course:	LAR 381R 1 | Rendering and Animation of the Built Environment ARC 380C | Rendering and Animation of the Built Environment ARC 328Q | Rendering and Animation of the Built Environment
unique number:	01645,00955,00778
type of course:	Laboratory
credits:	3
enrollment:	MLA, MARCH, BARCH, Bridging Disciplines
prerequisite:	LAR381, ARC520L, or permission of Instructor
instructor:	Professor Hope Hasbrouck
schedule:	Lecture F 9-12 / Workshop T 1-2:30
location:	WMB 5.112 & WMB 5.102
semester:	Spring 2019

LAR 381R 1 Catalog Description:
Digital visualization techniques used to model three dimensional environments and motion with digital media. Includes lectures, software demonstrations, and projects that focus on the digital translation of spatial experience, including the visualization techniques associated with rendering texture, character and environment.

ARC 351R Catalog Description:
Advanced topics in various methods of visual communication.

ARC 380C Catalog Description:
Advanced topics in visualization and fabrication in such media as freehand drawing, modeling, photography, computer graphics, photogrammetry, and measured drawings.

Cornell University

Course Description:
*(Non-majors will require permission from the instructor, and are encouraged to have Autodesk Certified User credentials for AutoCAD/3DMax.)

This course is ideally suited for advanced beginner to intermediate level students who seek an opportunity to hone their digital modeling skills in a controlled course environment. Lectures, demonstrations, and student projects will focus on the digital translation of spatial experience, including the visualization techniques associated with rendering form, texture, character and environment. The course is open to graduate and undergraduate students in the school of architecture in addition to Digital Arts and Media BDP participants and qualified undergraduate non-majors in architecture. (Non-majors will require permission from the instructor, and are required to meet at a minimum Autodesk Certified User credentials for AutoCAD or 3DMax.)

Note for Bridging Discipline Students:
The course is also open to qualified students as part of the Bridging Disciplines Program at the University of Texas at Austin. RTF students with substantial modeling experience will not be challenged by the level of software immersion. The course is ideally suited for those with intermediate level experience 3d modeling or those interested in producing dimensionally accurate building and landscape models and their physical environments.

This course presents a sequence of digital visualization techniques that enable students to model three-dimensional digital environments, motion and basic VR environments. The foundational principle of the course is to present students the underlying data structures and software environments that dictate representational/visualization choices for design. This is not a software training course.

Over the course of the semester the class will focus on developing 3D and 4D digital models. There will be eight short but spirited skill based assignments, supplemented by a semester project that seeks to balance skill development with the production of rich pictorial content that illuminates conceptual intent and spatial experience.

The course will meet twice per week for lecture and lab session. Class size is limited by the teaching facilities of the SOA WMB computing laboratory. The lecture/workshop is schedule for Friday morning with a lab sessions scheduled on Tuesday afternoons.

If you are interested in the course and the lab session has conflicts, please inform the instructor and an alternative lab session will be considered> hhasbrouck@austin.utexas.edu.

Topics and Techniques:
- Modeling (Form and Volume): Navigation and operation in 3d space
- Review of fundamental modeling operations that result in generation of complex surfaces and solids.
- Pictorial Compositions: Camera Creation and View composition
- Rendering (Material, Character and Texture.)
- Depicting Environments: Simple to intermediate level light models
- Entourage (Figure and vegetation – particle systems & modeling fluids)
- Motion Models or Animation including Basic Camera Motion
- First Person and Third person walkthroughs in Unity Game Engine

Objectives:

1. To provide a computing environment that focuses primarily on the digital visualization of three-dimensional space.
2. To emphasize that lower level digital entities combine to form higher level entities.
3. To employ a broad palette of the modeling and information technologies that comprise the digital design repertoire.

Time Commitment:

Class/Lab times as stated in the Course Catalog and as much additional time as necessary to meet the objectives of the course. Students should anticipate spending at a minimum, four times the credit hours of work per week on coursework outside of class time.

Attendance:

Regular Attendance

Regular Attendance is required for all exams, lectures, field trips, lab sessions, and discussions unless stated by the instructor. If a class meeting is to be rescheduled, it will be done in as timely a manner as possible, with the intention of accommodating the majority of the course participants' schedules. Changes to the course schedule are posted to Canvas.

Final Exam

All course participants are required to attend the Final Exam scheduled during the university's exam period.

Religious and Holy Days

Absences based on religious observances must be arranged fourteen [14] days in advance. Any assignment submission missed during that time must be turned in within one week [7 days] of the scheduled absence. A student who fails to complete missed work within the time allowed will be subject to the normal academic penalties for late work.

Military Service

In accordance with section 51.9111 of the Texas Education Code, a student is excused from attending classes or engaging in other required activities, including exams, if he or she is called to active military service of a reasonably brief duration. The maximum time for which the student may be excused has been defined by the Texas Higher Education Coordinating Board as "no more than 25 percent of the total number of class meetings or the contact hour equivalent (not including the final examination period) for the specific course or courses in which the student is currently enrolled at the beginning of the period of active military service." The student will be allowed a reasonable time after the absence to complete assignments and take exams. Policies affecting students who withdraw from the University for military service are given in the Withdrawal section of Academic Policies and Procedures of the General Information Catalog.

