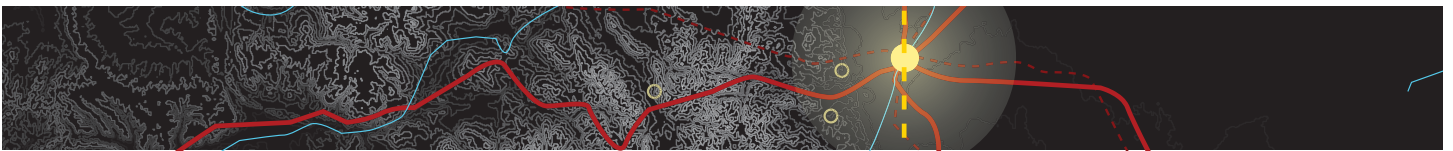




CHAPTER 4

STUDENT AND PROGRAM OUTCOMES



4. STUDENT and PROGRAM OUTCOMES

STANDARD 4: *The program shall prepare students to pursue careers in landscape architecture.*

INTENT: *Students should be prepared – through educational programs, advising, and other academic and professional opportunities – to pursue a career in landscape architecture upon graduation. Students should have demonstrated knowledge and skills in creative problem solving, critical thinking, communications, design, and organization to allow them to enter the profession of landscape architecture.*

A. STUDENT LEARNING OUTCOMES

1. *Does student work demonstrate the competency required for entry-level positions in the profession of landscape architecture?*

The curriculum intentionally introduces students to the majority of core competencies in the first half of their academic career. The courses that emphasize practice-oriented content knowledge are Landform Manipulation, Landscape Construction Materials and Methods, Plants in Design, and Professional Practice, as well as Computer Applications in Landscape Architecture, and perhaps also Introduction to GIS with its analytical capacity for site analysis. Of those courses Professional Practice is the only course that occurs outside of the first three semesters. This sequence provides students with the foundational skills that can be applied to more advanced studio, coursework and internships. The program also views writing as a core competency and students are given assignments and assessed on writing skills in History of Landscape Architecture, Landscape Architecture Theory and Criticism, and Site, Society and Environment. This sequence of courses provides students with the basic skills and abilities required for entry-level positions in the profession.

At the faculty retreat in May 2015 a plan was finalized for assessing students for core competency at the completion of their third semester. This threshold portfolio review for core competencies will be implemented for the Fall 2015 incoming class. Courses will include exercises and skills intended to achieve core competencies, and other workshops or training will be offered to facilitate the preparation of the portfolios.

Threshold portfolio. To be submitted to the faculty at the end of the third semester in the program. Requirements for submission are:

- Portfolio of work demonstrating core competencies.
- Studio projects requiring accompanying statements of design ideas/concepts/goals/methods and processes.
- Reflective statement indicative of accomplishments and personal goals for the remainder of their graduate studies.

In addition, we have introduced an Extern Program. Externships are experiential learning opportunities, similar to internships, provided to give students short practical experiences in their field of study. This program, introduced to the Department of Landscape Architecture in 2015, invites our graduate students to explore a career interest in a realistic learning environment outside of the classroom. Participating students spend at least one week with sponsoring firms and organizations across the country either in August before the start of school or during the Winterim session. The Department aspires to have all of our students participate in at least one Externship

experience before taking the Professional Practice course (typically taken in the final semester of their course of study).

Depending upon the individual's level of experience, an extern's duties can range from true job shadowing to attending meetings and site visits, preparing drawings or models, or other hands on activities. Not only do externships provide an excellent opportunity to help students develop their skills and gain exposure to the field, they also provide important networking opportunities.

The benefits to the sponsoring firm or organization are also great-- extern sponsors appreciate the opportunity to observe the capabilities and interests of motivated School of Architecture students and can benefit from their skills, knowledge, and fresh ideas. Many alumni also utilize the extern experience as a mentoring opportunity, or as a way to give back to the school.

2. *How does the program assess student work and how does it demonstrate students are competent to obtain entry-level positions in the profession?*

Program Assessment of Student Work

The faculty continues to be committed to developing and implementing efficient and effective processes of assessment and evaluation to advance student learning, teaching effectiveness and program quality. The program assessment of student work has been in place since 2006 when the faculty developed key program-level assessments and methods for evaluating student performance. (Refer to the Program-Level Assessment Matrix at the end of this section.) These program-level outcomes, assessments and collection of data continue to expand and evolve, and inform program improvements.

