

# AAE 482 Architectural Design Studio

UNLV Downtown Design Center 1-5pm

MWF

## Course Description

This course is a creative practice studio based at the UNLV Downtown Design Center for School of Architecture students. Through community engagement, an essential tool for contemporary building and campus design, we will explore how our city and metropolitan areas can be envisioned using real world projects.

## Objectives

The objective of AAE 482 Architectural Design Studio is to introduce students, using a case study project, to processes and principles, of adaptive reuse, building and campus design. This includes, but not limited to:

- design processes;
- building and site analysis;
- programming; and
- design synthesis.

## Studio Structure

The studio or atelier is unique as an environment for learning; it is the place where work is in progress; where ideas are generated and exposed to public scrutiny; where positions are taken and debated. Lectures on issues and topics relevant to the work of the studio will be held in the Downtown Design Center Conference Room, and announced when appropriate.

Attendance in the studio (including field work & meetings) is mandatory; it is only with maximum participation that the studio can be successful. Missing more than three (3) classes can result in expulsion from the course and an overall failing grade of zero (0).

## Deadlines & Expectations

Project submissions are to be completed as per the project statement outlines provided by your instructor. Projects that do not follow specified instructions will not be accepted unless written permission from your instructor has been provided.

For all projects and stages, the instructor has the right to request additional information not listed under the project deliverables.

The project submission deadlines are as follows:

Iteration 1: Schematic Design.....	February 8
Iteration 2: Design Development 1.0 .....	March 8
Iteration 3: Design Development 2.0 .....	March 29
Iteration 4: Final Project .....	TBA

All deadlines are non-negotiable. Late project submissions will not be accepted and will be assigned a failing grade of zero (0). The only exception is to have written approval from your instructor. Approval must be obtained from the instructor a minimum of 48 hours before the final deadline.

## Assessment

Individual assessments and review will be based on the following criteria:

1. Preparation and participation in discussions and individual reviews;
2. Ability to develop and maintain a schedule for carrying out the assignments;
3. Products and outcomes of the design process;
4. Progress through the studio;
5. Comprehension of complexity of issues under consideration;
6. Ability to develop an original position with regard to the issues under consideration;

7. Appropriateness of response; and
8. Communication of ideas, both verbally and through the representations.

## Project Phases

Schematic Design .....	30%
DD 1.0.....	15%
DD 2.0.....	15%
Final Project .....	40%
<b>Total</b>	<b>100%</b>

Percentage (%)	Letter Grade
85-100	A
80-84	A-
76-79	B+
72-75	B
68-71	B-
64-67	C+
60-63	C
55-59	C-
50-54	D
0-49	F

## Letter Grade Description

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.*

## UNLV Policies

The following policies are those of UNLV and apply to this studio course:

### **Academic Misconduct**

*Academic integrity is a legitimate concern for every member of the Campus community; we 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 to always take the ethical path whenever faced with choices. Students enrolling at UNLV assume the obligation to conduct themselves in a manner compatible with UNLV's educational mission. An example of academic misconduct is plagiarism. Plagiarism is using the words or ideas of another person, from the Internet or any other source without proper citation of the sources. See the [Student Conduct Code](https://www.unlv.edu/studentconduct/student-conduct), <https://www.unlv.edu/studentconduct/student-conduct>.*

### **Auditing Classes**

*Auditing a course allows a student to continue attending the lectures and/or laboratories and discussion sessions associated with the course, but the student will not earn a grade for any component of the course. Students who audit a course receive the same educational experience as students taking the course for a grade, but will be excused from exams, assessments, and other evaluative measures that serve the primary purpose of assigning a grade.*

### **Classroom Conduct**

*Students have a responsibility to conduct themselves in class and in the libraries in ways that do not interfere with the rights of other students to learn or of instructors to teach. Use of electronic devices such as pagers, cellular phones, or recording devices, or potentially disruptive devices or activities, are only permitted with the prior explicit consent of the instructor. The instructor may rescind permission at any time during the class. If a student does not comply with established requirements or obstructs the functioning of the class, the instructor may initiate an administrative drop of the student from the course.*

### **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 [copyright policy information](http://www.unlv.edu/provost/copyright) is available at <http://www.unlv.edu/provost/copyright>.*

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

*The [UNLV Disability Resource Center](https://www.unlv.edu/drc) (SSC-A, Room 143, <https://www.unlv.edu/drc>, 702-895-0866) provides resources for students with disabilities. Students who believe that they may need academic accommodations due to injury, disability, or due to pregnancy should contact the DRC as early as possible in the academic term. A Disabilities Specialist will 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 on the date and at the time specified in the Final Exam schedule. The general schedule is typically available at the start of the semester, and the classroom locations are available approximately one month before the end of the semester. See the [Final Exam Schedule](https://www.unlv.edu/registrar/calendars), <https://www.unlv.edu/registrar/calendars>.*

