcome 1: Fundamental Design Skills: Students will demonstrate *the Ability to* effectively use basic architectural and environmental principles in design. (NAAB SPC A.6)

Assessment Measure 1: Design Concept: Demonstration of well-defined Project premise as measured by faculty using a rubric designed for this purpose.

Assessment Measure 2: Graphic Presentation: Demonstration of application and development of appropriate representational media as measured by faculty using a rubric designed for this purpose.

Outcome 2: Design Thinking Skills: Students will demonstrate *the Ability to* raise clear and precise questions, use abstract ideas to interpret information, consider diverse points of view, reach well-reasoned conclusions, and test alternative outcomes against relevant criteria and standards.

(NAAB SPC A.2)

Assessment Measure 1: Project Development: Demonstration of application of architectural and environmental principles in design as measured by faculty using a rubric designed for this purpose.

Assessment Measure 2: Implementation: Demonstration of synthesis and integration of design elements and systems into a coherent solution as measured by faculty using a rubric designed for this purpose.

Outcome 3: Communication Skills: Students will demonstrate *the Ability to* read, write, speak and listen effectively and **Visual Communication Skills:** Students will

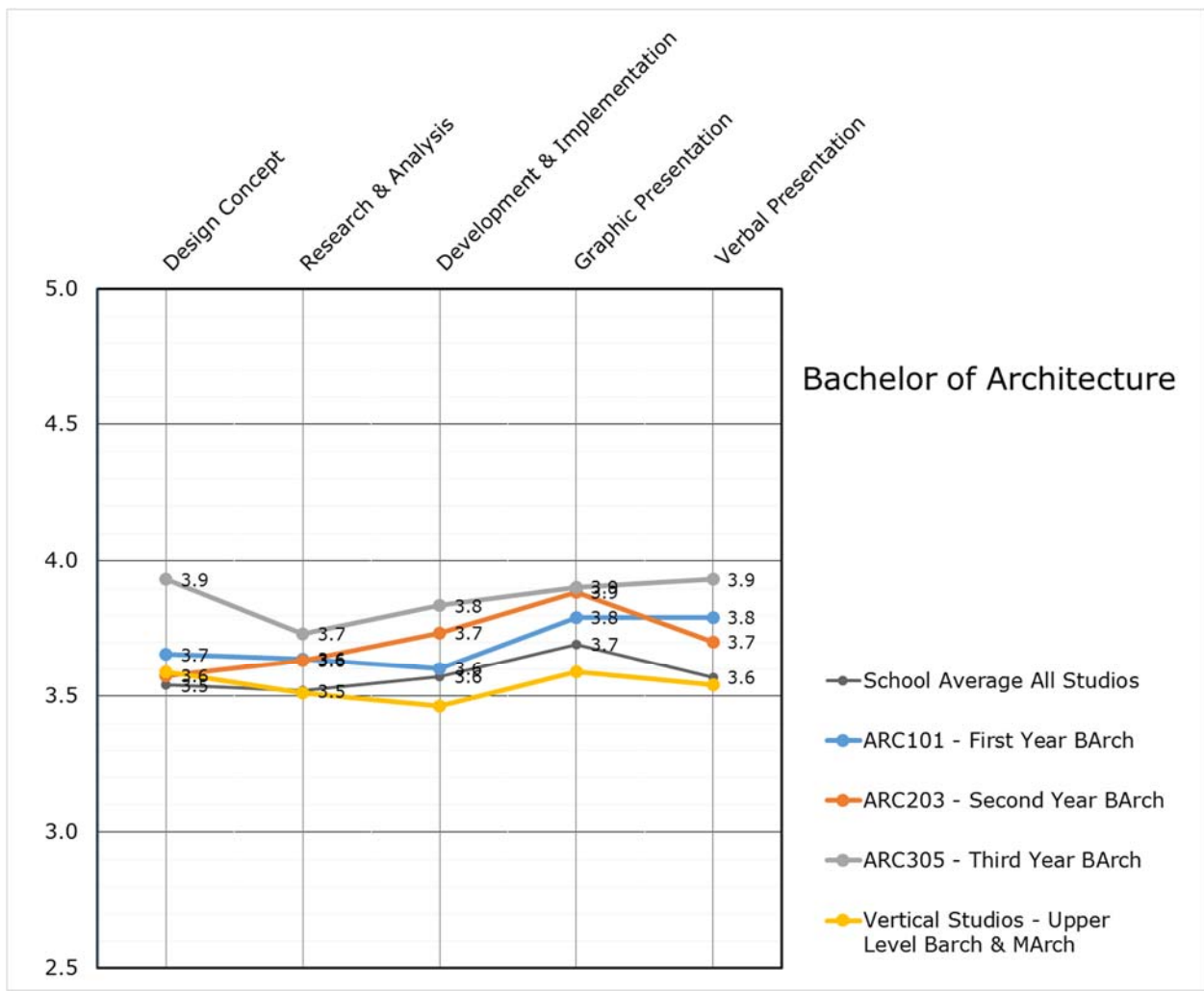
demonstrate *the Ability to* use appropriate representational media, such as traditional graphic and digital technology skills, to convey essential formal elements at each stage of the programming and design process.__(NAAB SPC A.3)