The demonstration of competency for a student to enter the profession is based on their achievements in the areas of learning objective noted below. We will be implementing the "Threshold portfolio" to formalize our assessment of their attainment of these skills at the mid-way juncture of their course of study; at present, their abilities are assessed in specific courses, not in a summative way. Further discussion of this is in Chapter 3, Section B.3.

The specific learning outcomes describing the knowledge, skills and abilities that students are expected to have upon completion of the program are introduced to the students during orientation as well as through syllabi and rubrics. The primary method of assessment is via rubrics developed for design studio because they best reflect overall student performance and student progress in the majority of student learning outcomes. Other assessment methods such as papers and exams are also critical to evaluating the full spectrum of student learning.

Each spring, the department faculty meets to discuss the results of these assessments and other forms of indirect measurement. The results of the assessments are used to help guide the evolution of the curriculum and to develop a plan of action for the year ahead. The assessment results and plan of action are then documented and submitted to the University as the Annual Program Assessment Results Report. (See Appendix C. Program Annual Assessment Reports and Feedback for examples of the past three years reports.)

This has been an incremental process and it is ongoing. As a result of this year's discussion, the focus for the upcoming year will be to develop a more consistent and formative assessment of student performance in the form of a threshold portfolio (as described above in question 1) halfway through their career and the creation of an externship program with professional offices.

Program Objectives and Student Learning Outcomes

The department developed the following program objectives and student learning outcomes so faculty and students have a shared understanding of the goals directing the curriculum. Students

are expected to be proficient or above in each of these areas by the time they graduate from the program.

Design: Students will be able to formulate questions and arguments about landscape and landscape's role as a significant cultural medium; determine processes and practices that lead to conceptual, analytical, and formative actions that transform existing situations into preferred alternatives based on ethical, communicative and content knowledge criteria.

Students will be able to:

- Research, identify and assess constraints and opportunities.
- Situate the design problem within a larger cultural, social and ecological context.
- Set up and test strategies that synthesize the research and contextual processes.
- Implement and demonstrate the strategies through physical application.
- Evaluate and reconsider outcomes.

Research: Students will be able to understand and apply appropriate research methods for design and scholarship in landscape architecture.

The detailed measurable program-level outcomes for research are in development. However, they are clearly defined and assessed in the courses Research Tools and Methods and History of Landscape Architecture.

Professional Ethics: Students will be able to critically evaluate local and global ramifications of social issues, diverse cultures, economic systems, ecological systems and professional practice as guiding principles for design thinking and implementation.

Students will be able to:

- Understand, critique, integrate and articulate different sources, constructions and principles of ethics, including personal, professional, economical, social, cultural, and ecological concepts in their historic and present contexts.
- Critically identify and assess personal and professional predispositions to reflectively participate in a discourse on the motivations, intents, reasons and effects of landscape architectural practices and of specific design proposals.
- Critically develop and apply ethical frameworks to appropriately respond to culturally, socially and economically diverse conditions.
- Critically identify and assess personal and professional predispositions to direct actions, recognize the influences on design decisions and be accountable for an ethical course of action.
- **Communication and Representation:** Students will be able to speak, write, create and employ appropriate representational media to effectively convey ideas on subject matter contained in the professional curriculum to a variety of audiences.
- Students should be able to:
- Write an organized, compelling and grammatically correct argument or thesis supported by well-documented research.
- Prepare and present an organized, professional and compelling verbal and visual presentation using appropriate media to explain complex ideas and concepts.
- Constructively critique their work and the work of others.
- Clearly articulate and document the iterative process of developing design ideas.
- Effectively communicate design ideas to a variety of audiences.

- **Content Knowledge:** Students will be able to develop a critical understanding and application of the histories, theories, and practices of landscape architecture and its role in reflecting and shaping culture and environments.
- Students should be able to:
- Identify and understand the genesis and impacts of major movements and examples of built landscapes from antiquity to the present.
- Identify and understand various formal, social, economic and political forces giving shape to the built environment.
- Analyze and discuss in written, visual and oral form the relationship of a built work to the culture that produced it.
- Identify and apply design theory and methodology to their work.
- Demonstrate an understanding of landscape architects' legal responsibilities with respect to professional standards for public health, safety, welfare and other factors affecting design, construction and practice.
- Demonstrate an understanding of the principles, conventions, standards and applications pertaining to the manufacture and use of construction materials, components and assemblies.
- Demonstrate an awareness of the basic principles of office organization, the different methods of project delivery, the corresponding forms of service contracts and the evolving legal context to render competent and responsible professional services.

