LAR 612: Design Studio V

Tuesday, Thursday: 9:00 AM – 12:50 PM
Architecture, 3rd Floor, Studio/Tri-West

Instructor: Bo Yang, PhD, PLA
Email: boyang17@email.arizona.edu

Office Hours: As needed by appointment
Office Location: Architecture 303K

Course Description
LAR 612: Design Studio V is a required studio course in the Master of Landscape Architecture curriculum. This semester the class will respond to the 2017 EPA Campus RainWorks Challenge design competition RFP. Specifically, the class will explore alternative solutions for the University of Arizona’s campus stormwater management using green infrastructure approach and strategies. Green infrastructure is a resilient, cost-effective approach to planning, design, and managing ecologically integrated human settlements. This studio course will introduce the planning, design, and policy aspects of green infrastructure implementation in sustainable development. The course will focus on water-sensitive design approaches for stormwater management through lectures, homework assignments, discussions, field trips, and a final studio project submission to the 2017 EPA Campus RainWorks Challenge design competition.

EPA Campus RainWorks Challenge 2017 RFP
https://www.epa.gov/green-infrastructure/campus-rainworks-challenge-0
Registration: September 1 - 30, 2017
Deadline for Entries: December 15, 2017
Winners Announced: Spring 2018

Course Objectives

• Gain factual knowledge (terminology, classifications, methods, trends) about green infrastructure planning and design.
• Learn fundamental principles and applications of green infrastructure.
• Learn to apply course materials to improve rational thinking, problem solving and decision making.
• Develop specific skills and competencies in design and landscape performance benefit assessment or forecast.
• Acquire skills in working with others as a member of a team.

Course Format and Teaching Methods
Class consists of lectures/technical modules and studio sessions. Lectures focus on concepts and applications of green infrastructure. Several small studio projects (in-class exercises) will be issued during the semester. Students will work in teams to tackle the final studio project (EPA Campus RainWorks competition) using the University of Arizona campus as the site. Students will present their projects to peers and internal/external jury members.

Suggested Readings


**Exemplary case studies (to get you started…)**
Urban Land Institute  
[https://americas.uli.org/research/centers-initiatives/urban-resilience-program/stormwater/](https://americas.uli.org/research/centers-initiatives/urban-resilience-program/stormwater/)

Landscape Architecture Foundation (search Case Study Investigation program)  
[https://landscapeperformance.org/](https://landscapeperformance.org/)

American Society of Landscape Architects (search by states)  
[https://www.asla.org/stormwatercasestudies.aspx](https://www.asla.org/stormwatercasestudies.aspx)

National Low Impact Development Atlas (search by states)  
[http://lidmap.uconn.edu/](http://lidmap.uconn.edu/)

**Required or Special Materials**
Tracing paper, tape, pencil, eraser, Engineer’s scale, and scientific calculator. Flash drive or hard drive with storage capacity of 10 gigabits or above (available at University Bookstore). You are encouraged to bring your personal notebook PC. Digital course materials such as lectures, handouts, homework assignments and supplemental readings will be stored in D2L. You need to check on new releases regularly and download them for use.

**Main Topics & Requirements**
- Green infrastructure planning/design strategies (success stories and lessons learned)
- Green infrastructure adoptions (university campus setting, case studies)
- Landscape performance benefits assessment hands-on (ideas, protocols and quantitative methods)
- Modeling approaches, stormwater performance under climate change scenarios
- Public perception assessment/design inspiration and justification (cloud data source)
- Graphics, animation, and poster/report layout
- Presentation rehearsal sessions, and writing tips

(1) **Studio project (individual or group projects)**
- Project 1 (individual project). GI Feasibility Report
- Project 2 (group project). GI Case Study & Performance Assessment
- Project 3 (group project, same group as Project 2). Campus GI Planning & Design (2017 EPA Campus RainWorks Challenge)

(2) **Project presentation** – Each student or team will make four (4) presentations on their design projects during the review sessions. Additionally there will be several pin-up review sessions throughout the semester.

(3) **Participation** – Class attendance and participation in campus field trips are required.