#### **Identity Verification in Online Courses**

*All UNLV students must use their Campus-issued ACE ID and password to log in to WebCampus.*

*UNLV students enrolled in online or hybrid courses are expected to read and adhere to the [Student Academic Misconduct Policy](https://www.unlv.edu/studentconduct/misconduct/policy), <https://www.unlv.edu/studentconduct/misconduct/policy>, which defines, “acting or attempting to act as a substitute for another, or using or attempting to use a substitute, in any academic evaluation or assignment” as a form of academic misconduct. Intentionally sharing ACE login credentials with another person may be considered an attempt to use a substitute and could result in investigation and sanctions, as outlined in the Student Academic Misconduct Policy.*

*UNLV students enrolled in online courses are also expected to read and adhere to the [Acceptable Use of Computing and Information Technology Resources Policy](https://www.it.unlv.edu/policies/acceptable-use-computing-and-information-technology-resources-policy), <https://www.it.unlv.edu/policies/acceptable-use-computing-and-information-technology-resources-policy>, which prohibits sharing university accounts with other persons without authorization.*

*To the greatest extent possible, all graded assignments and assessments in UNLV online courses should be hosted in WebCampus or another UNLV-managed platform that requires ACE login credentials for access.*

#### **Incomplete Grades**

*The grade of “I” (Incomplete) may be granted when a student has satisfactorily completed three-fourths of course work for that semester/session, but cannot complete the last part of the course for reason(s) beyond the student’s control and acceptable to the instructor, and the instructor believes that the student can finish the course without repeating it. For undergraduate courses, the incomplete work must be made up before the end of the following regular semester. 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 period indicated, a grade of “F” will be recorded, and the student’s GPA will be adjusted accordingly. Students who are fulfilling an Incomplete grade do not register for the course, but make individual arrangements with the instructor who assigned the “I” grade.*

#### **Library Resources**

*Librarians are available to consult with students on research needs, including developing research topics, finding information, and evaluating sources. To make an appointment with a subject expert for this class, please visit the [Libraries’ Research Consultation](http://guides.library.unlv.edu/appointments/librarian) website: <http://guides.library.unlv.edu/appointments/librarian>. You can also [ask the library staff](http://ask.library.unlv.edu/) questions via chat and text message at: <http://ask.library.unlv.edu/>.*

#### **Missed Classwork**

*Any student missing class, quizzes, examinations, or any other class or laboratory work because of observance of religious holidays will be given an opportunity during that semester to make up the missed work. The make-up opportunity will apply to the religious holiday absence only. It is the responsibility of the student to notify the*

*instructor within the first 14 calendar days of the course for Fall and Spring courses (except for modular courses), or within the first 7 calendar days of the course for Summer and modular courses, of their intention to participate in religious holidays which do not fall on state holidays or periods of class recess. For additional information, please visit the Policy for Missed Work, under Registration Policies, on the [Academic Policies](#) webpage, <https://catalog.unlv.edu/content.php?catoid=6&navoid=531>.*

*In accordance with the policy approved by the Faculty Senate regarding missed class time and assignments, students who represent UNLV in any official extracurricular activity will also have the opportunity to make up assignments, provided that the student provides official written notification to the instructor no less than one week prior to the missed class(es).*

*The spirit and intent of the policy for missed classwork is to offer fair and equitable assessment opportunities to all students, including those representing the University in extracurricular activities. Instructors should consider, for example, that in courses which offer a “Drop one” option for the lowest assignment, quiz, or exam, assigning the student a grade of zero for an excused absence for extracurricular activity is both contrary to the intent of the Faculty Senate’s policy, and an infringement on the student’s right to complete all work for the course.*

*This policy will not apply in the event that completing the assignment or administering the examination at an alternate time would impose an undue hardship on the instructor or the University that could reasonably have been avoided. There should be a good faith effort by both the instructor and the student to agree to a reasonable resolution. When disagreements regarding this policy arise, decisions can be appealed to the Department Chair/Unit Director, College/School Dean, and/or the Faculty Senate Academic Standards Committee.*

*For purposes of definition, extracurricular activities may include, but are not limited to: fine arts activities, competitive intercollegiate athletics, science and engineering competitions, liberal arts competitions, academic recruitment activities, and any other event or activity sanctioned by a College/School Dean, and/or by the Executive Vice President and Provost.*

