COVID HEADER

If Texas Tech University campus operations are required to change because of health concerns related to the COVID-19 pandemic, it is possible that this course will move to a fully online delivery format. Should that be necessary, students will need to have access to a webcam and microphone for remote delivery of the class. Additionally, students will need to have access to:
  I.   Rhino 6
 II.   Adobe Illustrator
III.   Adobe Photoshop
 IV.   Adobe InDesign

ARCH 2503 Architectural Design III
College of Architecture, Texas Tech University

Fall 2020
Time: Monday + Wednesday + Friday 1:00pm - 4:50pm

Instructors
Nate Imai, Coordinator + Assistant Professor, nate.imai@ttu.edu
Ivan Iturregui, Instructor, ivan-dario.iturregui@ttu.edu
Noémie Despland-Lichtert, Visiting Instructor, noemie.despland-lichtert@ttu.edu
Lucas Hitch, Visiting Instructor, nhitch@ttu.edu
Galo Canizares, Visiting Instructor, galo.canizares@ttu.edu
Stephanie Sang-Delgado, Visiting Instructor, stephanie.sang@ttu.edu
Kristina Fisher, Visiting Instructor, kristina.fisher@ttu.edu
Raquel Bitar, Visiting Instructor, rbitar17@gmail.com
Andres Gandara, Visiting Instructor, andresgandara17@gmail.com

This studio will be organized into (9) sections – (2) online sections and (7) hybrid sections. Online sections will meet online Monday, Wednesday, and Friday. Hybrid sections will meet face-to-face (1) day per week. Hybrid sections will meet online on the other (2) days of the week.

Online Sections:
  • Noémie Despland-Lichtert
  • Raquel Bitar

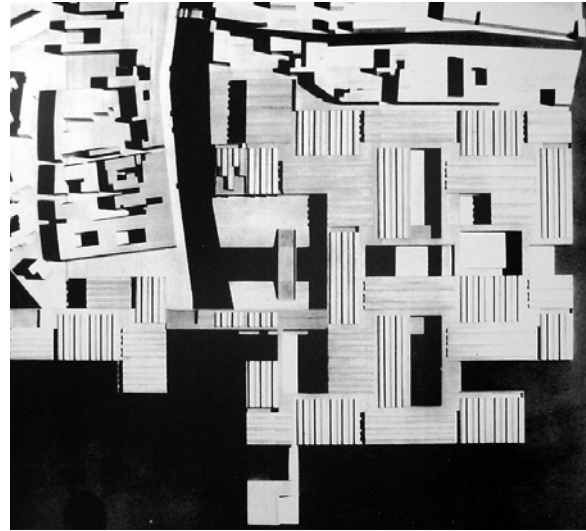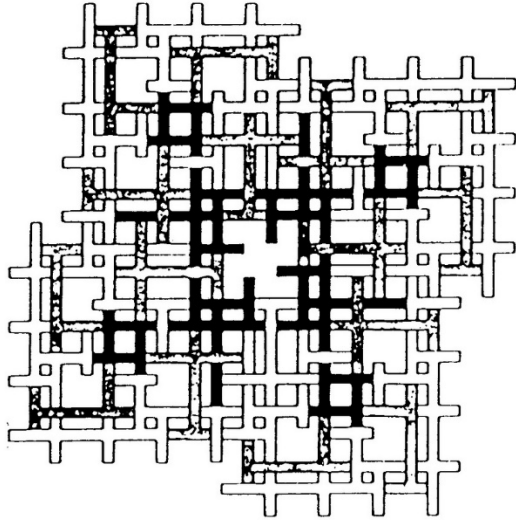Hybrid Sections Meeting Face-to-Face Monday:
  • Lucas Hitch
  • Stephanie Sang-Delgado

Hybrid Sections Meeting Face-to-Face Wednesday:
  • Nate Imai
  • Ivan Iturregui
  • Andres Gandara

Hybrid Sections Meeting Face-to-Face Friday:
  • Galo Canizares
  • Kristina Fisher

Left to Right: Noah's Ark, 1962, Piet Blom; Venice Hospital, 1965, Le Corbusier

Architectural Design III: Building Intelligence

Catalog Description:

> 5 Semester Credit Hours. Prerequisite: ARCH 1302, ARCH 1102, admission to the professional program. Corequisite: ARCH 2101. Develops design skills through the extension and application of representational techniques that allow a designer to explore relationships between form, space, and inhabitation. Studio course.

Course Description/Studio Brief

> This studio frames architecture as a medium capable of engaging and responding to multiple scales of inhabitation. The fragment and the whole are to be understood as equal parts in the architectural proposal and opportunities for design lie within the coordination of systems that define spaces for occupation. Lectures, tutorials, group work, critiques, and reviews will serve as means to situate the explorations in studio within the larger discourse of architecture.

