

<b>ARCHITECTURAL REPRESENTATION IV</b>	<b>SPRING 2021 ARCH 2102 SYLLABUS</b>	<b>INSTRUCTOR STEPHANIE SANG DELGADO</b>	<b>COLLEGE OF ARCHITECTURE TEXAS TECH</b>
<b>CATALOG DESCRIPTION</b> Corequisite: ARCH 2504. Prerequisite: ARCH 2102. Advanced architectural representation techniques emphasizing digital craft and acumen, with an introduction to fabrication techniques and tools, understanding, and professional participation. Workshops over the course of the semester will be dedicated to supplementing the execution of assigned deliverables for Architectural Design Studio IV or assigned deliverables for Architectural Representation IV.		<b>TEACHING ASSISTANTS</b> TBD	<b>LOCATION</b> ONLINE  <b>OFFICE HOURS:</b> BY APPT ONLY  <b>TIME</b> MONDAY 5:30 PM - 6:20 PM
<b>COURSE DESCRIPTION</b> Architectural Representation IV will build upon foundational techniques and methods introduced in the first-year and second-year courses Architectural Representation I - III. Taught in conjunction with ARCH 2504, ARCH 2102 will be structured as a series of lectures, readings, workshops and assignments intended to advance and articulate design conversations in Architectural Design Studio III and develop a critical attitude toward representational techniques and methods.  Critical observation and analysis will be a point of emphasis with the intention to develop a coherent dialogue between design and representational processes within digital media. Relationships between orthographic and perspectival drawing will be examined and interrogated.  Assignments and readings will occur in tandem to but are separate from Architectural Design Studio IV will constitute the graded deliverables for this course: 1) creating their own diverse set of scale figures, and 2) on making an animation for the studio project. These assignments will be evaluated on the basis of students' formal sensibility, technical ability, conceptual		<b>TEACHING METHODS</b> The course will be structured as a series of lectures, workshops, and guest lectures. Representational principles and processes will be outlined during class with the expectation that students practice and expand upon the readings that focus on software's relationship to architecture. Software tutorials will be further explained through asynchronous tutorials.  Developing a fluency in Rhino, Adobe Illustrator, and Adobe Photoshop to develop a coherent dialogue between design and representational processes will be a central point of focus for this course. Assigned drawing and 3D modelling exercises will be leveraged to develop digital dexterity and a critical analysis of software tools.	
<b>STUDENT LEARNING OBJECTIVES</b> <ul style="list-style-type: none"> <li>● Leverage digital working methods to develop a coherent dialogue between design and representational processes across 2D and 3D media.</li> <li>● Develop a rigorous and critical approach to digital modeling.</li> <li>● Understand the critical conversations around representation, and design concepts underpinning drawing conventions and identify representational techniques for communicating</li> </ul>		<b>COURSE STRUCTURE</b> <ul style="list-style-type: none"> <li>→ Part I - Everything is Software <ul style="list-style-type: none"> <li>◆ Concept <ul style="list-style-type: none"> <li>● A Critical Understanding of representation and software's relationship to the politics of architecture.</li> <li>● Boolean operation</li> </ul> </li> <li>◆ Software: <ul style="list-style-type: none"> <li>● Rhino 6 or 7</li> </ul> </li> </ul> </li> <li>→ Part II - Maps are Political</li> </ul>	

atmospheric and spatial qualities within the medium of drawing.

- Practice organizational principles and methods for establishing visual hierarchy in the layout of graphic work.

### STUDENT PERFORMANCE OBJECTIVES

- Construct a comprehensive 3D digital model from existing 2D orthographic drawings.
- Extract and generate accurate 2D orthographic drawings with detail and spatial depth from 3D digital models.
- Craft digitally executed animations that acknowledge orthographic drawing conventions and impress atmospheric and spatial qualities.
- Layout studio work in a format that is graphically consistent and visually legible. Produce and complete all work in a timely manner

### SOFTWARE REQUIRED

- Rhino 6 or 7
  - Rhino 6 is provided through TTU College of Architecture's IT department.
- Adobe Illustrator
  - Or <https://vectr.com/> - a free, open source Web App
- QGIS (open source & free)
  - <https://www.qgis.org/en/site/>

### LECTURE SERIES

The Lecture Series is an integral component of architectural education, and is required for this course.