#### **Rebelmail**

*Rebelmail is UNLV’s official email system for students, and by University policy, instructors and staff should only send emails to students’ Rebelmail accounts. Rebelmail is one of the primary ways students receive official University communications, information about deadlines, major Campus events, and announcements. All UNLV students receive a Rebelmail account after they have been admitted to the University. Emailing within WebCampus is also acceptable.*

#### **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, please visit the [ASC website](#), <https://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, Room 254. Drop-in tutoring is located on the second floor of the Lied Library, and on the second floor of the College of Engineering building (TBE A 207).*

#### **UNLV Writing Center**

*One-on-one or small group assistance with writing is available free of charge to UNLV students at the [Writing Center](#), <https://writingcenter.unlv.edu/>, located in the Central Desert Complex, Building 3, Room 301 (CDC 3–301). Walk-in consultations are sometimes available, but students with appointments receive priority assistance. Students may make appointments in person or by calling the Center, 702-895-3908. Students are requested to bring to their appointments their Rebel ID Card, a copy of the instructions for their assignment, and two copies of any writing they have completed on their assignment.*



## Project Brief

Growing inequality within the United States is well documented. Recent research indicates that poor social and health outcomes correlate with inequality not poverty. ([http://cdclv.unlv.edu/healthnv\\_2012/income.pdf](http://cdclv.unlv.edu/healthnv_2012/income.pdf)) This phenomenon has contributed to increased homelessness, pressure on the elderly as well as growing challenges among the working poor. Employment is no longer a guarantee that someone will escape a life of poverty.

According to the 2010 Census the median income in Nevada is over 50K/year - well over the national average. However, 11.4% of workers in Nevada earn less than \$15,000/year putting them below the poverty line. The number of people living below the poverty line disproportionately impacts minority communities in Nevada - African American (26.3%), Native Americans (24%) and Latina (22.1%).

Las Vegas like most cities struggle with how to serve and support those in need. The City Impact Center (CIC) is a private faith-based endeavor to serve those in our community that are struggling. CIC was the vision of Pastor Randy Greer at the Trinity Life Center, an urban church with over 5 acres of land a few blocks from the "Strip" between Sahara Avenue and St Louis Avenue (see site map below).



The UNLV Downtown Design Center (DDC), in collaboration with the CIC and City Impact Ventures, will guide the development of a conceptual campus plan. The CIC is a 501c3 and currently offers 15 services to support children, families and individuals with the intention of enriching our community. They are pursuing a co-location model by partnering with other non-profit and commercial entities that have expertise in target service areas. Their desire is to develop a comprehensive social service campus that fosters synergies between services and provides a single point of contact for those in need. CIC is currently building a 65 unit Senior Living Center to provide housing to low income elderly and will become an anchor for the campus. (<https://cicnv.org/programs/>). This semester you will be joining this effort by developing a conceptual campus plan proposal that fits within the organizations vision and future needs.

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## CITY IMPACT CENTER

### Address:

• 850 E Sahara Ave, Las Vegas, NV 89104

### Size

- L-1: 195.22 FEET
- L-2: 600.08 FEET
- L-3: 229.86 FEET
- L-4: 356.22 FEET
- L-5: 114.76 FEET
- L-6: 295.62 FEET
- L-7: 115.00 FEET
- L-8: 201.82 FEET
- L-9: 108.65 FEET
- L-10: 197.10 FEET
- L-11: 108.61 FEET
- L-12: 600.50 FEET

### Area

- 5.85 Acres



Your assignment will involve a two-part design process, *schematic design* and *design development*, you will be faced with the challenge of balancing the goals and vision of the stakeholders with those of your own. The **Schematic Design** stage is where goals are clearly defined, a program to accomplish those goals is developed and design ideas / functional relationships are to be explored. Through this stage, you must complete a site inventory and analysis, and complete a written program, which will serve as the basic guidelines for your design. You will be required to present your design to a review panel for approval. The make-up of this design panel will be discussed in studio. The Schematic Design will be done individually.

Once your plan has been approved, you will form interdisciplinary design teams based on common ideas, goals and compatibility. Each group must have at least one Architecture Student and one Landscape architecture student. Each team will be responsible for carrying their project through **Design Development (DD)** and culminate with a **Final Project** proposal. You will continue to develop and refine your design through the project deliverables. You will be challenged by many design decisions through this stage that will include, but not limited to:

- client thoughts and feedback;
- thoughtful system and material selections;
- applicable building code and other legal requirements;
- sustainable practices and considerations;
- technical considerations;

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- unforeseen issues and complications that rise when working on a real project with a real client.

