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Michael Van Valkenburgh Associates, Inc.

# LAND 484

## Landscape Architecture Design III

University of Nevada Las Vegas - School of Architecture - Room 241

6 Credits

Pre-Requisite : LAND 386

Schedule : Monday + Wednesday 2:00pm – 8:00pm

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Office Hours : Mondays and Wednesdays from 10:00am – 2:00pm by appointment

*"I never guess. It is a capital mistake to theorize before one has data. Insensibly one begins to twist facts to suit theories, instead of theories to suit facts." - Sir Arthur Conan Doyle*

*"Design is an expression of the purpose, and it may (if it is good enough) later be judged as art; design depends largely on constraints and it is a method of action (there are always constraints and these usually include ethic)." - Charles Eames*

### Course Description

The urbanization of Las Vegas in the arid Mojave Desert region puts a severe strain on water resources, receiving 4.17 inches<sup>1</sup> of rainfall a year, as development patterns increase impervious surfaces and reduce vegetation and open outdoor spaces, resulting in flash flooding, drained aquifers, and contaminated surface water. Not only does this impact the Las Vegas water resources, but also negatively impacts air quality, outdoor comfort, and wildlife habitat. Due to these implications, the built and living environments become more detached with less community awareness, engagement, and advocacy for water resources and ecosystem services.

As urban development continues to infringe on the ecosystem services, sensitive and appropriate measures must be considered for maintaining the performance and resiliency of our living and built environments. The Las Vegas Valley water resources are extremely valuable as it stimulates healthy and diverse planting communities, providing treatment and circulation of water, wildlife habitats, and comfortable outdoor spaces. All these ecosystem services provide a rich riparian experience in the Mojave Desert. The Las Vegas water network of washes and wetlands serve as a foundation point in this studio course to explore best practices of performative landscapes in dry and arid regions of the United States.

### Proposal

Through the investigation of healthy environmental systems for productive ecological services, the studio aims to blend the environmental infrastructure with the urban fabric to serve as a performative landscape and a socially equitable experience along the existing Las Vegas water network. The studio structure will prepare students to observe the network of environmental systems through the process of scale and significance as they examine these systems at the global, regional, and site specific context. These goals will be tested and investigated through a quantified digital landscape using vegetative, hydraulic, and climatic performance metrics. The environmental scenarios discovered through this exercise will serve as a framework for design proposals that include accessible and educational opportunities to the immediate and surroundings communities along these hydraulic corridors.

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<sup>1</sup> Data, US Climate. "Temperature - Precipitation - Sunshine - Snowfall." Climate. N.p., n.d. Web. 02 June 2017.

Precedent studies, field trips, workshops, and collaboration with the Nature Conservancy and Clarke County Wetlands Park will provide students with knowledge, expertise, and engagement to the components of landscape performance, specific to the local arid environment. The project will go through the workflow process of inventory, analysis, conceptual planning, and design proposal using a variety of advanced computational and dynamic methods of modeling, mapping, and representation.

Collaboration with the different agencies and UNLV academic resources will create opportunities to integrate advocacy, pragmatics, and innovation for a comprehensive strategic vision of Las Vegas' rich environmental landscape along the hydraulic corridors. The environmental awareness provided through these organizations can be used as an educational and outreach platform for pragmatics and innovation to stem from. The strategic collaboration with these groups allows for a comprehensive investigation of multiple facets necessary for a performative landscape solution.

## **Class Structure**

### ***Studio Environment***

Lectures, desk crits, and presentations will be held throughout the semester to cover topics of precedent studies from the Landscape Performance Series website and other material related to green infrastructure, and ecological services from the Sustainable Sites Handbook.

### ***Workshops***

Lab sessions and demonstrations will occur through the semester to go over the process of implementing environmental analysis calculators to digital models as they relate to stormwater management, tree benefits, urban heat island, and other topics.