#### ◆ Concepts

- How mapping can cause wars in the digital age
- Mapping, as a tool for design

#### ◆ Software:

- Illustrator
- QGIS

→ Part III - Scale, Scale, Scale

#### ◆ Concept:

- Scale figures
- Architectural scale in 3D modelling

#### ◆ Software

- Illustrator
- Rhino 6 or 7

→ Part IV - Render or Rendering - It's Just Semantics

#### ◆ Concept:

- This history of rendering and its relationship to architecture
- Renders as tool for design communication

#### ◆ Software

- Rhino
- VRay

### REQUIRED TEXTS: All readings available on course Microsoft Teams

- May, John. 2017. "Everything Is Already an Image". in *Log 40: Observations on Architecture and The Contemporary City*. 9-26.
- Benjamin, Ruha. 2019. "Default Discrimination: Is the Glitch Systematic" in *Race After Technology: Abolitionist Tools for the New Jim Code* (Medford, MA: Polity Press). 77 - 96.
- Allais, Lucia. 2019. "Rendering" in *Design Technics*. Zeynep Celik Alexander and John May eds. (U of Minnesota Press: Minneapolis) 1-44.
- Bensinger, George. 2020. "Google Redraw the Borders on Maps depending on who's looking". *The Washington Post*. February 14, 2020.  
<https://www.washingtonpost.com/technology/2020/02/14/google-maps-political-borders/>
- Jacobs, Frank. 2012. "The First Google Maps War". *The New York Times*. February 28, 2012.  
<https://opinionator.blogs.nytimes.com/2012/02/28/the-first-google-maps-war/>

### SUGGESTED READINGS

- Meredith, Michael and Hillary Sample. 2016. *A Situation Constructed from Loose and Overlapping Social and Architectural Aggregates*. (Baunach, Germany: Spurbuchverlag).
- McMorrough, Julia. 2015. *Drawing for Architects: How to Explore Concepts, Define Elements, and Create Effective Built Design through Illustration*. (Beverly, MA: Rockport Publishers).

### RESOURCES

- 3D Diverse Characters: [peopling.studio](http://peopling.studio)
- 2D Scale Figures: [dimensions.com](http://dimensions.com)
- GSAPP Skill Tree: <https://gsappskilltree.tumblr.com/>

<b>SCHEDULE (subject to change)</b>			
<b>WEEK</b>	<b>TOPIC</b>	<b>Assignments</b>	<b>Lecture Series</b>
1 - 01.25.21	Introduction   Part 1 Everything is Software   Boolean	Watch Boolean Tutorial	
2 - 02.01.21	Boolean Pt 2.   Reading Discussion	Reading due: "Everything is already an Image"	Lecture: Mitch McEwen
3 - 02.08.21	Part II - Maps are Political	Reading due: "Google Redraw the Borders" & "The First Google War"	
4 - 02.15.21	QGIS		Lecture: Molly Wright Stenson
5 - 02.22.21	Guest Lecture: Zahra Safervdi		
6 - 03.01.21	Pit		
7 - 03.08.21	Part III - Scale, Scale Scale   Scale Figure Exercise	Reading due: "Default Discrimination)"	Wednesday: Esra Ackan
8 - 03.15.21	Scale		
9 - 03.22.21	Guest Lecture: Kevin Hirth		Wednesday: Ming Fung
10 - 03.29.21	Guest Lecture: WAI Think Tank	Due: Scale Figure Exercise	
11 - 04.05.21	NO CLASSES		
12 - 04.12.21	Part IV - Render or Rendering: It's just Semantics	Reading due: "Rendering"	Lecture: Billie Tsien
13 - 04.19.21	Final Assignment Assigned		
14 - 04.26.21	Animation Workshop / Question Session	Studio Final Review 04/30/21	
15 - 05.05.21	Attend Upper Studios Reviews	Animation due by 5 pm	

## **COURSE POLICIES**

### **ATTENDANCE**

The College Attendance Policy states that students are responsible for attending all scheduled class meetings for the full class period. A total of four (4) absences is considered excessive, requiring the student to drop the course or receive a grade of "F" in compliance with drop deadlines. Tardiness, arriving between 15-30 minutes late, will be recorded as 1/2 an absence. Arriving after 30 minutes will be considered a full

absence. All absences are considered unexcused with the exception of absences due to religious observance and officially approved trips (according to guidelines specified in the TTU Catalog). Students are expected to comply with TTU Center for Campus Life rules for reporting student illness requiring absence from class for more than one week, or immediate family member deaths. See Academic Regulations.