Illness driven Absence

An absence due to illness will be labeled as EXCUSED when the Instructor or Teaching assistant receives appropriate documentation from a physician. Any assignment submission missed due to documented illness must be turned in within one week [7 days] of the absence or one week [7 days] from the original submission date.

Missing twenty-five percent [25%] of the class meetings is beyond reasonable under any circumstance. Course participants with three [3] unexcused absences will have their total numeric grade reduced by one out of four grade points at the conclusion of the semester. Additional unexcused absences will result in additional point reductions of .33 grade points per absence. Contact the instructor or teaching assistant prior to an expected absence.

Grade Percentages

Attendance			01%
8 Spirited Exercises			40%
Project	1.0		
	1.1	Project Statement	2%
	1.2	Rendered Image(s)	27%
	1.2a	Animation	15%
	1.3	VR	15%

Grade Evaluation

Work submitted by the course participant will be evaluated according to the following:

- Meeting the Objectives of the Assignment demonstrating effective pursuit to meet the pedagogic objectives of the course and
- Depth of Research into methods and demonstrated application of course material in the development of a digital representation model
- Technique and Craft as evidenced through the production of graphic and 3 dimensional analog or digital based materials.

Rigor and skill development contribute to student evaluations. Grades are subject to deductions for absences, late work, and late arrivals at the discretion of the instructor.

Complete assignments in the time allowed, typically six and one-half days for exercises; three or more weeks for the mid semester and end of the semester projects. Exercises submitted late other than those due to religious, military or medical emergencies, will be reduced by one grade point per each 24 hour period after the stated assignment deadline.

grade	work quality	performance level
A	excellent	Work surpasses expectations. Student pursues concepts and techniques above and beyond what is discussed in class. Work is complete on all levels.
A-		
B+		
B	good	Work is thorough, technically competent, diligently pursued, and successfully completed. Work is complete on all levels and demonstrates potential for excellence.
B-		
C+		
C	required	Work meets the minimum requirements. Ideas lack rigor. Work is incomplete in one or more areas.
C-		
D	poor	Work is incomplete and does not demonstrate the required knowledge base or grasp of the assignment.
D-		
F	unacceptable	Work is unresolved and incomplete at all levels. Work demonstrates no critical thought process. Minimum objectives are not met. Performance is not acceptable. Note that this grade will be assigned when student has excessive unexcused absences.
X	excused incomp	issued only in the case of compelling, nonacademic circumstances beyond the student's control. Simply not completing work on time is an inadequate cause for assigning this evaluation. It may only be used after consultation with the Associate Deans' offices and with an agreement as to a new completion date. According to School of Architecture policy, studio work must be completed before the second week of the next design semester in which the student is enrolling.

Any grade can be re-evaluated based on student concern. Subsequent evaluations can cause the grade to be reduced, remain unchanged, or increased. Grades are discussed on an individual basis, not as in comparison with other students' grades.

Accommodations:

Class meetings, lectures, and discussions as well as studio centered working sessions meet in the assigned classroom or studio. Changes in location are posted to Canvas

Course participants with disabilities may request appropriate academic accommodations from the Division of Diversity and Community Engagement, Services for Students with Disabilities, 512-471-6259, www.utexas.edu/diversity/ddce/ssd/

Recommendation in Case of Emergency Evacuations:

- Occupants of buildings on The University of Texas at Austin campus are required to evacuate buildings when a fire alarm is activated. Alarm activation or announcement requires exiting and assembling outside.
- Familiarize yourself with all exit doors of each classroom/studio and building you may occupy. Remember that the nearest exit door may not be the one you used when entering the building.
- Students requiring assistance in evacuation shall inform their instructor in writing during the first week of class.
- In the event of an evacuation, follow the instruction of faculty or class instructors.
- Do not re-enter a building unless given instructions by the following: Austin Fire Department, The University of Texas at Austin Police Department, or Fire Prevention Services office.
- Link to information regarding emergency evacuation routes and emergency procedures can be found at: www.utexas.edu/emergency or http://emergency.utexas.edu/preparedness
- Behavior Concerns Advice Line (BCAL): 512-232-5050 or www.utexas.edu/safety/bcal/ The Behavior Concerns Advice Line provides a central resource to anyone who is concerned about an individual and may not be sure about how best to help them.
- Cases that present an immediate threat to self, others, or property should be considered an emergency and should be directed to The University of Texas Police Department (UTPD) by calling 911.

Academic Integrity:

Course participants shall complete the exercises, assigned readings and arrive to class prepared to engage in a meaningful discussion/application of the assigned material. Exercises, problem statements, research assignments and presentations or other course related work submitted for grade evaluation is expected to be their own work and prepared without unauthorized assistance.

http://catalog.utexas.edu/general-information/the-university/#universitycodeofconduct.