> Tectonics will be the primary lens for developing an understanding of these additional layers of architecture. Tectonic is defined as 'of or pertaining to building, or construction.'[1] Within the discipline, tectonics should be understood to mean the way that the elements of a building come together in support of a spatial, formal, sequential and/or aesthetic agenda. While students in this studio will not be expected to specify specific materials or systems of construction, they will be expected to demonstrate an understanding that architectural form is not monolithic, but rather, is the synthesis of multiple interdependent parts.

> Through the design and editing of their tectonic systems, students will be prompted to make decisions regarding the qualitative nature of their inhabitable spaces: above vs. below, perimeter vs. interior, solid vs. void, poche vs. non-poche, etc. The project will be

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[1] " *OED Online*, s.v. "tectonic," https://www-oed-com.lib-e2.lib.ttu.edu/view/Entry/198488.

sited within an urban context – successful building proposals will apply organizational and programmatic principles in the design of a structure responsive to a specific site's physical context and latent atmospheres.

Student Learning Objectives
- To develop the ability to analyze architectural precedents in order to draw significant architectural information regarding tectonic space informing correlations and programmatic conditions.
- To establish an introductory understanding of basic design vocabulary and their various applications such as: abstract, represent, creative act, critical thinking, design process, diagram, critique, and other similar vocabulary.
- To perform intermediate design operations through abstraction and diagram.
- To present one's idea in relation to specific aspects of a project.

Student Performance Objectives
- Ability to accurately represent architectural information through well executed orthographic drawings.
- Ability to clearly articulate design decisions through the production of clear and legible diagrams.
- Ability to translate site conditions into design considerations through the production of drawings and digital models that integrate individual observations with explicit data.
- Ability to communicate architectural proposals through well-developed relational drawings: plans, sections, elevations, and axonometrics.

Means of Evaluation:
1. Deliverables:
   - Week 1: Precedent research
   - Week 2: Plans and sections of precedent projects
   - Week 3: Diagrams and axonometric drawings
   - Week 4: **Assignment 01 Review**, elements + systems diagrams
   - Week 5: Hybrid models, plans, sections
   - Week 6: Circulation, aperture, entry diagrams
   - Week 7: **Assignment 02 Review**
   - Week 8: Digital site model, site plans, site sections
   - Week 9: **Assignment 03 Review**
   - Week 10: Massing model + site plan
   - Week 11: Building plans
   - Week 12: Building sections
   - Week 13: Exploded axonometric
   - Week 14: Representation refinement, written statement
   - Week 15: **Final Review**
   - Week 16: Digital submission

2. Methods of Assessment
   - Daily desk-crit design progress
   - Pin-ups and reviews of assignment projects
   - Participation in desk crits, pin-ups, and reviews
   - Completion of assignments
   - Attendance

Teaching Methods/Studio Methods:

Course content will be delivered both in-class synchronously and outside of class asynchronously in the form of templates and video tutorials. Active learning will take place in-class synchronously in the form of desk-crits, group pin-ups, and reviews that will provide instructor and peer feedback for advancing the work.

- Synchronous lectures + tutorials
- Synchronous desk-crits, group pin-ups, and reviews
- Asynchronous design templates
- Asynchronous video tutorials

Course Schedule

Assignment 01: Precedent Analysis
Duration: Weeks 1-3
Deliverables: Plans, minimum one per precedent (group produced)
                    Sections, minimum two per precedent (group produced)
                    (2) Tectonic order diagrams, one per precedent (group produced)
                    (2) Formal order diagrams, one per precedent (group produced)
                    (2) Spatial order diagrams, one per precedent (group produced)
                    (2) Sequential order diagrams, one per precedent (group produced)
                    (2) Axonometric drawings, one per precedent (group produced)

Assignment 02: Elements + Systems
Duration: Weeks 4-6
Deliverables: (4) Axonometrics @ 1/8" = 1'-0", one per hybrid model
                    (4) Plans @ 1/8" = 1'-0", one per hybrid model
                    (8) Sections @ 1/8" = 1'-0", two per hybrid model
                    (1) Circulation diagram
                    (1) Aperture diagram
                    (1) Entry diagram

Assignment 03: Site Documentation
Duration: Weeks 7-9
Deliverables: (1) Site digital model (group produced)
                    (1) Site plan template @ 1/16" = 1'-0" scale (group produced)
                    (1) Plan template @ 1/8" = 1'-0" scale (group produced)
                    (2) Section templates @ 1/8" = 1'-0" (group produced)

Assignment 04: Synthesis
Duration: Weeks 10-15
Deliverables: Site plan @ 1/16" = 1'-0" scale
                    Plans @ 1/8" = 1'-0" scale
                    Sections @ 1/8" = 1'-0" scale
                    Exploded Axonometric @ 1/16" = 1'-0" scale

**These dates are subject to change at the discretion of the instructor and/or the College of Architecture.

Studio Readings/References

Aragüez, José, ed. *The Building*. Zürich, Switzerland: Lars Muller Publishers, 2016.