Attendance is defined as full participation in all studio activities including group and individual critiques, lectures, presentations, demonstrations, discussions, in class assignments, and possible field trips. Attendance requires students to have the necessary tools and supplies available for all studio activities (i.e.: computer, drawing and modeling materials, and shop safety equipment). Tardiness (as described above), leaving early, lack of participation, walking in and out, undivided attention, and disruptive behavior will be recorded as an absence. Working on assignments from other classes is not allowed during class time

### **DEADLINES**

Students who miss deadlines due to valid, extenuating circumstances may submit the required work at a date agreed upon with the instructor. Students should contact the instructor to arrange a discussion within one week of the missed classes and/or work. Unexcused work will not be accepted, incomplete projects will be evaluated in relation to their degree of completion. Students should be aware that grade records are not required to be kept longer than two terms beyond the course offering. Any issues about grades should be reported to the instructor as soon as possible, and no later than the next active term (Autumn term for spring or summer courses, spring for autumn courses.)

### **ADA STATEMENT**

Any student who, because of a disability, may require special arrangements in order to meet the course requirements should contact the instructor as soon as possible to make any necessary arrangements. Students should present appropriate verification from Student Disability Services during the instructor's office hours. Please note: instructors are not allowed to provide classroom accommodations to a student until appropriate verification from Student Disability Services has been provided. For additional information, please contact Student Disability Services in West Hall or call 806-742-2405.

### **GRADING**

Students will be evaluated on the execution and completeness of their digitally submitted assignments. Students will additionally be evaluated on their attendance and active participation during in-class discussions and activities.

Projects will be evaluated based upon their formal, technical, conceptual, and professional merits on a 0-100 scale.

All work must be completed on time to receive full credit. Late or incomplete work will result in a reduced grade.

Please refer to the Attendance Policy below for further clarification regarding attendance. Participation in lectures and events outside class are required as specified by your instructor.

No extra credit is available in this course.

You must clear out your individual and collective studio space at the conclusion of the semester. Failure to do so will result in a letter grade reduction.

Semester grade distribution:

35% / Animation

35% / Scale Figures

30% / Participation

Grades are defined as follows ([http://arch.ttu.edu/Grade\\_Definitions/](http://arch.ttu.edu/Grade_Definitions/)):

A - Superior/Excellent (90-100%) - Accurate and complete work that exceeds the level and requirements

requested by the instructor. Consistently showing scholarly initiative, innovation, attempts, discrimination and discernment.

B - Above Average (80-89%) - Accurate and complete work meeting the requirements of the instructor, and exceeding the level requested in a few. Often showing scholarly initiative, innovation, attempts, discrimination and discernment.

C - Average (70-79%) - Accurate and complete work meeting the requirements of the instructor and requiring minimal corrections. Work is satisfactory, but needs improvement. Inconsistently showing scholarly initiative, innovation, attempts, discrimination and discernment.

D - Unsatisfactory (60-69%) - Work that is often inaccurate or incomplete, not meeting the minimum requirements of the instructor. Rarely showing scholarly initiative, innovation, attempts, discrimination and discernment.

F - Unacceptable (0-59%) - work that is unacceptable therefore, not defined.

## **COVID-19 INFORMATION**

Face coverings are required. Texas Tech University requires that students wear face coverings while in classes, while otherwise in campus buildings, and when social distancing cannot be maintained outdoors on campus.

Signage. Be attentive to signage posted at external and some classroom doorways that indicates entry and exit ways, gathering and queuing spaces, and availability of masks and hand sanitizer.

Seating assignments. The purpose of assigned seating is to assist in contact tracing, if necessary, and to augment social distancing. Students are expected to sit at a minimum of six feet apart. There will also be an orderly procedure, designed to ensure social distancing, for exiting the classroom. Please refer to the CoA Student Guide's section on Social Distancing for additional information on distancing policies within the building.

### **Illness-Based Absence Policy**

If at any time during this semester you feel ill, in the interest of your own health and safety as well as the health and safety of your instructors and classmates, you are encouraged not to attend face-to-face class meetings or events. Please review the steps outlined below that you should follow to ensure your absence for illness will be excused. These steps also apply to not participating in synchronous online class meetings if you feel too ill to do so and missing specified assignment due dates in asynchronous online classes because of illness.