### ***Field Trips & Site Visits***

Periodic visits to the site for inventory and analysis, and meetings with community groups will serve as the introduction to each module throughout the semester. Potential visits to other projects throughout the valley may occur as they see fit.

## **Learning Objectives**

### ***Learning Objective 1: Inquiry and Critical Thinking\****

Upon completion of this course, students will be able to generate design ideas derived from a critical approach to the research and analysis of multiple historical, technical, theoretical, social, political, economic, cultural and environmental contexts. An emphasis will be placed on the value of engaged scholarship and critical inquiry as means for determining appropriate design, management, and planning strategies in landscape architecture.

*\* This Learning Objective directly aligns with the University Undergraduate Learning Objectives (UULOS) for Intellectual Breadth and Lifelong Learning, and Global/Multicultural Knowledge and Awareness, and for Inquiry and Critical Thinking.*

### ***SLO 1.1***

Access, collect, and use qualitative and quantitative resources to create precedent and typology case study analyses from the fine arts, natural sciences, social sciences, and humanities, as they apply to landscape architecture specific problems and questions.

### ***SLO 1.2***

Identify and critically analyze the lessons learned from precedent and typology case study investigations.

### ***SLO 1.3***

Generate and defend landscape architecture design, planning and management programmatic criteria and design proposals using the lessons learned in the case study analyses. An emphasis will be placed on the synthesized integration of the lessons learned from the appropriate precedent and typology case studies

### ***Learning Objective 2: Design Process and Implementation***

Upon completion of this course, students will be able to apply the design process as it relates to the professional practice of landscape architecture at an introductory level. An emphasis will be placed on the development of an iterative, critical, approach to designing at a variety of scales.

### **SLO 2.1**

Generate appropriate site inventory, site analysis, and site programming schema. An emphasis will be placed on climatic conditions, soil types, hydrology, plant species and communities, and wildlife species and communities.

### **SLO 2.2**

Generate and defend formal design concepts and proposals that integrate appropriate site design principles and typologies. An emphasis will be placed on a process-based, iterative approach, to creating two and three-dimensional compositions that incorporate an understanding of natural elements, systems, forms, and processes.

### **Learning Objective 3: Communication and Representation\***

Upon completion of this course, students will demonstrate the ability to apply a wide range of communication methods to articulate landscape architecture design proposals.

*\* This Learning Objective directly aligns with the University Undergraduate Learning Objectives (UULOS) for Communication.*

### **SLO 3.1**

Demonstrate effective written, graphic, and oral communication skills through the delivery of project presentations.

### **SLO 3.2**

Produce effective graphic presentations using a wide range of appropriate analog, digital, and innovative media.

## **Course Objectives**

As a result of this course, students will be able to:

- Understand the significance and impact of environmental systems at the global, regional, and local scale that surround the Mojave Desert
- Demonstrate the ability to use performance metrics and calculators with digital modeling methods for analytically extracting environmental conditions, constraints, and opportunities
- Apply the outcomes from their analytical model to generate responsive design potential as evidence-based design
- Measure the performative benefits derived from their design proposal that revolve around environmental, social, and/or economic opportunities
- Communicate and represent comprehensive evidence-based design through the use of dynamic visualization and parametric modeling methods
- Collaborate with community advocate groups and stakeholders of the Las Vegas valley water resources

## **Scope of Work**

This studio aims to produce several deliverables that range in information and significance that include but not limited to:

- Global, regional, and local scale analysis of environment systems
- Master Plan analysis and green infrastructure guidelines for developments adjacent to the valley water networks
- Focal areas for comprehensive analysis, synthesis, programming and design for landscape performance

## **Exercises**

- 1.0 Design Vision Presentation Board (Concept Rendering) – 5%
- 2.0 Precedent Study Printouts (Layout and Graphic Design) – 10%
- 3.0 Environmental Systems Network Presentation Boards (Parametric Modeling) – 15%
- 4.0 Master Plan Analysis and Green Infrastructure Guidelines (Master Programming) – 20%
- 5.0 Responsive Concept Board (Bubble Diagram/Program Constraints and Opportunities) – 10%
- 6.0 Site Design (Benefits and Outcome) – 35%
- 7.0 Portfolio Document – 5%