Evaluating Individual Courses

As part of the program level assessments, faculty is required to submit faculty course evaluations (FCE) at the end of each semester. The FCE is a department form and process in which faculty document the number of students above proficient, proficient or below proficient for the assigned program-level learning outcomes. The data collected from these forms is assembled in the annual assessment report and submitted to the University's Director of Assessment for feedback.

Faculty course evaluations (FCEs): At the end of the semester, each instructor teaching a required course is required to submit a self assessment, which includes data regarding the assessment of program-level student learning outcomes. The intent of these evaluations is to encourage a healthy discussion within the department about what outcomes are emphasized in which courses and how each individual course contributes to the sequence of the entire curriculum. A sample of the Faculty Course Evaluation (FCE) is included in the Appendix (see section 10.6)

Faculty course questionnaires (FCQs): At the end of each semester, students in every course in the University complete an anonymous survey of the course and the effectiveness of the instructor and teaching assistant(s) (if any). The results of these surveys are tabulated and available for viewing online midway through the following semester. The results are also used in the annual evaluation of faculty performance. See section 4.4 Faculty Evaluation for more details on how FCQ results are used.

Evaluating Individual Student Performance

Student performance in individual courses is directly assessed through design studio juries, exams and assignment rubrics. Course expectations and desired outcomes are described in the syllabus.

Design studio juries: The design studio jury is the primary method of student assessment because it best reflects overall student performance and student progress in the majority of student learning outcomes. The design studio is the integrative centerpiece of the curriculum and is intentionally linked with courses taken concurrently. At the end of the semester during the student project presentations, the department faculty and external reviewers use rubrics to critically discuss and

assess the quality of each project from the views of their respective objectives, requirements, methods and student performance.

Exams and assignment rubrics: Student performance is also directly assessed through exams of course content knowledge and through rubrics used for course assignments.

Other methods of assessing program effectiveness: During faculty meetings, instructors discuss general academic strengths and weaknesses of students coming in to their courses to identify opportunities for improvements in preceding courses. The Department also gains insight into the effectiveness of the program through discussions with local professionals, including members of the Landscape Architecture Advisory Board, to better understand the capabilities and shortcomings of recent graduate classes.

Grades: Validation of student performance is confirmed by grades earned in each course.

Peer review: The professional community plays an active role in evaluating student work during guest teaching, design juries and desk critiques. Occasionally, visiting professionals identify shortcomings in student works that may reflect program deficiencies. These are discussed, corrected, and re-evaluated by the faculty.

Student's Self-Assessment

As part of the student survey administered in spring 2015, our currently enrolled students were asked to self-assess their skills and perception of competency in our five learning objectives areas, with the questions focused on the more detailed sub-competencies listed above. In the alumni survey, those alumni who have graduated since the department implemented the five learning outcome objectives were also asked to self-assess their skills and perception of competency on these same topical areas. Please refer to Appendix C Student Surveys for more detailed results. Some broad summary observations from these surveys are quoted below.

Design. "Students were least confident in their ability to implement and demonstrate the strategies through physical application. Nearly 10% stated they were not confident at all. Students were most confident in their ability to situate the design problem within a larger cultural, social and ecological context. 25% of students indicated that they were very confident in this area."

Communication. "Students indicated that they were most confident constructively critiquing their work and the work of others. The range of weighted averages (.19) indicates that there is not much variability between ... particular skills in the communication and representation outcome."

Ethics. "Students identified the highest level of confidence was in their ability to critically identify and assess the predisposition of others and find common ground. The lowest level of confidence identified was in understanding, critiquing, integrating and articulating different sources and principles of ethics. Professional ethics overall had a very small variability of .16 between the 4 different skill categories."

Content Knowledge. "Content knowledge had more variability (.94) within its skill categories than any of the other 4 learning outcomes. 3 out of the 8 skill categories had a weighted average that was less than 3. This indicates that students feel much less confident with this learning outcome than any other. Particularly in the awareness of the basic forms of service contracts and the evolving legal context to render competence and responsible professional services."

Research. No specific results were tabulated as the program subset details were not yet available.