**Extenuating circumstances** – If, at any time, extenuating circumstances interfere with your ability to meet class requirements, students are encouraged to contact Dr. Yang prior to passage of a due date. The ability to make up missed work and the terms of any allowed make-up will be determined on a case-by-case basis.
Course Contents

Section 1. GI Theory and Principles
• Green infrastructure (GI) and Low-impact development (LID) premises and theories
• Planning & design strategies, applications and limitations

Section 2. GI Applications
• Exemplary projects and design approaches, discussions on social/cultural acceptance
• Landscape performance (quantitative) measures and tools (e.g., EPA Stormwater Tool, Green Roof Benefits Calculator, National Tree Benefits Calculator, etc.)
• Design with climate for better GI adoptions in Arizona
• Erosion and sediment control techniques

Section 3. Studio Projects
Project 1. GI Feasibility Report (15 points; Individual project)
• Identify three (3) GI/LID design strategies or case projects being (successfully) used in semi-arid/arid environments (preferably in the state of Arizona).
  Submittals: A 5-10 minutes (max.) presentation to the class. One (1) 24 x 36 PDF poster, submit to D2L before class presentation.
  Grade: 15 points (poster: 10 points; presentation: 5 points)
  Project 1 presentation: Tuesday, September 12, 2017.

Project 2. GI Application, Performance Assessment & Climate Resilience Modeling (per EPA RainWorks RFP category) (15 points; Group project)
• Schematic/retrofit design and modeling climate change scenarios. Project site will be provided (e.g., Conservation Subdivision Design retrofit).
  Submittals: One (1) 24 x 36 PDF poster (maximum 2 posters), submit to D2L before class presentation.
  Grade: 15 points (report: 10 points; presentation: 5 points)

Project 3. GI/LID Retrofit Design for The University of Arizona Campus (70 points; Group project)
• GI/LID design solutions for perennial ponding issues in other areas in the community. Identify problems and opportunities, propose design solutions, and forecast landscape performance (quantitative measures).
• Site: The University of Arizona campus. Campus map (https://maps.arizona.edu).
  Scope of work: green infrastructure/low-impact development (LID) applications, campus planning & site design (for select buildings/areas). Need to meet University stormwater management objectives.
  Group project: Three (3) teams, 4 students per team.
  • Mid-term presentation: October 10, 2017 (subject to change). An internal jury from the School will be invited.
    Mid-term grade: 30 points (draft poster & report: 25 points; presentation: 5 points)
  • Final presentation: December 5, 2017 (subject to change). A 15-minute (max.) presentation to the class and jury.
    Final grade: 40 points (final poster & report: 35 points; presentation: 5 points)

• EPA Campus RainWorks Challenge Competition Registration Deadline: September 30, 2017
  https://www.epa.gov/green-infrastructure/campus-rainworks-challenge-0
• EPA Campus RainWorks Challenge Competition Submission Deadline: December 15, 2017
• Final Submittals: Two (2) 24 x 36 PDF posters, One (1) 8.5 x 11 report (per EPA RFP)
Grading Scale and Policies
Grading is based on the following scale:

90-100  =  A
80-89   =  B
70-79   =  C
60-69   =  D
<60     =  E

Distribution of points
Project 1:   15 points (poster 10 points; presentation 5 points)
Project 2:   15 points (poster 10 points; presentation 5 points)
Project 3:   70 points (midterm 30 points; final 40 points)
Total:      100 points

Class attendance is mandatory for this course. Each student is required to attend all the lectures and studio sessions.

Requests for incomplete (I) or withdrawal (W) must be made in accordance with University policies, which are available at http://catalog.arizona.edu/policy/grades-and-grading-system#incomplete and http://catalog.arizona.edu/policy/grades-and-grading-system#Withdrawal respectively.

Honors Credit
Students wishing to contract this course for Honors Credit should email me to set up an appointment to discuss the terms of the contract. Information on Honors Contracts can be found at https://www.honors.arizona.edu/honors-contracts.

See below list topics in logical units in a weekly/daily schedule, including assignment due dates and presentation dates.