You will be required to submit and present project deliverables to the design review panel 3-4 times through this semester. A tentative schedule has been included in this syllabus.

## Deliverables

Through the iterative process, you will be working to complete two (2) deliverables to be uploaded on the studio Google Drive for each presentation/due date:

### Poster

You must present a narrative for your project that highlights your big idea and how that idea addresses the client's needs and aspirations. This statement should be between 50-150 words. Your board should graphically describe the program and project components you are employing to accomplish your big idea. The size and paper used from printing must be approved by your instructor. You must include the following information on your poster:

- Written Statement outlining big ideas and objectives (no more than 150 words)
- Opportunities & constraints diagram
  - Setbacks
  - Buildable Volume (height limitations + setbacks)
  - Existing Buildings (those that need to be saved)
  - Circulation – vehicular, pedestrian and public transit
  - Solar Envelope
  - Catalog existing assets in and around site.
- Annotated Project Diagram with square footages (axon/perspective diagram to scale on site)
  - Outdoor Open/Recreation/Gathering Spaces—at a minimum, you are required to address:
    - Site entry, property transitions, parking/drop-off requirements (to code), indoor/outdoor relationships, and site infrastructure. Additional elements may be added, but must be defined. Note that you must define key outdoor spaces (ie: entry plaza, community garden, patio, etc).
    - Select materials that will contribute to sustainable design and construction.
    - Provide paved pedestrian connections to all access points. This includes addressing ADA issues.
    - Locate and specify/design appropriate site furnishings.
    - Include locations for campus signage wayfinding.
    - Designate planting treatment on all unpaved areas.
    - Choose and locate plantings that address the site opportunities and constraints. A minimum of 30% of the site must be planted.
    - Provide for a minimum of one (1) foot candle (10 lux) of illumination along circulation routes to all access points.
  - Office Space
  - Commercial Storefront Space
  - Education/Classrooms
  - Assembly Space
    - Auditorium
    - Gym
  - Major Circulation Elements
    - Vehicle circulation
    - Pedestrian circulation
    - Parking
    - Fire Truck Lane
    - Garbage, Deliveries and other services
    - Vertical Circulation Cores



- Annotated Campus Plan (with context, highlighting big ideas)
- Illustrative drawings with annotations (as needed)
- Three perspective renderings (interior and exteriors, highlighting your big ideas)

All graphics to be submitted in both hardcopy and digital formats (PDF & “packaged” InDesign folder). All packaged InDesign folders must contain a complete “Links” folder or the submission will be considered incomplete.

## Animation

You must create a digital model of the project using SketchUp (<http://www.sketchup.com>), or alternatively approved program, and develop a professional quality flythrough video using Lumion (<https://lumion.com>). You are required to have a SketchUp student license or alternatively approved software. Both SketchUp, Revit and Lumion are available in the SoA computer lab. The appropriate file type will be discussed prior to submission. You must address the following in your video:

- You need to craft a thoughtful sequence for your video that reinforces your big idea(s) and showcases your design resolution.
- You must show the context and surroundings in your video
- You must show supportive entourage - materials, people, furnishings, vehicles, equipment and activities that communicate the use and character of spaces you designed.
- Narrate your video – explain what we are looking at in the context of your big idea(s).
- In addition to capturing the scale and elements of your design, you must present your project through storytelling (see key to success, below).

Oral presentations must include a cohesive and comprehensive digital format (ie: PowerPoint, Keynote, Prezi, etc). Your instructor will provide additional guidance to help you prepare. For both stages, the instructor has the right to request, in writing, additional drawings or materials not listed under the project deliverables.

Your design work will be evaluated on the following criteria:

- Preparation and participation in discussions and individual reviews (Do you have your material to review in hardcopy format? Do you participate in discussions in a constructive manner? Did you do the recommended assignments?)
- Ability to develop and maintain a schedule for carrying out the assignments (Did you spend the appropriate time on the assignment? Are you responding to critiques of the work for each meeting with your instructor?);
- Products and outcomes of the design process (Have you addressed the issues discussed in studio? Is the assignment complete, well organized, and professional?);
- Progress through the course (Was the assignment completed through a number of iterations?);
- Comprehension of complexity of issues under consideration (Have you been thorough in your effort to understand the information that you are observing, recording, analyzing, and presenting?);
- Ability to develop an original position with regard to the issues under consideration (Have you utilized lessons learned from precedents to develop your own vision...or did you just copy another project because it looks cool?);
- Appropriateness of response (Do you respond directly to the information that you are collecting, analyzing, and presenting?); and
- Communication of ideas, both verbally and through the representations (Are your final deliverables complete, clear, and professional quality?). **Did you develop a story for your project, or just create a run of the mill flythrough?**

## Studio Objectives

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## Skills

- Observe, record, analyze and present information related to a specific site;
- Listen, design, and present to a client group; and
- Develop your design, graphic, and communication abilities.