Program-Level Assessment Matrix

Program-Level Assessment Matrix		Design					Research	Communication & Representation					Professional Ethics				Content Knowledge						
		A	B	C	D	E		A	A	B	C	D	E	A	B	C	D	A	B	C	D	E	F
		Assess constraints and opportunities	Situate design problem in context	Set up and test strategies	Implement strategies	Evaluate and reconsider outcomes	Apply research methods for design and scholarship	Write an organized paper	Present a professional verbal and visual argument	Document the iterative process of design	Effectively communicate design ideas	Constructively critique work	Integrate principles of ethics	Assess personal and professional predispositions	Develop ethical framework	Recognize influences on design decisions	Understand major movements in LA history	Identify forces shaping the built environment	Discuss relationship of built work to culture	Apply design theory and methodology	Understand LA legal responsibilities	Understand legal context to render professional services	Understand LA construction standards
First Year 1 st semester	LDAR 5501 Studio 1	project	project	project	project	project			project	project	project	project											
	LDAR 5510 Graphic Media										project	project											
	LDAR 5521 History of LA						paper	paper									exam	exam	exam	paper			
	LDAR 5572 Ecology LA												paper	paper	paper	paper							
2 nd semester	LDAR 5540 Intro to GIS																						
	LDAR 5502 Studio 2																						
	LDAR 6641 Computer App's																						
	LDAR 5532 Landform																				project	project	project
	LDAR 6630 Site, Society & Envir							paper															
Second Year 3 rd semester	LDAR 5503 Studio 3	project	project	project	project	project			project	project	project	project											
	LDAR 6670 Plants in Design																				project & exam	project & exam	Project & exam
	LDAR 6631 Mat'ls & Methods																				project	project	project
4 th semester	LDAR 6620 Theory & Criticism							paper									paper	paper	paper	project			
	LDAR 6604/05 Studio 4/5																						
	LDAR 6949 Research Methods						paper	paper															
Third Year 5 th semester	LDAR 6606 Studio 6	project	project	project	project	project			project	project	project	project											
6 th semester	LDAR 6607/08 Studio 7/8																						
	LDAR 6750 Pro Practice												project	project	project	project					project	project	

Portfolio reviews - Awards: The ASLA Colorado (ASLACO) has an increasingly greater presence and role in the program. Annually, ASLACO representatives review student work to determine deserving ASLA Honor and Merit Award recipients. In the event the work is not worthy, an award is not given and the Chapter may take action as it deems necessary to inform College officials of its findings. However, the Chapter has given awards to the maximum extent allowed and has acknowledged the program in public venues for the demonstrated quality of work generated by the field of award candidates and recipients.

Internship reviews: As part of the internship, students are evaluated by the host in areas pertaining to the student's performance, attitude, attendance and potential for success. Additionally, the feedback form transmitted to the department documents any deficiencies or strengths in the student that might reflect a program deficiency or strength. Items cited as deficiencies are reviewed and addressed by the Chair and faculty. In the past five years every student intern was given a passing grade. Internship hosts subsequently have hired many of their student interns as permanent employees.

Job market: The department acknowledges the need for a more effective system to track the progress and accomplishments of alumni, as well as to query organizations that have hired graduates. Currently, the University of Colorado Office of Advancement tracks graduates and provides this information to the department upon request. However, the department and college desire more direct communication with alumni. The college is in the process of developing a system for communicating with alumni.

This limitation means feedback received about the program's graduates is primarily anecdotal. Within the past six years, while a specific graduate may or may not be a match for a particular office, neither the program nor college has received any complaints about the preparedness of its graduates to enter the field. To the contrary, we have received good feedback from practitioners about our graduates performing well in the profession.

Program review: Approximately every seven years the University Regents and Colorado Commission on Higher Education mandate a program review prepared by external and internal teams of reviewers. Much like an accreditation process, the program review examines the department in the context of the college and the college in the context of the entire university. Findings are used to assist the stakeholders with identifying deficiencies and to further ensure that the program is meeting its stated curriculum objectives and the objectives of the respective accrediting agencies.

3. *How do students demonstrate their achievement of the program's learning objectives, including critical and creative thinking and their ability to understand, apply and communicate the subject matter of the professional curriculum as evidenced through project definition, problem identification, information collection, analysis, synthesis, conceptualization and implementation?*

Please refer to the departmental annual Outcomes Reports, Addendum C. These reports present the metrics and processes used by the program faculty to assess student learning and achievement in the core areas of the curriculum. The shaded areas in the Program-Level Assessment Matrix (above) indicate the core competencies and where they are evaluated across the curriculum. Measures/metrics to assess student work include rubric-based projects and papers.