### Daily Class Activity Schedule*

<table>
<thead>
<tr>
<th>WK</th>
<th>Day</th>
<th>Date</th>
<th>Activity</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>T</td>
<td>8/22</td>
<td>Course introduction &amp; syllabus</td>
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<tr>
<td>1</td>
<td>R</td>
<td>8/24</td>
<td>GI overview, theories and principles</td>
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<tr>
<td>2</td>
<td>T</td>
<td>8/29</td>
<td>GI planning &amp; design strategies, case studies</td>
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<tr>
<td>2</td>
<td>R</td>
<td>8/31</td>
<td>Technical module, studio session</td>
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<tr>
<td>3</td>
<td>T</td>
<td>9/5</td>
<td>Technical module cont., Conservation Subdivision Design</td>
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<tr>
<td>3</td>
<td>R</td>
<td>9/7</td>
<td>Prof. Grant McCormick, guest lecture &amp; campus projects tour</td>
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<tr>
<td>4</td>
<td>T</td>
<td>9/12</td>
<td><strong>Project 1 presentation, poster due</strong></td>
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<tr>
<td>4</td>
<td>R</td>
<td>9/14</td>
<td>Review &amp; campus walk</td>
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<tr>
<td>5</td>
<td>T</td>
<td>9/19</td>
<td>Technical module cont., studio session</td>
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<tr>
<td>5</td>
<td>R</td>
<td>9/21</td>
<td>Technical module cont., studio session</td>
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<td>6</td>
<td>T</td>
<td>9/26</td>
<td>Guest lecture (TBD)</td>
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<td>6</td>
<td>R</td>
<td>9/28</td>
<td>Technical module cont., studio session</td>
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<tr>
<td>7</td>
<td>T</td>
<td>10/3</td>
<td><strong>Project 2 presentation, poster due</strong></td>
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<td>7</td>
<td>R</td>
<td>10/5</td>
<td>Studio session</td>
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<tr>
<td>8</td>
<td>T</td>
<td>10/10</td>
<td>Studio session</td>
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<tr>
<td>8</td>
<td>R</td>
<td>10/12</td>
<td>Project 3 midterm presentation rehearsal, studio pin-up</td>
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<tr>
<td>9</td>
<td>T</td>
<td>10/17</td>
<td><strong>Project 3 Midterm presentation (juried session)</strong></td>
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<tr>
<td>9</td>
<td>R</td>
<td>10/19</td>
<td>No Class: ASLA Annual Conference</td>
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<tr>
<td>10</td>
<td>T</td>
<td>10/24</td>
<td>No Class: ASLA Annual Conference</td>
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<tr>
<td>10</td>
<td>R</td>
<td>10/26</td>
<td>Studio session</td>
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<tr>
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<td>T</td>
<td>10/31</td>
<td>Studio session</td>
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<td>11/2</td>
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<td>12</td>
<td>T</td>
<td>11/7</td>
<td>Studio session</td>
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<tr>
<td>12</td>
<td>R</td>
<td>11/9</td>
<td>Studio session</td>
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<tr>
<td>13</td>
<td>T</td>
<td>11/14</td>
<td>Project 3 pin-up review</td>
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<tr>
<td>13</td>
<td>R</td>
<td>11/16</td>
<td>Studio session</td>
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<td>14</td>
<td>T</td>
<td>11/21</td>
<td>Studio session</td>
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<tr>
<td>14</td>
<td>R</td>
<td>11/23</td>
<td>No Class: Thanksgiving</td>
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<tr>
<td>15</td>
<td>T</td>
<td>11/28</td>
<td>Studio session</td>
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<tr>
<td>15</td>
<td>R</td>
<td>11/30</td>
<td>Project 3 final presentation rehearsal</td>
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<tr>
<td>16</td>
<td>T</td>
<td>12/5</td>
<td>Project 3, Final presentation (juried session)</td>
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<td>16</td>
<td>R</td>
<td>12/7</td>
<td>Reading day. Submission revision</td>
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<tr>
<td>17</td>
<td>T</td>
<td>12/12</td>
<td>Submission review</td>
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<tr>
<td>17</td>
<td>F</td>
<td>12/15</td>
<td>EPA submission deadline</td>
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*This is a tentative schedule and is subject to change. Students will be notified in class or online in D2L of substantial changes to the schedule.