Assessment Measure 1: Graphic Presentation: Demonstration of the application and development of appropriate representational media as measured by faculty using a rubric designed for this purpose.

Assessment Measure 2: Verbal Presentation: Demonstration of the ability to speak and listen effectively as measured by faculty using a rubric designed for this purpose.

Assessment Findings

- **2015 Graphical Summary of the Outcomes Assessment:**



- Outcome 1: Fundamental Design Skills:

OUTCOME 1: Fundamental Design Skills					
	ARC101	ARC203	ARC305	Vertical Studio	School Average
Design Concept	3.7	3.6	3.9	3.6	3.5
Graphic presentation	3.8	3.9	3.9	3.6	3.7
Fundamental Design Skills	3.8	3.8	3.9	3.6	3.6

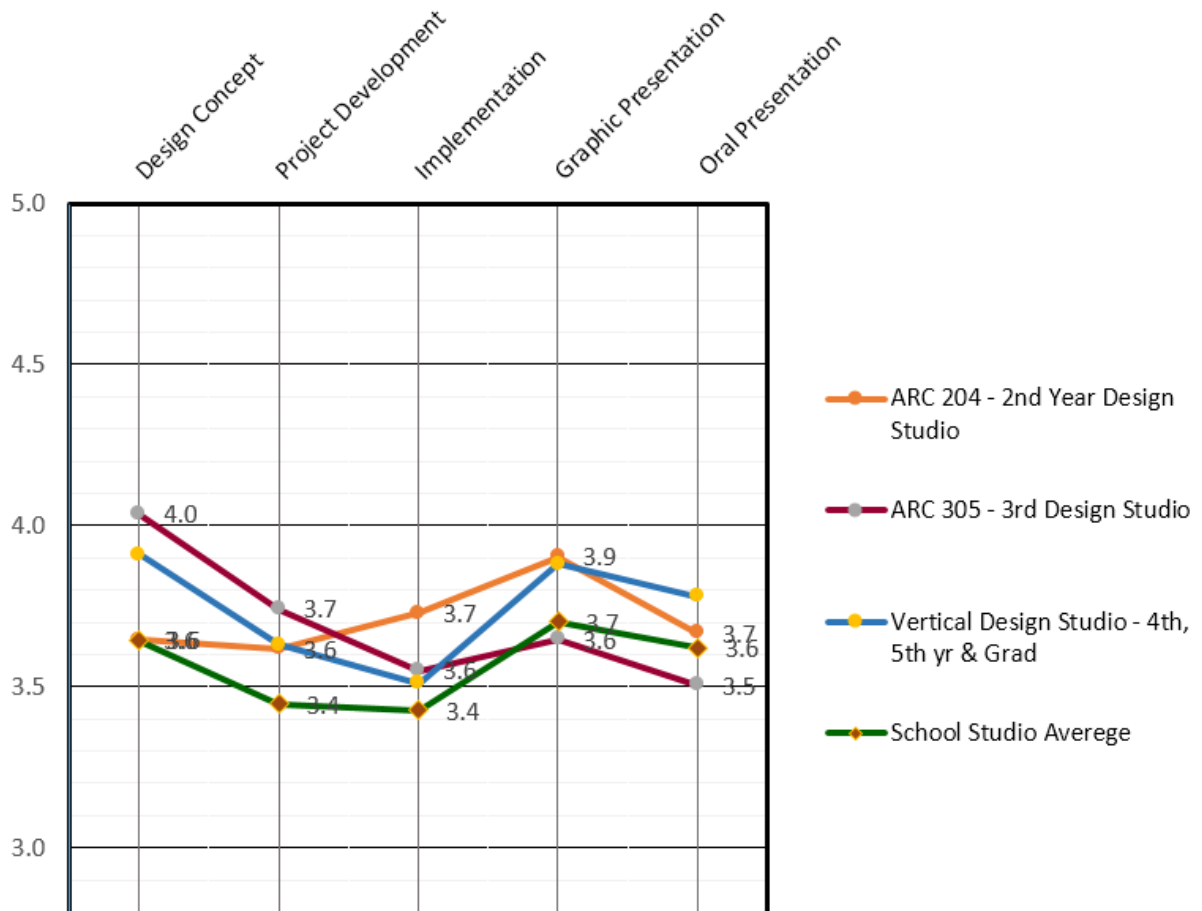
- Outcome 2: Design Thinking Skills:

OUTCOME 2: Design Thinking Skills					
	ARC101	ARC203	ARC305	Vertical Studio	School Average
Research & Analysis	3.6	3.6	3.7	3.5	3.5
Development & Implementation	3.6	3.7	3.8	3.5	3.6
Design Thinking Skills	3.6	3.7	3.8	3.5	3.6

- Outcome 3: Communication Skills

OUTCOME 3: Communication Skills					
	ARC101	ARC203	ARC305	Vertical Studio	School Average
Graphic presentation	3.8	3.9	3.9	3.6	3.7
Verbal presentation	3.8	3.7	3.9	3.5	3.6
Communication Skills	3.8	3.8	3.9	3.6	3.7

- **2014 Graphical Summary of the Outcomes Assessment:**



- **Outcome 1: Fundamental Design Skills:**

OUTCOME 1: Fundamental Design Skills				
	ARC204	ARC305	Vertical Studio	School Average
Design Concept	3.6	4.0	3.9	3.6
Graphic presentation	3.9	3.9	3.9	3.7
Fundamental Design Skills	3.8	4.0	3.9	3.6

- **Outcome 2: Design Thinking Skills:**

OUTCOME 2: Design Thinking Skills				
	ARC204	ARC305	Vertical Studio	School Average
Project Development	3.6	3.7	3.6	3.5
Implementation	3.7	3.6	3.5	3.4
Design Thinking Skills	3.7	3.7	3.6	3.4

- **Outcome 3: Communication Skills**

OUTCOME 3: Communication Skills				
	ARC204	ARC305	Vertical Studio	School Average
Graphic Presentation	3.9	3.8	3.9	3.7
Verbal Presentation	3.7	3.5	3.8	3.6
Communication Skills	3.8	3.7	3.9	3.6

Findings Relating to Program Outcomes

The NAAB has now released the final version of the latest revision to the Student performance criteria in the 2014 Conditions of Accreditation. The revision presents substantial changes both in structure and organization of the criteria. The most significant revision is in the area formerly titled Comprehensive Design which has been separated into Realm C, is significantly broadened in scope and renamed Integrated Architectural Solutions.

Realm C: Integrated Architectural Solutions. *Graduates from NAAB-accredited programs must be able to demonstrate that they have the ability to synthesize a wide range of variables into an integrated design solution.*

Student learning aspirations for this realm include

Comprehending the importance of research pursuits to inform the design process.

Evaluating options and reconciling the implications of design decisions across systems and scales.

