ARCH 2503 Architectural Design III + ARCH 2101 Architectural Representation III

College of Architecture, Texas Tech University

Fall 2021

Schedule
Studio: Monday + Wednesday + Friday 8:00am - 11:50am
Representation: Friday 12:00-12:50pm

Instructors
        Nate Imai, Coordinator + Assistant Professor, nate.imai@ttu.edu, office: 405C
        Terah Maher, Sr. Lecturer, terah.maher@ttu.edu, office: 409
        Lucas Hitch, Lecturer, nhitch@ttu.edu
        Kristina Fisher, Lecturer, kristina.fisher@ttu.edu
        Lior Galili, Lecturer, lgalili@ttu.edu

Teaching Assistants
        Brandon Geiger, brandon.c.geiger@ttu.edu
        Caitlyn Tilton, caitlyn.tilton@ttu.edu
        Edwin Montoya-Cruz, edwin.montoya-cruz@ttu.edu
        Sierra Honesto, sierra.honesto@ttu.edu

Student Assistants
        Brandon Paleo, brandon.paleo@ttu.edu
        Chance Welles, chance.welles@ttu.edu
        Lily Sanders, lily.sanders@ttu.edu
        Ryan Call, ryan.call@ttu.edu
        Tyler Mills, tc.mills@ttu.edu

This studio will be organized into (4) pods – each pod will consist of a lead instructor, a teaching assistant, and a student assistant.
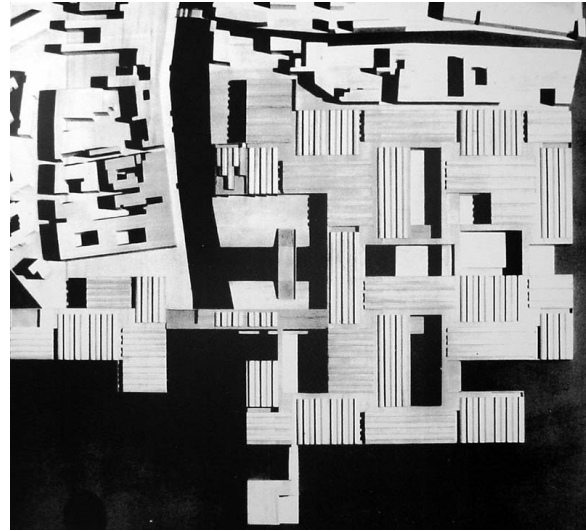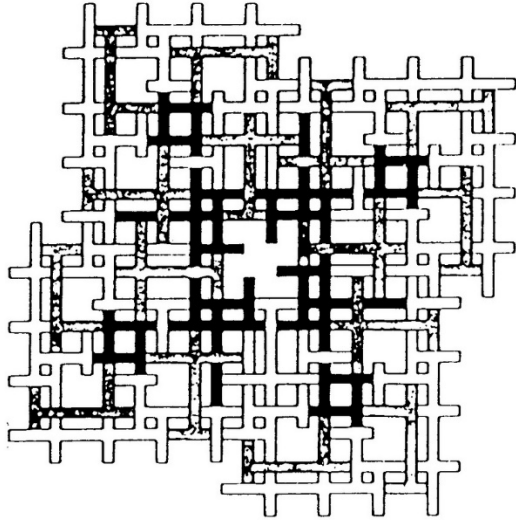
Left to Right: Noah's Ark, 1962, Piet Blom; Venice Hospital, 1965, Le Corbusier

Building Intelligence

Catalog Description

ARCH 2503 - Architectural Design III

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.

ARCH 2101 - Architectural Representation III

1 Semester Credit Hour
Prerequisite: ARCH 1102
Corequisite: ARCH 2503

Advanced architectural representation techniques emphasizing digital craft and acumen, with an introduction to fabrication techniques and tools.

Course Description + Studio Brief

Design Studio III frames architecture as a medium for 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 to be 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 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 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.

Representation III is taught in conjunction with Design Studio III to instill concepts and techniques for reinforcing the studio brief. Increasing digital craft and acumen will be a point of focus in order to provide students the dexterity to generate, develop, and execute their designs across two-dimensional and three-dimensional media.

ARCH 2503 - 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.

ARCH 2101 - Student Learning Objectives
- Leverage digital working methods to develop a coherent dialogue between design and representational processes across 2D and 3D media.
- Develop a rigorous approach to digital modeling that emphasizes craft and accuracy.
- Understand design concepts underpinning drawing conventions and the relationship between plan, section, and axonometric.
- Practice organizational principles and methods for establishing visual hierarchy in the layout of graphic work.

ARCH 2503 - 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.

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

- Ability to communicate architectural proposals through well-developed relational drawings: plans, sections, elevations, and axonometrics.