## Semester Schedule

<i>Week</i>	<i>Day &amp; Month</i>	<i>Lesson</i>
1	August 28 30	Introduction to Landscape Performance and Exercise 1.0 Desk Crits
2	<b>September 4</b> 6	<b>Labor Day Recess – NO CLASS</b> Pin-up and Review Exercise 1.0 & Introduce Exercise 2.0
3	11 13	Pin-up and Review Exercise 2.0 Pin-up and Review Exercise 2.0
4	18 20	LAF Webinar & Final Pin-up Exercises 1.0 & 2.0 Introduce Exercise 3.0 with LAB Demo
5	25 27	Environmental Networks [ LAB ] Regional Analysis
6	Oct 2 4	Prelim Pin-up and Review Exercise 3.1 [ LAB ] Valley Analysis
7	9 11	Prelim Pin-up and Review Exercise 3.2 & Introduce Exercise 4.0 [ LAB ] Site Analysis – Grey Infrastructure
8	16 18	Prelim Pin-up and Review Exercise 4.1 & Introduce Green Infrastructure [ LAB ] Site Analysis – Green Infrastructure
9	23 25	Desk Crits Pin-up and Review Exercise 3.0 & 4.0
10	30 Nov 1	Introduce Exercise 5.0 [ LAB ] Responsive Concepts – Opportunities & Constraints
11	6 8	Pin-up and Review Exercise 5.0 & Introduce Exercise 6.0 – Desk Crits [ LAB ] Measuring Benefits
12	13 15	Pin-up and Review Exercise 6.0 – Design Visions Desk Crits
13	20 22	Desk Crits Desk Crits
14	27 29	Final Reviews
15	Dec 4 6	Review Revisions Review Revisions
16	11 13	Review Revisions Portfolio Due

## **Readings**

### ***Books***

Charles Waldheim, *Landscape Infrastructure: Case Studies* by SWA, Birkhauser, 2011  
Anne Whiston Spirn, *The Language of Landscape*, Yale University Press, 1998.

Calkins, Meg. *The Sustainable Sites Handbook*, edited by Meg Calkins, John Wiley & Sons, Incorporated, 2011.

Beck, Travis, and Carol Franklin. *Principles of Ecological Landscape Design*, edited by Travis Beck, and Carol Franklin, Island Press, 2013.

### ***Technical Guides***

Center for Neighborhood Technology. *The Value of Green Infrastructure: A Guide to Recognizing Its Economic, Environmental and Social Benefits*. American Rivers, 2010.

Center for Neighborhood Technology. *Green Values: National Stormwater Management Calculator*. 2009.

Landscape Performance Series Website: Benefits Toolkit.

## **Required Materials**

- Working Laptop with 3D Rhinoceros and Grasshopper plugin. Additional plugins will be discussed prior to supporting lectures.
- Trace Paper
- Modeling materials: plywood, chipboard, aggregate, plants.

## **Grading Criteria**

Grading takes into consideration content and process, both of which are crucial to the evolution of any design student's educational development. Evaluation of content is based on a student's intellectual development and looks at both how the student articulates their design development and the originality and appropriateness of the idea. Evaluation of process considers the general quality, clarity, precision, and craftsmanship of the presentation. – Thus, neither merely completing all the presentation requirements, nor merely having a good idea, will be enough to achieve a good grade. Curiosity and inquiry, ability to respond to criticism, ability to generate and critically analyze your own ideas, responsibility, and work ethic all play a role in this process.

## **Grading Structure**

The following standards supplement the Grading System for Undergraduate Students as listed in the current Undergraduate Catalog.