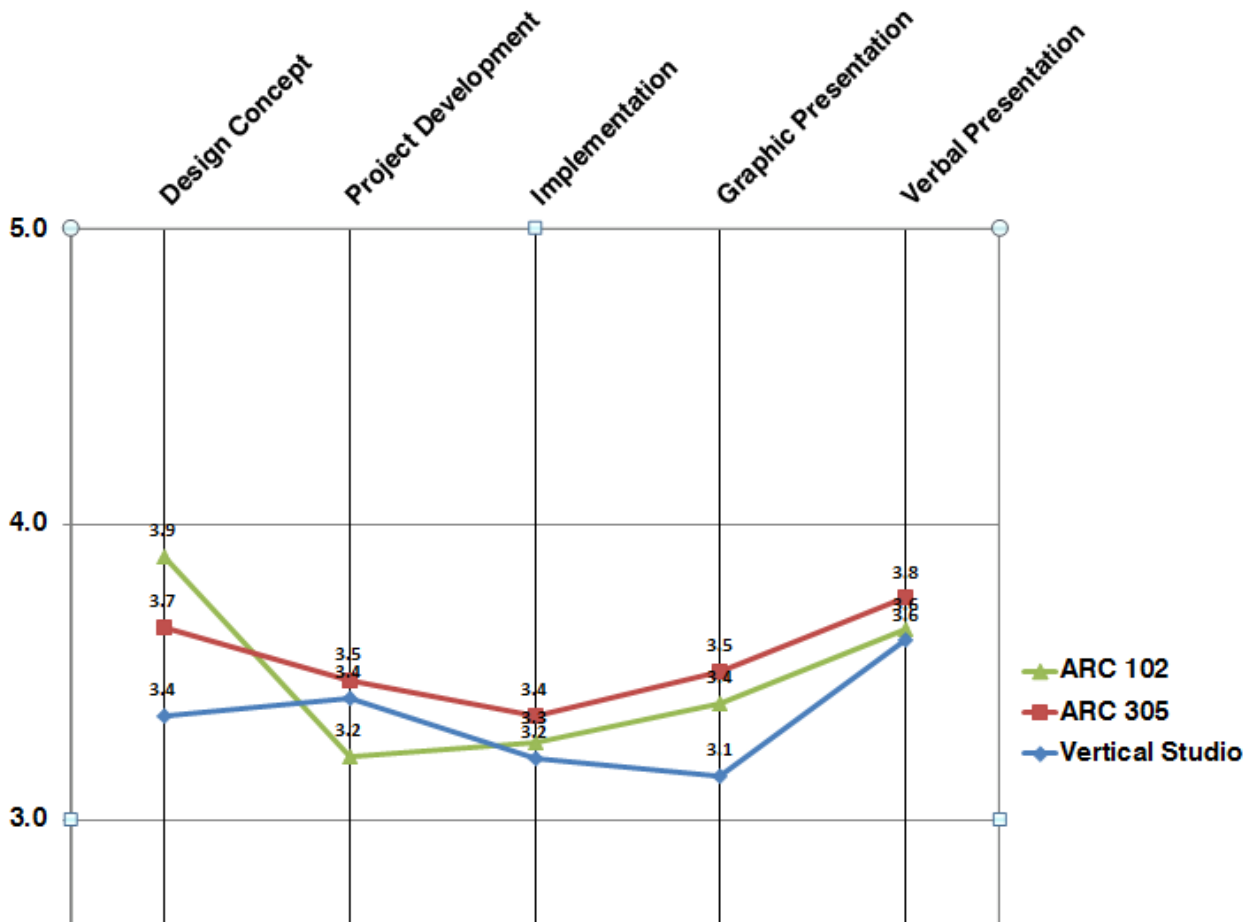
Synthesizing variables from diverse and complex systems into an integrated architectural solution.

Responding to environmental stewardship goals across multiple systems for an integrated solution.

NAAB 2014 Conditions pp17.

Revised outcomes associated with Integrated design will be the focus of the next 3 assessment cycles as the school prepares for the 2017 Accreditation Team visit.

- 2013 Graphical Summary of the Outcomes Assessment:



- Outcome 1: Fundamental Design Skills:

OUTCOME 1: Fundamental Design Skills			
	ARC102	ARC305	Vertical Studio
Design Concept	3.9	3.7	3.4
Graphic presentation	3.4	3.5	3.1
Fundamental Design Skills	3.7	3.6	3.3