## Knowledge

- Work in compressed time that facilitates creative problem solving by accelerating decision making;
- Generate an appropriate site inventory and analysis;
- Develop an inventory of design response ideas against pertinent conditions;
- Participate in public engagement, essential in building and campus design;
- Consider relevant building codes and regulations;
- Implement an iterative approach to design;
- Explore the benefits of collaborative design; and
- Demonstrate effective written, graphic and oral communication skills through the delivery of critiques and formal presentations.

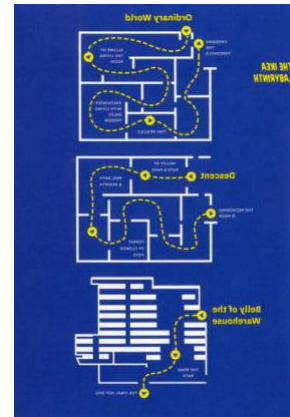
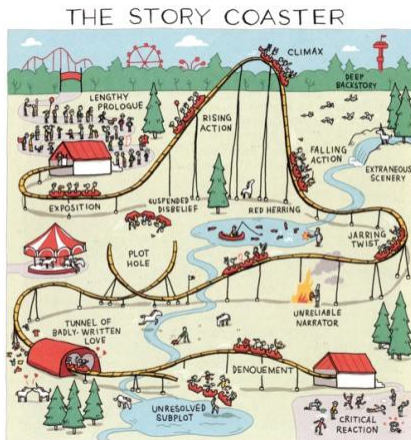
## Key to Success

An inexperienced, or just poorly trained, designer can often think of a building or landscape as a static artifact, forgetting the dynamic experience of time and place. A well designed campus will be composed with a sequence of physical spaces working together, with each space will reveal different experiences. Some may be open and public, while others may be quite and private. Each space will be evolving over time and is anchored in the values, ideals and activities of those linked to the place.

**Through the design process, you are to create a story for the place that you are designing.** You must ensure that your story is integrated in both your poster and animation. Be sure that you not only address the design program, but illustrate your understanding of the relationships between landscape, open space, built forms and people.

Design visualization through storytelling will stimulate the possibilities for creating memorable places, making them tangible, visible, tactile for your audience.

While developing your story, ensure that you use tools such as a narrative arc, hero's journey, storyboards and/or scenario planning. Try to answer the following questions through this process: How do people behave in a particular place? What are the patterns of human and natural activity? How can a place enhance experiences and memories? What makes this place like no other? When it comes to storytelling, remember that in a movie... *the order of events doesn't always match the order in which the audience encounters them. The dastardly deed of a murder mystery often occurs early in the story. Someone has been murdered but we don't know why (later we will learn that Bob Killed Aunt Mary in order to inherit her rent-controlled apartment). To write a mystery, the author has to work out the underlying structure (sometimes called the "plot") and then reveal that structure bit by bit (the "story"). The story entices the audience with clues and false leads. By the end, the author has shone light into the dark corners of the plot, bringing its secret architecture into view* (Ellen Lupton: 2017).



## Required Material

City of Las Vegas. Title 19: Unified Development Code (adopted March 16, 2011)

## Reference Material

Larice, Michel & Macdonald, Elizabeth. *The Urban Design Reader* (London: Routledge, 2007)

*The Architect's Studio Companion: Rules of Thumb For Preliminary Design, 5<sup>th</sup> Edition*. Edward Allen and Joseph Iano. ( NA2750 .A556 2002eb )

*Building Construction Illustrated, 4<sup>th</sup> Edition*; Francis D.K. Ching, John Wiley & Sons. (TH146 .C52 2008 )

*Architecture: Form, Space & Order*; Francis D.K. Ching, John Wiley & Sons ( NA2760 .C46 ) Burklin,

Thorsten & Peterrek, Michael. *Basics: Urban Building Blocks* (Basel: Birkhauser, 2008). Lupton, Ellen.

*Design is Storytelling* (Cooper Hewitt: 2017).

Rottle, Nancy & Yocom, Ken. *Ecological Design* (London: AVA Publishing, 2010).

Urban Design Associates. *The Urban Design Handbook, 2nd Edition* (New York: W.W. Norton & Co, 2013). Wall, Ed

& Waterman, Tim. *Urban Design* (London: AVA Publishing, 2010).