Policy on Scholastic Dishonesty:

Students who violate University rules on scholastic dishonesty are subject to disciplinary penalties, including the possibility of failure in the course and/or dismissal from the University. Since such dishonesty harms the individual, all students, and the integrity of the University, policies on scholastic dishonesty is strictly enforced.

Review Make up Procedure:

Course participants must attend the project reviews scheduled during the semester. Only under extreme circumstances will there be awarded a make-up opportunity. If you are unable to attend, course participants are required to have their work pinned up before the appointed time.

If awarded make-up reviews will be scheduled sometime at the start of the following semester. Make up reviews are scheduled only during the long session or regular academic year.

Availability of Coursework:

Each student is required to submit to the Instructor of Record a jump drive, or DVD, or cloud storage links that contains all material produced for evaluation during the semester on the date of the Final Exam. Failure to submit the digital record to the instructor will result in the award of an incomplete for the semester.

Course material, produced by students enrolled in a professionally accredited program, will be retained for the purpose of exhibition during professional accreditation site visits. Material that is not necessary for accreditation purposes will be returned to the student within one academic semester.

Course Materials:

- Primary reading materials will be on reserve in the Architecture and Planning Library or distributed digitally through Canvas.
- Course participants should anticipate expenses related to printing in the Digital Media Lab of the School of Architecture.
- Course participants should be prepared to work on their own computer or the computers provided in the computer lab. While there is no specified computing platform, Digital subject matter if demonstrated by Professor Hasbrouck will be made using software running on the Windows Platform.
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Analog vs. Digital [or, notes on the general use of computers in design courses]

- Computers and related software enable design exploration and iteration. They provide the ability to model spatial proposals three dimensionally, such that space and sequence are not divorced from experience.
- The ability to initiate investigations should be dictated by the assignment and technical issues, not the software itself. Software does not make decisions, software implements commands initiated by the student.
- Always employ the medium that is best capable of advancing the technical solution. Never sacrifice assignment advancement or technical execution for software related conflicts or challenges.
- Experimentation and exploration of digital tools is encouraged. However, the display of a consistent inability to effectively utilize digital media [hardware or software] will result in the recommendation that the student consider remedial support or withdrawal from the course. Use of digital media should facilitate, rather than retard advancement.
- When appropriate, utilize predefined blocks or cells of design elements- such as patterns, trees, vehicles with discretion. The use of such elements should reinforce solutions, rather than dictate the decision making process or visually dominate the graphic presentation.
- Factor printing time into the presentation deadlines. Access to public computers during review periods is limited; as such, it is the student's responsibility to ensure this condition does not impede printing efforts. Failure to meet deadlines due to printing issues will not be excused.
- Data loss or file corruption is an unacceptable excuse for not meeting deadlines or having material for assignment submissions or presentation. Maintain TWO or more archives of coursework [back up media is inexpensive, especially when compared to the time that is expended in recreating lost data].
- Course files should be saved in the following four locations:
    1. Student CPU
    2. Portable hard drive
    3. Removable storage device [DVD/CD/ flash drive];
    4. Cloud storage (UT-Box).

Faculty: Hope H. Hasbrouck, FAAR'09
Office Location: XXXX
Office Hours: Thursday 3:00-4:30, Email confirmation required 24hrs in advance. Location specified in email.
Please ask me about the gun policy for my academic office.
Primary Contact: hhasbrouck@austin.utexas.edu

Teaching Assistant: Gillian Kuhnhausen
Email Contact: kuhnhaus@utexas.edu

Schedule of Topics

1) Scene
   a) Laboratory
   b) Project 1.1 Statement
   c) Ex01
2) Light
   a) Laboratory
   b) EX 02
3) Material
   a) Laboratory
   b) EX03
4) Camera
   a) Laboratory
   b) EX 04
5) Light II
   a) Laboratory
   b) EX 05
6) Material II
   a) Laboratory
   b) EX 06
7) Hasbrouck Out - Conference Presentation
   a) Laboratory
   b) No Assignment
8) Environment
   a) No Laboratory SPRING BREAK
   b) Project 1.2 The Rendered Image – Pin up in 5.102 at 1:00pm
9) SPRING BREAK

03.26.2019 Project 1.2 The Rendered Image – Pin up in 5.102 at 1:00pm

10) Motion 1
    a) Laboratory
    b) EX 10
11) Motion II
    a) Laboratory
    b) EX 10
12) Immersive 1
    a) Laboratory
13) Immersive 2
    a) Laboratory
14) Complexity
    a) Laboratory
15) PRESENT Project 1.3 The Rendered Image – Pin up in 5.102 at 1:00pm
16) Laboratory – General Help Before Finals
17) Last Week of Classes | Design Review Week | No Class

05.17.2019 Final PROJECT 1.4 Due at 9:00am