Absence and Class Participation Policy

The University of Arizona’s policy concerning Class Attendance, Participation, and Administrative Drops is available at: http://catalog.arizona.edu/policy/class-attendance-participation-and-administrative-drop. The University of Arizona’s policy regarding absences for any sincerely held religious belief, observance or practice will be accommodated where reasonable, http://policy.arizona.edu/human-resources/religious-accommodation-policy. Absences pre-approved by the University of Arizona Dean of Students (or Dean Designee) will be honored. See: https://deanofstudents.arizona.edu/absences. Participating in the course and attending lectures and other course events are vital to the learning process. As such, attendance is required at all lectures and discussion section meetings. Students who miss class due to illness or emergency are required to bring documentation from their health-care provider or other relevant, professional third parties. Failure to submit third-party documentation will result in unexcused absences.

Classroom Behavior Policy

To foster a positive learning environment, students and instructors have a shared responsibility. We want a safe, welcoming, and inclusive environment where all of us feel comfortable with each other and where we can challenge ourselves to succeed. To that end, our focus is on the tasks at hand and not on extraneous activities (e.g., texting, chatting, reading a newspaper, making phone calls, web surfing, etc.). Students are asked to refrain from disruptive conversations with people sitting around them during lecture. Students observed engaging in disruptive activity will be asked to cease this behavior. Those who continue to disrupt the class will be asked to leave lecture or discussion and may be reported to the Dean of Students.

Threatening Behavior Policy

The UA Threatening Behavior by Students Policy prohibits threats of physical harm to any member of the University community, including to oneself. See http://policy.arizona.edu/education-and-student-affairs/threatening-behavior-students.

Accessibility and Accommodations

Our goal in this classroom is that learning experiences be as accessible as possible. If you anticipate or experience physical or academic barriers based on disability, please let me know immediately so that we can discuss options. You are also welcome to contact the Disability Resource Center (520-621-3268) to establish reasonable accommodations. For additional information on the Disability Resource Center and reasonable accommodations, please visit http://drc.arizona.edu. If you have reasonable accommodations, please plan to meet with me by appointment or during office hours to discuss accommodations and how my course requirements and activities may impact your ability to fully participate. Please be aware that the accessible table and chairs in this room should remain available for students who find that standard classroom seating is not usable.

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Code of Academic Integrity

Students are encouraged to share intellectual views and discuss freely the principles and applications of course materials. However, graded work/exercises must be the product of independent effort unless otherwise instructed. Students are expected to adhere to the UA Code of Academic Integrity as described in the UA General Catalog. See: http://deanofstudents.arizona.edu/academic-integrity/students/academic-integrity.

The University Libraries have some excellent tips for avoiding plagiarism, available at http://new.library.arizona.edu/research/citing/plagiarism. Selling class notes and/or other course materials to other students or to a third party for resale is not permitted without the instructor’s express written consent. Violations to this and other course rules are subject to the Code of Academic Integrity and may result in course sanctions. Additionally, students who use D2L or UA e-mail to sell or buy these copyrighted materials are subject to Code of Conduct Violations for misuse of student e-mail addresses. This conduct may also constitute copyright infringement.

UA Nondiscrimination and Anti-harassment Policy

The University is committed to creating and maintaining an environment free of discrimination; see http://policy.arizona.edu/human-resources/nondiscrimination-and-anti-harassment-policy. Our classroom is a place where everyone is encouraged to express well-formed opinions and their reasons for those opinions. We also want to create a tolerant and open environment where such opinions can be expressed without resorting to bullying or discrimination of others.

Additional Resources for Students

UA Academic policies and procedures are available at http://catalog.arizona.edu/policies. Student Assistance and Advocacy information is available at http://deanofstudents.arizona.edu/student-assistance/students/student-assistance.

Confidentiality of Student Records


Subject to Change Statement

Information contained in the course syllabus, other than the grade and absence policy, may be subject to change with advance notice, as deemed appropriate by the instructor.