ARCH 2101 - 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.
- Layout studio work in a format that is graphically consistent and visually legible.
- Produce and complete all work in a timely manner

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 + grid diagrams
   - Week 5: Hybrid models, plans, sections
   - Week 6: Tectonic, formal, spatial, and sequential diagrams
   - Week 7: **Assignment 02 Review**
   - Week 8: Massing model + site plan
   - Week 9: Building plans
   - Week 10: Building sections and elevations
   - Week 11: Building axonometric
   - Week 12: Digitally fabricated model, written statement
   - Week 13: **Final Review**
   - Week 14: Representation refinement
   - Week 15: **Final Jury Day**
   - 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 4-7
Deliverables: (2) Sets of plan obliques of tectonic grids and elements, one set per precedent (group produced)
(3) Digitally fabricated models @ 1/8" = 1'-0", one per hybrid model
(3) Plans @ 1/8" = 1'-0", one per hybrid model
(3) Sections @ 1/8" = 1'-0", one per hybrid model
(1) Tectonic order diagram of final hybrid model
(1) Formal order diagrams of final hybrid model
(1) Spatial order diagram of final hybrid model
(1) Sequential order diagram of final hybrid model

Assignment 03: Synthesis
Duration: Weeks 7-13
Deliverables: Site plan @ 1/32" = 1'-0" scale
Plans @ 1/8" = 1'-0" scale
Sections @ 1/8" = 1'-0" scale
Elevations @ 1/8" = 1'-0" scale
Axonometric @ 1/8" = 1'-0" scale
Digitally fabricated model @ 1/16" = 1'0" scale

Final Review: Monday, November 15th

Final Jury Day: Wednesday, December 1st

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

Readings/References

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

Ching, Francis D. K. *Architectural Graphics*, fifth ed. Hoboken, New Jersey: John Wiley & Sons, Inc., 2015.

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.

Venturi, Robert. *Complexity and Contradiction in Architecture*. New York: The Museum of Modern Art Press, 1966.

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.

WEBCAM, MICROPHONE, AND HEADPHONE
Over the course of the semester students may be asked to participate in an online video call. Students should have access to a webcam, microphone, and set of headphones in the event that course content is delivered online.

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/3D PRINTING
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, drag knife, and 3D printer this semester to execute design assignments as required.

Please budget $200 at a minimum for printing, laser cutting, and 3D printing fees for this semester. Assignments requiring printing, laser cutting, or 3D printing 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

Retention of Work

I give the College of Architecture and Texas Tech University, and/or Texas Tech University System (herein, "Texas Tech") the absolute right and unrestricted permission to collect, use, publish, reproduce, edit, exhibit, project, display and/or copyright work created by me during the course of my education at Texas Tech, through any form (print, digital, physical model, broadcast or otherwise) at any campus or elsewhere, for art, advertising, future accreditation, visiting committees, recruitment, marketing, fund raising, publicity, archival or any other lawful purpose.

NAAB Criteria Met

Shared Values of the Discipline and Profession. The program must report on how it responds to the following values, all of which affect the education and development of architects. The response to each value must also identify how the program will continue to address these values as part of its long-range planning. These values are foundational, not exhaustive.

V.1 Design: Architects design better, safer, more equitable, resilient, and sustainable built environments. Design thinking and integrated design solutions are hallmarks of architecture education, the discipline, and the profession.

V.6 Lifelong Learning: Architects value educational breadth and depth, including a thorough understanding of the discipline's body of knowledge, histories and theories, and architecture's role in cultural, social, environmental, economic, and built contexts. The practice of architecture demands lifelong learning, which is a shared responsibility between academic and practice settings.

Program and Student Criteria. These criteria seek to evaluate the outcomes of architecture programs and student work within their unique institutional, regional, national, international, and professional contexts, while encouraging innovative approaches to architecture education and professional preparation.

Program Criteria (PC). A program must demonstrate how its curriculum, structure, and other experiences address the following criteria.

PC.2 Design: How the program instills in students the role of the design process in shaping the built environment and conveys the methods by which design processes integrate multiple factors, in different settings and scales of development, from buildings to cities.

PC.7 Learning and Teaching Culture: How the program fosters and ensures a positive and respectful environment that encourages optimism, respect, sharing, engagement, and innovation among its faculty, students, administration, and staff.

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 Covering Policy: As of May 19, 2021, face coverings are now optional in TTU facilities and classrooms, and all other COVID-19 campus protocols have been lifted. It is highly recommended that those who have not been vaccinated for COVID-19 wear face coverings to help prevent the spread of the virus.

Seating Charts and Social Distancing: There is no longer a mandated social distancing protocol for classroom seating, but diligence is encouraged when indoors and not wearing masks. A seating chart might be used in the classroom to facilitate attendance, class interactions and other in-class engagement activities.

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

In-Person Office Hours: Office hours by appointment only, social distancing may be expected.

Personal Hygiene: We all should continue to practice frequent hand washing, use hand sanitizers after touching high-touch points (e.g., door handles, shared keyboards, etc.), and cover faces when coughing or sneezing.

Potential Changes: The University will follow CDC, State, and TTU System guidelines in continuing to manage the campus implications of COVID-19. Any changes affecting class policies or delivery modality will be in accordance with those guidelines and announced as soon as possible.

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.