

Design with Climate

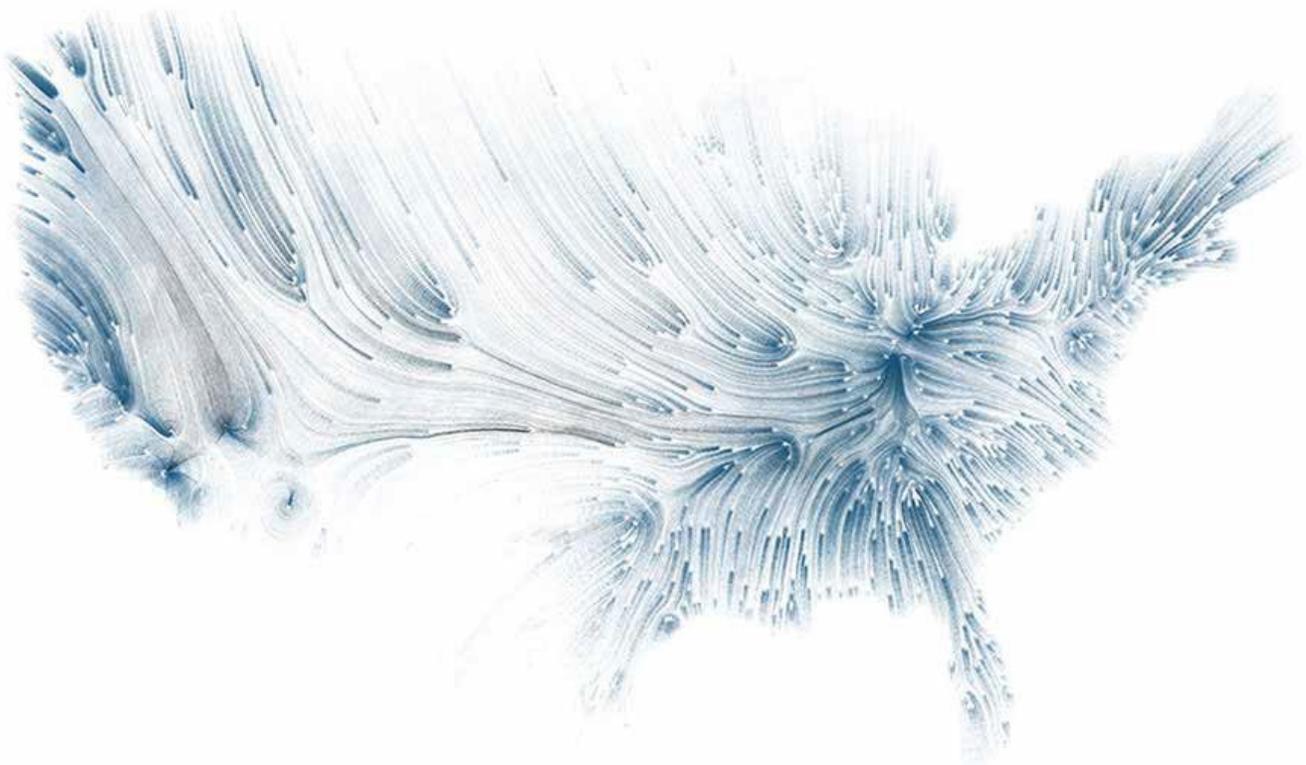
LAND 330, Fall 2016

Tuesdays & Thursdays, 10:00 - 11:15 [Arc 138]

Instructor:

Contact:

Office Hours:



David Wicks. *Drawing Water*. "Winter 2011 Rainfall vs. Consumption".

course DESCRIPTION : *For course objectives please see Appendix A.*

Cities around the world are facing an every-increasing variety of challenges that seem to make more sustainable urban futures elusive. A recent report from the United Nations Intergovernmental Panel on Climate Change (IPCC) states that "warming of the climate system is unequivocal."¹ Experts predict that the increase in the Earth's temperature, if left unchecked, will have devastating effects such as: "sea level rise; increased spread of diseases; extensive species extinction; drought and wildfires; mass human, animal and plant migrations; and resource wars over shrinking amounts of potable water."² Solutions are needed today if our cities, and world, are to have any hope of more sustainable and resilient futures. As these issues vary and range across multiple scales, the field of landscape architecture is rightly positioned to examine and propose solutions that address these ecosystems in flux. This course offers an examination of the effects of climate and climate change and how we as designers of the landscape can offer solutions that adapt, mitigate and are resilient to these atmospheric challenges. By exploring various landscape scales ranging from macro-climatic conditions to the micro-climate, students will gain a comprehensive legibility of what it means to design with climate. Emphasis will be placed on design solutions that directly engage with the climatic challenges faced within arid ecosystems.