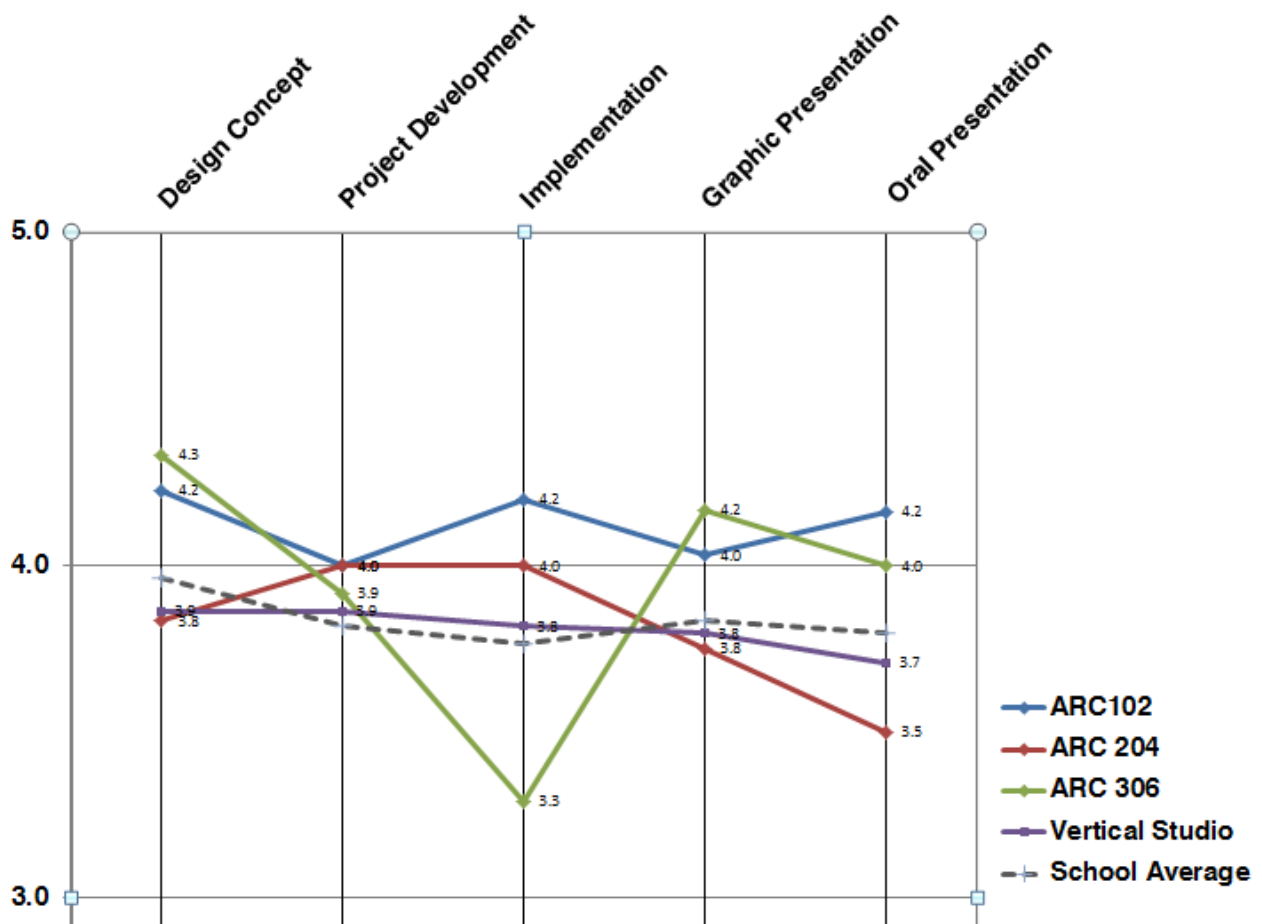
- Outcome 2: Design Thinking Skills:

OUTCOME 2: Design Thinking Skills			
	ARC102	ARC305	Vertical Studio
Project Development	3.2	3.5	3.4
Implementation	3.3	3.8	3.2
Design Thinking Skills	3.3	3.7	3.3

- **Outcome 3: Communication Skills**

OUTCOME 3: Communication Skills			
	ARC102	ARC305	Vertical Studio
Graphic Presentation	3.4	3.8	3.1
Verbal Presentation	3.6	3.5	3.6
Communication Skills	3.6	3.7	3.4

2012 Graphical Summary of the Outcomes Assessment:



• Outcome 1: Fundamental Design Skills:

OUTCOME 1: Fundamental Design Skills

	ARC102	ARC204	ARC306	Core Studios	Vertical Studio	All Studios
Design Concept	4.2	3.8	4.3	4.1	3.9	4.0
Graphic presentation	4.0	3.8	4.2	4.0	3.6	3.8
Fundamental Design Skills	4.1	3.8	4.3	4.1	3.8	3.9

• Outcome 2: Design Thinking Skills:

OUTCOME 2: Design Thinking Skills

	ARC102	ARC204	ARC306	Core Studios	Vertical Studio	All Studios
Project Development	4.0	4.0	3.9	4.0	3.9	3.8
Implementation	4.2	4.0	3.3	3.8	3.8	3.8
Design Thinking Skills	4.1	4.0	3.6	3.9	3.9	3.8

• Outcome 3: Communication Skills

OUTCOME 3: Communication Skills

	ARC102	ARC204	ARC306	Core Studios	Vertical Studio	All Studios
Graphic Presentation	4.0	3.8	4.2	4.0	3.8	3.8
Verbal Presentation	4.2	3.5	4.0	3.9	3.7	3.8
Communication Skills	4.1	3.7	4.1	4.0	3.8	3.8

Findings Relating to Program Outcomes

The NAAB released the draft version of the 2013 Conditions of Accreditation with substantially revised Student Performance Criteria. The 2014 Outcomes Assessment survey instrument will be revised to incorporate the new NAAB criteria.

Discussion for Continuous Improvement

(Faculty Analysis of Findings and Initiatives to Improve Learning and Program)

2015 Faculty Review and Analysis

The results of the Student Learning Outcome assessments have been reviewed by the Dean and his Administrative Team, comprising the Associate Deans, Assistant Dean and the Program Directors for graduate and undergraduate programs on October 19, 2015 and presented and discussed at the school Faculty Assembly on November 23, 2015.

Summary of the Discussion

At both reviews there was the consensus observation the results demonstrate a positive trend in studio performance. The revision to the survey instrument was judged to have been an effective way to clarify the elements of the projects. The results of the Research and Analysis portion of all studios are areas that deserve attention.

The Vertical studio results which were the least well regarded was the point of significant focus and discussion. The nature of the varied focus topics of Vertical studio and the review format may have make these studios more difficult to assess.

Initiatives to Improve Student Learning Outcomes and Program Outcomes

As the program approaches an accreditation visit in spring 2017, the faculty affirm the validity of the redesign of the ratings grid.

Studio coordinators are requested to place additional emphasis on the presentation of Research and Analysis in the final presentation. Further, it was noted that all studio syllabi should include the percentage of the final grade that is represented by the final presentation.

All studio faculty are encouraged to emphasize the presentation of process in the final review.

Provide numbers of responses for each studio.

Evidence of Improvement

The range of the outcomes across the program has narrowed and there is no one area that was observed to be significantly out of line with the other areas. As the rating grid is newly revised this year there was a consensus to retain the form for the next two years to provide a basis for year over year comparison.