### ***A***

Superior: Represents comprehensive excellence. Not only does the work fulfill all requirements in an excellent and professional manner but goes beyond the given requirements aiming at standards higher than requested. The student is an active and engaged participant in all class activities and intellectual progress and development have been demonstrated by the timely preparation of thoughtful work on a regular basis. This work is of a quality that is instructive to the teacher and exemplary to the rest of the class.

### ***B***

Above Average: Represents work that can be distinguished as being of truly "good" quality. This work is of a quality that has been instructive to the rest of the class. The work is free of significant flaws, is comprehensive in scope, and is recognizable as coherent architecture. The student is an active and engaged participant in all class activities and intellectual progress and development have been demonstrated by the timely preparation of work on a regular basis.

### ***C***

Average: Represents satisfactory and average performance. The work is free of major design flaws and is recognizable as coherent architecture. Intellectual progress and development have been demonstrated by the timely preparation of work on a regular basis. The student and instructor can take "satisfaction" in the average resolution of the design exercise. Students of Architecture, Interior Architecture and Design, and Landscape Architecture must attain a minimum grade of "C-" in all coursework taken within the School of Architecture as a part of the completion of their major course requirements.

Students who attain any grade below a "C-" in any course within their major must retake that course and attain a minimum grade of "C-" in order to advance towards graduation.

### ***D-F***

Failing: Represents substandard work that is not passable. Work has not fulfilled requirements, or has not been completed on time, or does not appropriately address the design exercise, and is unacceptable.

### ***I***

Incomplete: An Incomplete on a project can only be given in exceptional cases in which failure to complete the assignment is a result of illness or injury requiring a visit to a doctor, a death in the immediate family, military or legal obligations, or other equally serious reasons that can be documented in acceptable written form (such as medical records or legal notification). When possible, all outstanding circumstances that might impact the completion of a project should be brought to the instructor's attention in advance of the class(es) that may be missed. In addition, documentation for excused absences must be provided no later than the third class meeting following the event or the absence(s) will be counted as unexcused and no Incomplete can be given. All incomplete work is subject to late penalties as per the instructor's policy.

An Incomplete in a course is only given in exceptional cases where there is/was a serious excusable reason for not completing course requirements (see above). The quality of work in the course up to that point has been satisfactory and passing (see the Undergraduate Catalog for further details).

Instructors are permitted to assign + or - to grades. However, there is no grade of "A+" within these guidelines.

### **Semester Grade Breakdown:**

1. Design Vision Exercise – 5%
2. Precedent Study – 10%
3. Environmental Systems Network – 15%
4. Environmental Analysis – 20%
5. Responsive Concept – 10%
6. Site Design – 35%
7. Portfolio – 5%

### **UNLV Landscape Architecture Program Incomplete/Late Work Policy**

#### ***Attendance***

Class attendance within the allotted time is mandatory, unless due to medical or family emergency or other excused reason. Dismissal from and during class hours is to the discretion of the studio instructor. If you are not in attendance, your work is late and will be reflected in your final grade. Refer to Late Work policy for more details.

#### ***Late Work***

Late work will receive partial or no credit under these circumstances: ½ Letter Grade deduction if submitted **BEFORE** next class period, 1 Full Letter Grade deduction if not submitted by next class period. Review of late work for partial credit must be scheduled with course instructor during office hours. If appropriate, i.e. in the case of an excused absence, the decision to accept make up work will be handled by the studio critics on a case-by- case basis.

#### ***Incomplete Work***

Incomplete work will not be accepted. The submission of incomplete work will result in the issuance a zero mark for that assignment.

#### ***Evaluations***

Student Evaluation of Faculty Member(s)

Students have the opportunity to formally evaluate the faculty at the end of term. You are also encouraged to speak to us at any time with responses, suggestions or feedback - positive or negative. It is important to keep up with good communications. Please bring up any concerns privately, or, if necessary, publicly, with the whole class.