¹ IPCC Climate Change 2007 Synthesis Report. pg 30

² IPCC Climate Change 2007 Synthesis Report. pg 48

course STRUCTURE:

The course will be broken into various units that explore the relationships between climatic conditions, ecological processes and the opportunity

for design to interface with these fluctuating systems. For the first half of the semester, each week will be split up between a lecture and a lab component that focuses on research methodologies, representation and communication of the unit. Through the use of case studies, analysis mappings, empirical research, and provocative recommendations, students will learn how to recognize a climatic problem and translate solutions from the macro-climatic regional scale to the micro-climatic human scale. Emphasis will be placed on ecological performance, urban resiliency and human comfort.

course OBJECTIVES + METHODOLOGY:

- Ability to document how objects in the landscape affect climate to create microclimates.
- Ability to document climatic conditions across multiple scales.
- Ability to document appropriate methods for modifying the key variables in a microclimate, including radiation, wind, temperature, humidity, and precipitation.
- Ability to generate design proposals that create successful, comfortable spaces under a wide variety of climatic conditions.

Students will learn how to work with natural systems to create climatically pleasant spaces for human activities. The course will cover both the scientific background and the design methods needed for shaping exterior spaces that increase comfort and reduce energy consumption. An emphasis will be placed on teaching and developing regionally appropriate strategies.

course REQUIREMENTS:

_weekly reading response papers

Each week readings will be assigned that address the issues/topics being covered in the lecture component of class. A (500) word reading response will be due in the students Google drive folder prior to the beginning of each Thursday class. Further instruction of expectations will be covered in class.

_term project

Using the Southwest, Mojave Desert and Las Vegas as a laboratory, students will engage with each of the course topics through a comprehensive analysis that includes; mappings, statistical data and empirical research to understand the issues that are being covered. Students will then be given a topic to explore through various scales and provide solutions, strategies and recommendations that address the various challenges. Specific details on submission requirements will be provided at the beginning of each unit.

Part 1: Analysis (9 weeks)
Part 1A: Atmosphere
Part 1B: Water
Part 1C: Life

Part 2: Strategy (6 weeks)
Part 2A: Proposal
Part 2B: Final

course GRADING: *For further details on grades please see Appendix B.*

Grade Distribution

The course requirement will be distributed as follows:

Weekly Reading Assignments (13) (40%)	400 points
Term Project (50%)	500 points
Part 1A	50 points
Part 1B	50 points
Part 1C	50 points
Part 2A	50 points
Part 2B	300 points
Class participation and attendance (10%)	100 points
	1000 points total