1. If you are ill and think the symptoms might be COVID-19-related:
  - A. Call Student Health Services at 806.743.2848 or your healthcare provider. After hours and on weekends contact TTU COVID-19 Helpline at 806.743.2911.
  - B. Self-report as soon as possible using the Dean of Students COVID-19 webpage. This website has specific directions about how to upload documentation from a medical provider and what will happen if your illness renders you unable to participate in classes for more than one week.
  - C. If your illness is determined to be COVID-19-related, all remaining documentation and communication will be handled through the Office of the Dean of Students, including notification of your instructors of the period of time you may be absent from and may return to classes.
  - D. If your illness is determined not to be COVID-19-related, please follow steps 2.a-d below.
2. If you are ill and can attribute your symptoms to something other than COVID-19:
  - A. If your illness renders you unable to attend face-to-face classes, participate in synchronous online classes, or miss specified assignment due dates in asynchronous online classes, you are encouraged to visit with either Student Health Services at 806.743.2848 or your healthcare provider.

Note that Student Health Services and your own and other health care providers may arrange virtual visits.

- B. During the health provider visit, request a “return to school” note;
- C. Email the instructor a picture of that note;
- D. Return to class by the next class period after the date indicated on your note.

Following the steps outlined above helps to keep your instructors informed about your absences and ensures your absence or missing an assignment due date because of illness will be marked excused. You will still be responsible to complete within a week of returning to class any assignments, quizzes, or exams you miss because of illness.

If you have interacted with individual(s) who have tested positive for COVID-19: Maintain a list of those persons and consult Student Health Services at 806-743-2911 or your primary care provider on next steps.

Do not return to class until you are medically cleared by your Healthcare Provider.

## **UNIVERSITY POLICIES**

### **ACADEMIC INTEGRITY STATEMENT**

Academic integrity is taking responsibility for one’s own class and/or course work, being individually accountable, and demonstrating intellectual honesty and ethical behavior. Academic integrity is a personal choice to abide by the standards of intellectual honesty and responsibility. Because education is a shared effort to achieve learning through the exchange of ideas, students, faculty, and staff have the collective responsibility to build mutual trust and respect. Ethical behavior and independent thought are essential for the highest level of academic achievement, which then must be measured. Academic achievement includes scholarship, teaching, and learning, all of which are shared endeavors. Grades are a device used to quantify the successful accumulation of knowledge through learning. Adhering to the standards of academic integrity ensures grades are earned honestly. Academic integrity is the foundation upon which students, faculty, and staff build their educational and professional careers. [Texas Tech University (“University”) Quality Enhancement Plan, Academic Integrity Task Force, 2010]

### **LGBTQIA SUPPORT STATEMENT\*:**

I identify as an ally to the lesbian, gay, bisexual, transgender, queer, intersex, and asexual (LGBTQIA) community, and I am available to listen and support you in an affirming manner. I can assist in connecting you with resources on campus to address problems you may face pertaining to sexual orientation and/or gender identity that could interfere with your success at Texas Tech. Please note that additional resources are available through the Office of LGBTQIA within the Center for Campus Life, Student Union Building Room 201, [www.lgbtqia.ttu.edu](http://www.lgbtqia.ttu.edu), 806.742.5433.”

Office of LGBTQIA, Student Union Building Room 201, [www.lgbtqia.ttu.edu](http://www.lgbtqia.ttu.edu), 806.742.5433 Within the Center for Campus Life, the Office serves the Texas Tech community through facilitation and leadership of programming and advocacy efforts. This work is aimed at strengthening the lesbian, gay, bisexual, transgender, queer, intersex, and asexual (LGBTQIA) community and sustaining an inclusive campus that welcomes people of all sexual orientations, gender identities, and gender expressions.