Class evaluations will be available for students to complete during the last two weeks of class. All evaluations are confidential; instructors will never know how any one student responded to any question, and students will never know the ratings for any particular instructors.

## **Faculty Evaluation of Student Progress**

Feedback from the instructor will occur in the following ways:

- on request from you
- assignment marks and comments

Grading / Exams / Grade Posting – Each assignment will receive a grade or comments and a “resubmit”. Grades will be provided in writing on assignments, and grade-to-date information will be available upon request.

## **Jury Week**

Jury Week is scheduled for the last week of November, during which our design studio as well as the other landscape architecture design studios will hold final presentations of their term projects. The exact date and time for our final presentations will be determined and announced at a later date. The opportunity to present our work to a diverse jury is a great honor and experience; nonetheless the opportunity to see and hear about other’s projects is also invaluable to your education. You are highly encouraged to attend other class presentations during Jury Week.

## **Documentation and Retention of Student Work**

The Program will keep all presentation material for each project. The materials serve several functions to the Program and the University. They are used to document student outcomes during accreditation and to demonstrate the value of our Program to the University community. Nevertheless, please take photographs, digital images or copies of your projects to use in your portfolio. All students in all classes are required to submit a complete set of work digitally in .pdf format on a CD at the end of the semester to the course instructor.

## **Portfolio/Submission of Work Policy**

At the end of each course all students will submit copies of his or her work in the form of hardcopy and digital portfolios. Submission of the course portfolio is mandatory – NO EXCEPTIONS. Please adhere to the following submission guidelines:

### **DIGITAL PORTFOLIO**

#### ***Format***

Submit your portfolio as a .pdf and as an original In-Design file (.indd) to your class Google Drive Folder  
(No exceptions)

#### ***Content***

The portfolio must document ALL of the work that you completed during the semester. This includes, but is not limited to process work, sketches, photos of models, final presentation images, written assignments, quizzes, exams, etc.

The portfolio must be clearly organized and in chronological order starting at the beginning of the semester and tracing your progress throughout the remainder of the semester. Each course instructor will set the grade weighting for the portfolio at his or her discretion.

## **University Policies**

### **Academic Misconduct**

Academic integrity is a legitimate concern for every member of the campus community; all share in upholding the fundamental values of honesty, trust, respect, fairness, responsibility, and professionalism. By choosing to join the UNLV community, students accept the expectations of the Student Academic Misconduct Policy and are encouraged when faced with choices to always take the ethical path. Students enrolling at UNLV assume the obligation to conduct themselves in a manner compatible with UNLV’s function as an educational institution. An example of academic misconduct is plagiarism. Plagiarism is using the words or ideas of another, from the Internet or any source, without proper citation of the sources. See the Student Academic Misconduct Policy (approved December 9, 2005) located at: <https://www.unlv.edu/studentconduct/student-conduct>.

### **Copyright**

The University requires all members of the University Community to familiarize themselves with and to follow copyright and fair use requirements. You are individually and solely responsible for violations of copyright and fair use laws. The university will neither protect nor

defend you, nor assume any responsibility for employee or student violations of fair use laws. Violations of copyright laws could subject you to federal and state civil penalties and criminal liability, as well as disciplinary action under University policies. Additional information can be found at: <http://www.unlv.edu/provost/copyright>.

### **Disability Resource Center (DRC)**

The UNLV Disability Resource Center (SSC-A 143, <http://drc.unlv.edu/>, 702-895-0866) provides resources for students with disabilities. If you feel that you have a disability, please make an appointment with a Disabilities Specialist at the DRC to discuss what options may be available to you. If you are registered with the UNLV Disability Resource Center, bring your Academic Accommodation Plan from the DRC to the instructor during office hours so that you may work together to develop strategies for implementing the accommodations to meet both your needs and the requirements of the course. Any information you provide is private and will be treated as such. To maintain the confidentiality of your request, please do not approach the instructor in front of others to discuss your accommodation needs.