course SCHEDULE: *schedule is subject to change*

Week	Day	Month	Date	Topic
1	Tue	AUG	30	Introduction to Course
	Thu	SEPT	01	Context, Climate Change, and the Landscape Architect/ Intro Project 1A
2	Tue		06	Atmospheric Conditions (RR Due)
	Thu		08	Lab: Representing Climate
3	Tue		13	Urban Challenges & Heat Islands (RR Due)
	Thu		15	Thermal Comfort (Walking Lecture UNLV Campus)
4	Tue		20	The Power of Plants (RR Due)
	Thu		22	PROJECT 1A PRESENTATIONS / Intro Project 1A
5	Tue		27	Drought & Flooding (RR Due)
	Thu		29	Lab: Drawing Water
6	Tue	OCT	04	Water Supply (RR Due)
	Thu		06	Water Efficiency
7	Tue		11	Green Infrastructure (RR Due)
	Thu		13	PROJECT 1B PRESENTATIONS / Intro Project 1C
8	Tue		18	Species Degradation (RR Due)
	Thu		20	Lab: Representing Floral & Faunal Networks
9	Tue		25	Wildlife Habitats & Corridors (RR Due)
	Thu		27	*TBD Trip to Springs Preserve*
10	Tue	NOV	01	Urban Ecosystems (RR Due)
	Thu		03	PROJECT 1C PRESENTATIONS / Intro Project 2
11	Tue		08	Ecological Urbanism (RR Due)
	Thu		10	PROJECT 2A PROPOSALS DUE
12	Tue		15	Smart Growth (RR Due)
	Thu		17	Energy & Environment
13	Tue		22	Food & Soils (RR Due)
	Thu		24	Happy Thanksgiving
14	Tue		29	Wildscapes (RR Due)
	Thu		01	Ethics and Climate Change
15	Tue		06	In Class Presentation Prep
	Thu		08	In Class Presentation Prep
16	F I N A L E X A M / P R E S E N T A T I O N			

course Attendance:

This course will adhere to the SOA Attendance Policy:

“Attendance at classes, laboratories, studios and seminars is required. If excessive absences are noted in a particular course, the student will be notified in person and by letter that he or she will be administratively withdrawn if further unexcused absences are noted. If further absences occur after notification, the student will be withdrawn from the course and the program.” (p.152, undergraduate catalog).

An excused absence, as defined by the School of Architecture is not “I have to be at work so I can’t be in class”, rather, documented illness is an excused absence. Representing the school in a sponsored event, or other similar activities may constitute as an excused absence. Attendance may be taken at any time during the scheduled class period. If you are going to be absent or late, for any reason, you must let us know in writing at least 24 hours prior to the class period. However, prior written notification does not mean that the absence will be considered excused, rather the advanced notice is meant to act as a time related courtesy to those who will be in attendance. Class discussions and/or missed critique opportunities will not be repeated. Three unexcused absences will result in an automatic 20% reduction in your final grade. More than three unexcused absences are grounds for being administratively dropped from the course, as outlined in the SOA Policy.

It is important to be on time for all class meetings and to produce work regularly for input and review. **YOU ARE EXPECTED TO ATTEND ALL CLASSES FOR THE ENTIRE CLASS SESSION.** This is absolutely mandatory, unless you have preauthorized permission to be absent, or both instructors have agreed upon other arrangements.

IT IS ALSO MANDATORY THAT YOU DISPLAY PROPER PROFESSIONAL ETIQUETTE BY ATTENDING THE PRESENTATIONS OF EACH OF YOUR CLASSMATES.

YOU ARE EXPECTED TO ARRIVE ON TIME. Professional conduct requires that you manage your time in such a way that is not disrespectful to others. Tardiness may result in your not being allowed to enter the class, thus resulting in an unexcused absence.

Participation in class discussions is required and your participation will constitute part of your grade.

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 in 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.

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, 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>

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.

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 the SSC (ASC Coaching Spot). Drop-in tutoring is located on the second floor of the Lied Library and College of Engineering TEB 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/>.

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.

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>.

Students may consult with a Librarian on research needs. For this class, the subject librarian is http://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 <http://www.library.unlv.edu/>.

landscape architecture program POLICIES:

Late Work

Late work will not be accepted. 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.

Evaluations

Student Evaluation of Faculty

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.

Course evaluations will be available for students to complete near or 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

Feedback from the instructor will occur in the following ways:

- on request from you
- assignment grades and comments

Documentation and Retention of Student Work

The Program may keep final presentation material at the end of semester 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, jpg, tiff or appropriate format on 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. The portfolio must be clearly organized and in chronological order starting at the beginning of the semester and tracing your progress throughout the semester. The portfolio must document ALL of the work that you completed during the semester. This includes, but is not limited to the final project, final presentation images, course writing assignments, etc. Each project/assignment must also include a copy of the project/assignment handout. Submission of the course portfolio is mandatory—NO EXCEPTIONS. Please adhere to the following submission guidelines:

HARDCOPY PORTFOLIO

Format

- The hardcopy portfolio must be 8.5" x 11."
- The portfolio must be spiral bound along the left hand side.
- The portfolio must have a heavy stock binding material as a back cover and a clear plastic front cover.
- The first page of the portfolio must include your name, the course number, the semester, and the name of the course instructor/professor.