4. *How does the program assess the preparation of students in the above areas?*

Portfolio reviews in both formal and informal settings are one measure. Another measure would be Licensure. Licensing in Colorado is relatively recent, and the capacity to track pass rates is not available. CLARB pass rates also would be quite useful; we do not track these (although perhaps CLARB could).

B. STUDENT ADVISING

1. *How does the student advising and mentoring program function?*

Advising Process

Student advising begins when students receive information about the program as part of the admissions process and continues throughout their matriculation and beyond. Since the last accreditation the college has expanded the student services office. The two people who work with landscape architecture applicants and students are Rachael Kuroiwa, Manager of Admissions and Outreach, and Katherine Hartung, Academic Advisor and Special Initiatives Coordinator.

Once a student matriculates to our program Katherine Hartung provides advising services through the student's academic career. In addition, the Department Chair and Associate Chair are involved in all aspects of advising to provide consistent curriculum information. However, students are encouraged to seek the opinions and advice of all faculty members. Faculty find that scheduled office hours are frequently spent discussing issues related to student interests, career options and various issues related to current courses. The openness of the faculty has enabled many to build strong relationships with students.

Prospective students requesting information receive a packet that contains materials describing the College of Architecture and Planning, the Department of Landscape Architecture and the application process. Students with questions regarding the profession are encouraged to meet with the Chair, Associate Chair, faculty members and local practitioners to get a more complete understanding of the profession.

Students who are serious about applying for admission are urged, but are not required, to schedule an appointment with the Chair or Associate Chair to discuss their academic and professional interests and goals, tour the facilities, visit some classes and meet informally with current students.

Upon admission, the Manager of Admissions and Outreach sends entering students various materials including a letter from the Department Chair. This letter welcomes new students, advises them about the curriculum and their upcoming semester's schedule of courses, and urges them to contact the Associate Chair if they have questions about the program.

In addition to having individual meetings with students, preceding the registration period for the upcoming semester, the department holds an informal information session for students. During this session faculty present and answer questions regarding courses being offered by the department and other departments in the college in the coming semester. Course instructors describe the focus, expectations and organization of their classes. These sessions are typically well attended by the students, who use the information to make decisions about their coursework.

Katherine Hartung, their academic advisor, reviews the files of those people who have applied for graduation in a given semester to ensure compliance with program requirements. The Chair also reviews the file of each graduating student and if necessary schedules appointments to discuss lingering requirements, if any, and future employment interests.

After graduation, the Chair and program faculty remain available to alumni for advice and when appropriate, to write letters of recommendation for employment or further study.

Mentoring Program

Mentoring occurs formally and informally throughout a student's academic and professional career. Through a partnership with representative professional organizations, the College of Architecture and Planning offers a formal mentorship program led by Christopher Nims, Director of Mentor and Internship Programs. The partnering organizations include: The American Society of Landscape Architects, The American Institute of Architects and The American Planning

Association. The mentorship program gives students a resource outside the college for professional development. Mentorship assignments are based on mutual professional interests, practice profile and intellectual engagement in the particular discipline. An individual mentorship program is mutually designed by both the student and the mentor to meet individual goals.

The mentorship program is voluntary on behalf of student and the mentor, and both parties also determine the actual duration. As a result of the nature of the program, mentorship participation is not for academic credit and does not involve fees or remuneration. Mentorship assignments are recommended at anytime during graduate studies.

Informally students receive exposure to and advice about the breadth of employment options throughout their time in the program. This is accomplished in many ways. Instructors provide direct information about landscape architecture through discussions and readings during class. Local and non-local practitioners frequently visit the program and interact with students through formal and informal presentations, through lectures, forums, brown bag lunches, class visits, juries and desk critiques, providing insight into the possibilities and realities of professional practice. Students are also encouraged to meet and discuss academic and career interests with faculty.

Program Buddies

Last spring the program reintroduced the buddy system that partners a 2nd or 3rd year student with an incoming student. Many incoming students have detailed questions about software applications, time management, other's experience in the program, or general questions about living in Denver. This system helps students get answers to their questions and builds the esprit de corps amongst students more quickly.