2014 Faculty Review and Analysis

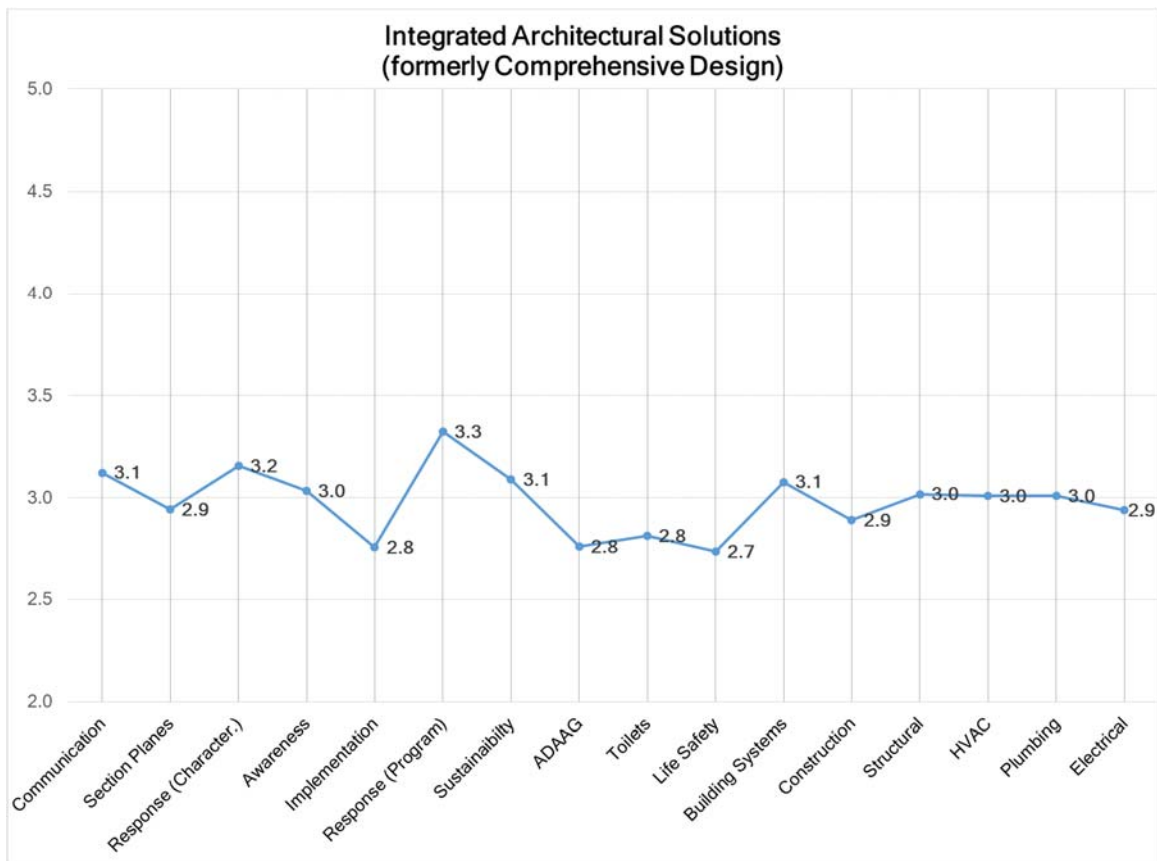
- The results of the Student Learning Outcome assessments have been reviewed by the Dean and his Administrative Team, comprising the Assistant Dean and the Program Directors for graduate and undergraduate programs on October 14, 2014 and presented and discussed at the school Faculty Assembly on Nov. 3, 2014.

Summary of the Discussion

At both meetings there was a positive assertion that student outcomes as measured in the design studios were meeting or exceeding faculty expectations. At the Administrative Team review, the observation was made that following a cohort through the curriculum with year to year data tracking might help to explain some of the differences in performance between studios. At the Faculty meeting, a discussion developed over two of the assessment criteria. The question was debated as to whether **Project Development and Implementation** were too close as measures, It was agreed to combine those two criteria and to add **Research and Analysis** to the rubric. The question was also posed as to whether any of the assessment criteria could be compared to the Graduation survey as a measure of student perception of competencies.

2014 Initiatives to Improve Student Learning Outcomes and Program Outcomes

- A new survey instrument for Integrated Architectural Solutions (IAS) was tested in Spring 2014. The survey instrument was derived from the Student Performance Criteria stipulated for IAS design studios by NAAB.



While the 16 measures provided individual students with valuable feedback on the development of their projects, the data is less informative as an aggregate measure of the success of the IAS studios. The survey instrument will be revised for use in 2014-15.

2013 Faculty Review and Analysis of Assessment Findings

- The results of the Student Learning Outcome assessments have been reviewed by the Acting Dean and his Administrative Team, comprising the Assistant Dean and the Program Directors for graduate and undergraduate programs on October 14, 2013 and presented and discussed at the school Faculty Assembly on Oct 21, 2013.

Summary of the Discussion

- The results are much more closely grouped than in the prior year and the average is lower by almost 20% in all measures. No particular significance is ascribed to the lower average and the general distribution of the quality measures is an indication of quality in this year's results.
- The Communication skills remain strong with the Verbal Presentation skills in particular demonstrating highest success. The significantly poor performances in the Third year and Vertical studio in 2012 have been substantially improved.
- The area across the sample studio's indicating the need for most attention in the next cycle is Design Thinking Skills. Third year design has improved from the particularly low score on 2012 but First Year and Vertical have declined over the same period.
- The most noticeable weakness in this cycle is in the Vertical Studio's Design Thinking Skills. As an upper level studio this indicates a possible interest in concept and communication over development.

2013 Initiatives to Improve Student Learning Outcomes and Program Outcomes

- The modifications to the measuring device (see description in 2012 review below) and the faculty familiarity with the instrument are both demonstrated in this year's result. The decline in the average scores over the previous year is interpreted as a maturing of the instrument of measure and as all the scores range in between Competent and Superior, no specific deficiency is noted.
- The design studio faculty noted that the results for Design Thinking Skills were an area that warranted particular attention for the 2013-14 studios. Interim pinups and Mid-term reviews are an opportunity to focus discussion on development in this area.