DIGITAL PORTFOLIO

Format

- The portfolio must be submitted as a .pdf file submitted to the class Dropbox account.

(No exceptions)

- PDF is the preferred formatting platform, any other platform must be cleared by the program coordinator.

It is the responsibility of each student to ensure that his or her files are properly burnt and can be opened.

appendix A :

Student Learning Objectives (SLOs):

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

Use quantitative and qualitative research methods to identify the complexity of problems, and identify different perspectives from which problems and questions can be answered at a reinforced level.

SLO 1.2

Access, collect, and use primary and secondary resources to create precedent and typology case study analyses from the the fine arts, natural sciences, social sciences, and humanities as they apply to landscape architecture specific problems and questions at a reinforced level

SLO 1.3

Identify and critically evaluate the lessons learned from precedent and typology case study analyses at a reinforced level.

SLO 1.4

Generate and defend programmatic criteria and design proposals using the lessons learned to inform landscape architecture design, planning and management solutions at a reinforced level.

An emphasis will be placed on the evaluation and identification of conclusions, including areas where further inquiry may be needed.

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 at an introductory level.

SLO 2.2

Generate appropriate design concepts and alternatives, and test them against pertinent conditions at an introductory level.

SLO 2.3

Generate and defend formal design proposals that integrate site design principles and typologies. An emphasis will be placed on an iterative approach to creating two and three-dimensional compositions at a reinforced level.

SLO 2.4

Incorporate the natural elements, forms, and processes of the project site. An emphasis will be placed on climatic conditions, soil types, hydrology, plant species and communities, and wildlife species and communities at a reinforced level.

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 at a reinforced level.

SLO 3.2

Produce effective graphic presentations using a wide range of appropriate analog and digital media at a reinforced level.

SLO 3.3

Apply innovative technologies commonly used to research, analyze, and communicate landscape architecture design proposals at a reinforced level.

Learning Objective 4: Design Process and Implementation

Upon completion of this course, students will demonstrate the ability to apply a wide range of appropriate design tools, material systems, and technical applications.

SLO 4.1

Use innovative tools, processes, and applications to generate technically accurate drawings and models at an introductory level.

Learning Objective 5: Collaboration*

Upon completion of this course, students will be able to demonstrate the ability to work within larger collaborative systems.

*This Learning Objective directly aligns with the University Undergraduate Learning Objectives (UULOS) for Global/Multicultural Knowledge and Awareness.

SLO 5.1

Generate design proposals that acknowledge landscape architecture within the broader context of allied design professions at an introductory level.

SLO 5.2

Work in collaboration with diverse groups to generate complex landscape architecture design proposals at an introductory level.

SLO 5.3

Demonstrate awareness of one's own place in and effect on the world at an introductory level.

Learning Objective 6: Leadership, Ethics, and Practice *

Upon completion of this course, students will be able to demonstrate an understanding of the need to manage, advocate, and act legally, ethically and critically for the good of the client, society, and the environment.

*The UNLV BLA Collaboration Learning Leadership and Practice directly reflect the University Undergraduate Learning Objectives (UULOS) for Citizenship and Ethics.

SLO 6.1

Demonstrate the need for landscape architects to provide leadership in the design, management, and planning of socially, economically, environmentally, and physically sustainable environments at an introductory level.

SLO 6.5

Generate a professional portfolio that documents entry-level professional skills at a reinforced level.

appendix B:

Points to letter grade conversion

1000	950	900
A	A	A-
899	850	800
B+	B	B-
799	750	700
C+	C	C-
699	650	600
D+	D	D-
599	to	0
F		

Grading Structure

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

Letter Grade Description

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 Grades - The grade of I – Incomplete – can be granted when a student has satisfactorily completed all course work up to the withdrawal date of 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. A student who receives an I is responsible for making up whatever work was lacking at the end of the semester. 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. As per the UNLV Office of the Vice President and Provost Spring 2013