2. How does the program assess the effectiveness of the student advising and mentoring program?

Last spring the program surveyed students to assess the program's effectiveness in student advising and mentoring. In that survey students were asked to rate the program's ability to advise and mentor in the following areas:

- 1). Course Advising
- 2). Career Advising

The results of the survey indicated just over 1/3 of the students completing the survey felt that course advising was effective to very effective, and 1/3 rated it as moderately effective. 20% rated course advising as slightly effective and 9% rated it as not effective. The rates for career advising were very similar. Refer to Appendix C Student Surveys for more detailed results.

3. Are students effectively advised and mentored regarding academic and career development?

The effectiveness of student advising and the mentoring program is evident in that the majority of students complete the program requirements as scheduled and students know that their career and employment options are affected by their educational experiences. This is made easier because this is a small program and it is difficult for students to get off track with an attentive Academic Advisor and faculty paying attention to a student who may be struggling.

Faculty take their commitment to advising and mentoring students seriously. They encourage students to develop and discuss their passion and use that knowledge to guide students to opportunities that match the student's interests.

4. Are students aware of professional opportunities, licensure, professional development, advanced educational opportunities and continuing education requirements associated with professional practice?

As a part of the student survey students were asked to rate the department's ability to inform students of the following opportunities:

- Professional opportunities (e.g. employment and internships)
- Professional engagement
- Licensure
- Advanced educational opportunities/continuing education

Weighted averages were calculated for each of the opportunity types. Each of the category options (e.g. No opportunity) were assigned a numeric weight. Where no opportunity = 1, slight opportunity = 2... excellent opportunity = 5. The distribution for the weighted averages for each category is listed below.

Opportunity Type	Weighted Average
• Professional opportunities (e.g. employment and internships)	3.29
• Professional engagement	3.18
• Licensure	2.82
• Advanced educational opportunities/Continuing education	2.53

Overall, students felt the department was most effective in informing them of professional opportunities and least effective in informing them of advanced educational and continuing education opportunities. Refer to Appendix C Student Surveys for more detailed results.

We have recurring activities that support student engagement with the profession, for example Career Fair, Lecture Series and the associated receptions, and ASLA student chapter office visits. The recent highlight is definitely the annual ASLA conference in 2014; more than half of our students were involved in this event, volunteering and also attending. Further, students are introduced to licensure in multiple classes, and are aware of CLARB.

5. How satisfied are students with academic experiences and their preparation for the landscape architecture profession?

In AY 2014-15 two student surveys were run, one by the student chapter ASLA and the other by the department. In response to the student run survey (see full results in Appendix C) some curricular changes were enacted quite quickly to help them feel more prepared to enter the profession. For example, four digital media workshops were implemented to allow students more exposure to and practice with this necessary entry-level skill. Some other relevant issues were also raised, but we were not able to address them as quickly. Overall, the level of student satisfaction is good.

Satisfaction tells most clearly in the alumni survey results; when asked, "Would you recommend the CU Denver MLA program to others?," 85% of the respondents indicated yes. Further, the results showed that local alumni are involved in the program's activities, and others wish to become involved. This would not happen if the academic experience were not positive.

C. PARTICIPATION IN EXTRA CURRICULAR ACTIVITIES

1. *What opportunities do students have to participate in institutional/college organizations, community initiatives, or other activities? How do students take advantage of these opportunities?*

82% of our students participate in student organizations. This exemplifies the departmental ethos for our service, outreach, and participation in our various communities. In fact, according to the Student Survey results (See Appendix C), fewer than 10% of our students do not participate in some extra curricular activity.

Three student organizations – ASLA Student Chapter, Urban Horticulture Club, ROOT, are housed in our department. The latter two are recognized campus-wide student organizations, with By-laws and opportunities for funding from Student Government.

College-wide events include Career Fair, and various recruiting and open house events throughout the year, as well as Lecture Series, and Brown Bag Lunches.

University-wide students and faculty have successfully been recognized with prizes for projects and research they have submitted to the campus-wide “Research and Creative Activities Award” and the associated display of the projects.

2. *To what degree do students participate in events such as LABASH, ASLA Annual Meetings, local ASLA chapter events, and the activities of other professional societies or special interest groups?*

Few students directly participate in LABASH, though over the last six years a handful of our graduate students have chosen to attend. Many students participate in events and opportunities afforded by the local COASLA, attending happy hours, design awards gatherings, and meetings. Our students are also involved with and active in Women in Design, Green Cities, and ULI to name but a few. Students have presented papers and poster sessions, and attended CELA conferences.