### **DISCRIMINATION, HARASSMENT, AND SEXUAL VIOLENCE STATEMENT:**

Texas Tech University is committed to providing and strengthening an educational, working, and living environment where students, faculty, staff, and visitors are free from gender and/or sex discrimination of any kind. Sexual assault, discrimination, harassment, and other Title IX violations are not tolerated by the University. Report any incidents to the Office for Student Rights & Resolution, (806)-742-SAFE (7233) or file a report online at [titleix.ttu.edu/students](http://titleix.ttu.edu/students). Faculty and staff members at TTU are committed to connecting you to resources on campus. Some of these available resources are: TTU Student Counseling Center, 806-742-3674, <https://www.depts.ttu.edu/sc/>(Provides confidential support on campus.) TTU 24-hour Crisis Helpline, 806-742-5555, (Assists students who are experiencing a mental health or interpersonal violence

crisis. If you call the helpline, you will speak with a mental health counselor.) Voice of Hope Lubbock Rape Crisis Center, 806-763-7273, [voiceofhopelubbock.org](http://voiceofhopelubbock.org) (24-hour hotline that provides support for survivors of sexual violence.) The Risk, Intervention, Safety and Education (RISE) Office, 806-742-2110, <https://www.depts.ttu.edu/rise/> (Provides a range of resources and support options focused on prevention education and student wellness.) Texas Tech Police Department, 806-742-3931, <http://www.depts.ttu.edu/ttpd/> (To report criminal activity that occurs on or near Texas Tech campus.)

#### **RELIGIOUS HOLY DAY STATEMENT:**

"Religious holy day" means a holy day observed by a religion whose places of worship are exempt from property taxation under Texas Tax Code §11.20. A student who intends to observe a religious holy day should make that intention known in writing to the instructor prior to the absence. A student who is absent from classes for the observance of a religious holy day shall be allowed to take an examination or complete an assignment scheduled for that day within a reasonable time after the absence. A student who is excused under section 2 may not be penalized for the absence; however, the instructor may respond appropriately if the student fails to complete the assignment satisfactorily.

#### **CIVILITY IN THE CLASSROOM STATEMENT:**

Texas Tech University is a community of faculty, students, and staff that enjoys an expectation of cooperation, professionalism, and civility during the conduct of all forms of university business, including the conduct of student–student and student–faculty interactions in and out of the classroom. Further, the classroom is a setting in which an exchange of ideas and creative thinking should be encouraged and where intellectual growth and development are fostered. Students who disrupt this classroom mission by rude, sarcastic, threatening, abusive or obscene language and/or behavior will be subject to appropriate sanctions according to university policy. Likewise, faculty members are expected to maintain the highest standards of professionalism in all interactions with all constituents of the university ([www.depts.ttu.edu/ethics/matadorchallenge/ethicalprinciples.php](http://www.depts.ttu.edu/ethics/matadorchallenge/ethicalprinciples.php))

#### **NAAB CRITERIA MET**

Realm A: Critical Thinking and Representation. Graduates from NAAB-accredited programs must be able to build abstract relationships and understand the impact of ideas based on the study and analysis of multiple theoretical, social, political, economic, cultural, and environmental contexts. Graduates must also be able to use a diverse range of skills to think about and convey architectural ideas, including writing, investigating, speaking, drawing, and modeling.

Student learning aspirations for this realm include:

- Being broadly educated.
- Valuing lifelong inquisitiveness.
- Communicating graphically in a range of media.
- Assessing evidence.
- Comprehending people, place, and context.
- Recognizing the disparate needs of client, community, and society.

A.1 Professional Communication Skills: Ability to write and speak effectively and use representational media appropriate for both within the profession and with the general public.

A.4 Architectural Design Skills: Ability to effectively use basic formal, organizational and environmental principles and the capacity of each to inform two- and three-dimensional design. (In Coordination With 2503 & 2351)

A.7 History and Global Culture: Understanding of the parallel and divergent histories of architecture and the cultural norms of a variety of indigenous, vernacular, local, and regional settings in terms of their political, economic, social, ecological, and technological factors.

Realm B: Building Practices, Technical Skills, and Knowledge. Graduates from NAAB-accredited programs

must be able to comprehend the technical aspects of design, systems, and materials and be able to apply that comprehension to architectural solutions. In addition, the impact of such decisions on the environment must be well considered.

Student learning aspirations for this realm include

- Creating building designs with well-integrated systems.
- Comprehending constructability.
- Integrating the principles of environmental stewardship.
- Conveying technical information accurately

B.5 Structural Systems: Ability to demonstrate the basic principles of structural systems and their ability to withstand gravitational, seismic, and lateral forces, as well as the selection and application of the appropriate structural system. (Introduction and In Coordination With 2503, 2351, & 3313)