2012 Faculty Review and Analysis of Assessment Findings

- The results of the Student Learning Outcome assessments have been reviewed by the Dean and her Administrative Team, comprising the Associate Dean, the Assistant Dean and the Program Directors for graduate and undergraduate programs on Dec 3, 2012 and presented and discussed at the school faculty meeting at the beginning of the Spring semester Jan 28, 2013.

Summary of the discussions:

- The analysis and discussion of the data demonstrate an improvement in the survey instrument (rubric).
- The most evident positive outcome is in the first year studio ARC102 results. This group had the highest average outcome scores by 8% and the lowest deviation from average across the measures. The faculty and outside reviewers have thus manifested a significantly affirmation of this studio's results.
- The outcome assessments display two significant negative outcomes: the Verbal Presentation in ARC204 and the Implementation in ARC306.
- The ARC306 Implementation assessment score of 3.3 is the lowest in the sample for this cycle and has the highest variation from studio average. This clearly evidences a negative judgment by the faculty reviewers. The focus subject for ARC306 is the integration and synthesis of the major technical aspects of a building design. This result has several possible interpretations: Is this an indication of the students' focus on technical integration over design or an overall lack of the students' ability to resolve the integration. In the discussion the faculty and administrators concluded that the expectations for the projects in this studio are elevated and while not an area for concern the faculty in this studio should make a particular focus on Implementation in the next year's studio.

The ARC 204 Verbal Presentation score of 3.5 is the second lowest score in the overall sample and at significant variation within that studio's outcomes. The faculty and administration agreed that this data point is an outlier without a context from which one can be surmise a cause. Faculty in this studio should help students develop an appropriate language to describe the technical aspects of their projects in this studio.

2012 Initiatives to Improve Student Learning Outcomes and Program Outcomes

- The results of the prior year's Outcomes Assessments displayed a Lake Wobegon effect with tightly grouped scores averaging from 4.3 to 4.7 on a 5 point scale. The rubric used in the outcomes assessment for the 2011-12 cycle was recalibrated with the goal of re-centering the assessment scores by establishing "Competent" or good outcome at a score of 3 in the middle of the scale. This effort was successful to a degree as the average assessment scores are now between 3.8 and 4.0 which represents a re-centering of between 0.5-0.7 points in the average scores. The Outcomes Assessment rubric will be modified in graphical layout for the 2012-13 cycle to ensure that reviewers are interpreting the scale correctly. No other changes will be made to the rubric for this next cycle of assessment so that we are able to compare results between assessment cycles.

Evidence of Improvement

2013

The overall interpretation of the results is that the areas of particularly poor performance in the 2012 cycle have improved substantially in 2013. This is a single result and will be re-examined in the 2014 cycle for consistency.

School of Architecture
University of Miami
Student Outcome Assessment
Architectural Design Studio

Studio Number _____ Date _____

Project Title _____

Student Identification _____

Rate the Demonstration of abilities on a 5 point scale with the median value of 3 representing competency or satisfaction of the criteria determined appropriate for the design studio level.

5 – Distinguished: significantly exceeds expectations all areas of knowledge and skill

4 – Superior: exceeds expectations in several the areas of knowledge and skill

3 – Competent: completely satisfies the criteria for knowledge and skill

2 – Adequate: exhibits minor deficiencies in knowledge or skills

1 – Deficient: exhibits significant deficiencies in knowledge or skills

Abilities	Deficient	Adequate	<u>Competent</u>	Superior	Distinguished
Design Concept	1	2	<u>3</u>	4	5
Project Development	1	2	<u>3</u>	4	5
Implementation	1	2	<u>3</u>	4	5
Graphic Presentation	1	2	<u>3</u>	4	5
Verbal Presentation	1	2	<u>3</u>	4	5

Demonstration of abilities:

Design Concept: well-defined project premise

Project Development: application of architectural and environmental principles in design

Implementation: synthesis and integration of design elements and systems into a coherent solution

Graphic Presentation: application and development of appropriate representational media

Verbal Presentation: speaking and listening effectively