Canizares, Galo. *Digital Fabrications: Designer Stories for a Software-based Planet*. Novato, CA: ORO Editions/Applied Research & Design, 2019.

Koolhaas, Rem. *Elements*. Venice: Marsilio Editori Spa, 2014.

Neufert, Ernst. *Architects' Data*. 3rd Ed. Oxford: Blackwell Science, 2000.

Reiser, Jesse. *Atlas of Novel Tectonics*. New York: Princeton Architectural Press, 2006.

Sarkis, Hashim, Pablo Allard, and Timothy Hyde, eds. *CASE Le Corbusier's Venice Hospital and the Mat Building Revival*. Munich: Prestel, 2001.

Course Requirements

COMPUTER + SOFTWARE
Students must have and maintain their own laptop computer for this class. A computer is required on the first day and must meet the minimum specifications outlined at http://arch.ttu.edu/wiki/Computer_Requirement.

Students must have the latest versions of the following software installed on their computers:

Adobe Creative Cloud or Creative Suite. Specifically, students must have access to Acrobat, Photoshop, Illustrator, and InDesign. It can be purchased here: http://texastechnologystore.com/texastechnologystore/
or http://www.creationengine.com/.

Rhino3D
You should have received a Rhino license in ARCH 1302 Architectural Design II (paid by your course fee). A temporary 90-day trial can be acquired from the Rhinoceros 6 website: https://www.rhino3d.com/download.

Grasshopper
We will introduce Grasshopper, a graphical algorithm editor for Rhino, in this design studio. Grasshopper is included in Rhino 6. More information on Grasshopper can be found here: https://www.grasshopper3d.com/.

Meerkat GIS
Meerkat is a set of tools to generate Grasshopper geometry for GIS shape files. This plugin for Grasshopper will be leveraged to generate three-dimensional digital site models for our studio project. You are not required to have Meerkat installed for the start of class – we will introduce a tutorial on how to install and use this tool later in the semester. More information on Meerkat can be found here: https://www.food4rhino.com/app/meerkat-gis.

ONE DRIVE DOCUMENTATION
Students must maintain a mandatory studio OneDrive folder (free with your TTU email) for the purpose of backing up and documenting all of your work related to this course. Students will be provided naming conventions for the files they produce for each project.

PRINTING/LASER CUTTING
Students should be prepared to print for some assignments over the course of the semester as required and have a printing account setup with the CoA Print Bureau: https://www.depts.ttu.edu/architecture/coa-resources/current/printbureau_info.php.

Additionally, students should also be prepared to use the laser cutter and drag knife this semester to execute design assignments as required.

Please budget for $150 for printing and laser cutting fees for studio this semester. Assignments requiring printing or laser cutting will be announced ahead of time.

MODELLING MATERIALS
Students may be required to produce physical models to develop and advance their designs over the course of the semester. Students should be prepared to acquire necessary modeling materials and tools as required per their instructor.

Grading

Students will be evaluated on their daily studio progress and the resolution of their work presented at formal reviews. 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:
20% / Precedent Study
20% / Elements + Systems
50% / Synthesis
10% / Participation

Grades are defined as follows (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 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.

https://www.depts.ttu.edu/opmanual/OP34.12.pdf

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.2 Design Thinking Skills: Ability to raise clear and precise questions, use abstract ideas to interpret information, consider diverse points of view, reach well-reasoned conclusions, and

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.

A.5 Ordering Systems: Ability to apply the fundamentals of both natural and formal ordering systems and the capacity of each to inform two- and three-dimensional design.

A.6 Use of Precedents: Ability to examine and comprehend the fundamental principles present in relevant precedents and to make informed choices about the incorporation of such principles into architecture and urban design projects.

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.3. Codes and Regulations: Ability to design sites, facilities, and systems that are responsive to relevant codes and regulations, and include the principles of life-safety and accessibility standards.

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.

Attendance policy

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, goofing around, and disruptive behavior will be recorded as an absence. Working on assignments from other classes is not allowed during class time.

II. 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. Each student will be assigned a desk within the studio. A required seating chart will be created once everyone is positioned with appropriate social distancing. 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 health care 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 health care 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. E-mail 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 Health Care Provider.

Additional COVID-19 Information

Student Health Services
Student Affair COVID-19
Student COVID-19 Protocol
Texas Tech Commitment

III. University Required Statements

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.

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]

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.

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. 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/scc/(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 (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.)

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).

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, 806.742.5433."

*If you prefer to list campus resources rather than a statement about ally status, you might include the following among other campus resources you wish to share:

Office of LGBTQIA, Student Union Building Room 201, 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.