### **Final Examinations**

The University requires that final exams given at the end of a course occur at the time and on the day specified in the final exam schedule. See the schedule at: <http://www.unlv.edu/registrar/calendars>.

### **Incomplete Grades**

The grade of I—Incomplete—can be granted when a student has satisfactorily completed three-fourths of course work for that semester/session but for reason(s) beyond the student's control, and acceptable to the instructor, cannot complete the last part of the course, and the instructor believes that the student can finish the course without repeating it. The incomplete work must be made up before the end of the following regular semester for undergraduate courses. Graduate students receiving "I" grades in 500-, 600-, or 700-level courses have up to one calendar year to complete the work, at the discretion of the instructor. If course requirements are not completed within the time indicated, a grade of F will be recorded and the GPA will be adjusted accordingly. Students who are fulfilling an Incomplete do not register for the course but make individual arrangements with the instructor who assigned the I grade.

### **Library Resources**

Students may consult with a librarian on research needs. Subject librarians for various classes can be found here: [https://www.library.unlv.edu/contact/librarians\\_by\\_subject](https://www.library.unlv.edu/contact/librarians_by_subject). UNLV Libraries provides resources to support students' access to information. Discovery, access, and use of information are vital skills for academic work and for successful post-college life. Access library resources and ask questions at <https://www.library.unlv.edu/>.

### **Rebelmail**

By policy, faculty and staff should e-mail students' Rebelmail accounts only. Rebelmail is UNLV's official e-mail system for students. It is one of the primary ways students receive official university communication such as information about deadlines, major campus events, and announcements. All UNLV students receive a Rebelmail account after they have been admitted to the university. Students' e-mail prefixes are listed on class rosters. The suffix is always @unlv.nevada.edu. Emailing within WebCampus is acceptable.

### **Religious Holidays Policy**

Any student missing class quizzes, examinations, or any other class or lab work because of observance of religious holidays shall be given an opportunity during that semester to make up missed work. The make-up will apply to the religious holiday absence only. It shall be the responsibility of the student to notify the instructor within the first 14 calendar days of the course for fall and spring courses (excepting modular courses), or within the first 7 calendar days of the course for summer and modular courses, of his or her intention to participate in religious holidays which do not fall on state holidays or periods of class recess. For additional information, please visit: <http://catalog.unlv.edu/content.php?catoid=6&navoid=531>.



## **Transparency in Learning and Teaching**

The University encourages application of the transparency method of constructing assignments for student success. Please see these two links for further information:

<https://www.unlv.edu/provost/teachingandlearning>

<https://www.unlv.edu/provost/transparency>

## **Tutoring and Coaching**

The Academic Success Center (ASC) provides tutoring, academic success coaching and other academic assistance for all UNLV undergraduate students. For information regarding tutoring subjects, tutoring times, and other ASC programs and services, visit <http://www.unlv.edu/asc> or call 702-895-3177. The ASC building is located across from the Student Services Complex (SSC). Academic success coaching is located on the second floor of SSC A (ASC Coaching Spot). Drop-in tutoring is located on the second floor of the Lied Library and College of Engineering TBE second floor.

## **UNLV Writing Center**

One-on-one or small group assistance with writing is available free of charge to UNLV students at the Writing Center, located in CDC-3-301. Although walk-in consultations are sometimes available, students with appointments will receive priority assistance. Appointments may be made in person or by calling 702-895-3908. The student's Rebel ID Card, a copy of the assignment (if possible), and two copies of any writing to be reviewed are requested for the consultation. More information can be found at: <http://writingcenter.unlv.edu/>.

## **Any other class specific information**

e.g., absences, make-up exams, status reporting, extra credit policies, plagiarism/cheating consequences, policy on electronic devices, specialized department or college tutoring programs, bringing children to class, policy on recording classroom lectures, etc.)