

ARCH 5503 (5503 + 7000): Advanced Architectural Design (+ Research) Studio (graduate)
College of Architecture, Texas Tech University
Fall, 2021

Instructor:

Associate Professor Peter Raab, peter.raab@ttu.edu [Office Hours: by appointment only]

Meeting Times:

M, W, F, 1:00-4:50p, Room ARCH 608

ENVIRONMENTAL RESEARCH LAB / COSTA RICA.

Catalog Description:

ARCH 5503: Topical studio that explores design, theoretical and/or technological issues that affect current architectural thought and practice. [5 Semester Credit Hours]

(ARCH 7000: Research course in which students will learn and demonstrate the core skills necessary to draft a thesis, or generate an alternative research project. [1 Semester Credit Hour])

Course Description/Studio Brief

Architects play a crucial role in addressing both the causes and effects of climate change through the design of the built environment. Innovative design thinking is key to producing architecture that meets human needs for both function and delight, adapts to climate change projections, continues to support the health and well-being of inhabitants despite natural and human-caused disasters, and minimizes contributions to further climate change through greenhouse gas emissions. Preparing architects to envision and create a climate adaptive, resilient, and carbon-neutral future must be an essential component and driving force for design discourse.

The education of an architect in the 21st century needs to prepare students to design safer, more equitable, resilient, and sustainable built environments. Innovative design thinking and integrated solutions are hallmarks of architecture education, the discipline, and the profession. Architects today are responsible for the impact of their work on the natural world and on public health, safety, and welfare. As professionals and designers of the built environment, we embrace these responsibilities and act ethically to accomplish them. The planet is rapidly experiencing anthropogenic climate change, and every indication is that there is an urgent need to slow the rate of planetary warming within less than a decade to avert catastrophic consequences. Therefore, the buildings and cities we build today urgently need to minimize carbon emissions – both embodied and life cycle - wherever possible.

Over the coming decades, buildings, cities, and infrastructures will need to develop sustainable strategies to cope with future stresses associated with growing populations, limited material resources, climate change and energy and water conservation. Can architecture not only create safe, healthy environments for their occupants, but also design ecological solutions to enhance their immediate surrounds through regenerative, net-zero solutions. These environmental problems require a broad, global understanding of ecological systems, equitable smart materials, and innovative technological leaps made in engineering, computation and theory, while requiring a local perspective of the unique dynamic of a particular topographical, climatic, cultural or political context. This advanced design studio will posit on the future of architecture. Through investigation, interrogation and iteration you will develop an environmental research center within one of the varied bio-climatic regions of Costa Rica. Not to ascribe to a singular, object-centric approach to architectural design, but to promote the need to build more efficient, resilient and environmentally conscious architectural design to build on the image of ecological country of Costa Rica.

Program + Site

As an advanced graduate design studio, programmatic concerns will be developed through a series of individual investigations, research prompts led by the instructor, and an understanding of the issue that your specific research facility will explore. Based on your individual interests and sustainable research, your intervention will closely be connected to the choosing of a specific site and bio-climatic region. While a skeleton program will be given to you, each student (or student group) has the ability to design the program and investigation of contextually relevant research facility and educational complex within the country of Costa Rica. A series of specific and varied bioclimates of Costa Rica will be explored by the class – jungle, mountain, city, volcano, river, beach, sea – and students will develop site specific, climate adaptive, resilient, and carbon-neutral and regenerative architectural propositions, each uniquely attuned to its surroundings.

Some guidelines may include that each site should be (1) unique and exemplary of the specific bio-climate you are interested in; cloud forest, sea/harbor, beach, river, city, etc, (2) contain enough GIS information that you can gather topographic information relevant to the specific site, and (3) have access to existing infrastructure [ie: roadways, harbor, heliport, etc.]. All of these requirements should be easily satisfied within the diverse country of Costa Rica. It is vitally important that the site is studied and researched in detail, as this should be the springing point for the design.

The eventual competition entry should clearly show how the building responds to its “site”, in the widest understanding of that term. It is important that the site study reaches far beyond the aspects of the individual site, in order to determine the context for design, the programmatic brief for the building, and to inform the design process to follow. Site studies thus need to embrace the ‘local’ (the direct site context, microclimate, ground/sky/flora/fauna to your intervention), the ‘intermediate’ (local transportation + infrastructure) and the ‘global’ (how does this research facility benefit society as a whole). Given their long lifespan, new buildings must be designed to address solutions to climate change and to respond to its projected impacts, well into the second half of the 21st Century and beyond. As with the COTE Top Ten award for built work by design professionals, COTE Top Ten for Students allows designs to be characterized in terms of 10 measures ranging from Community to Water to Wellness. How can your speculative architecture instigate change in how buildings perform sociologically, environmentally, and ecologically?

Site Visit Not Required

Due to the ongoing Covid-19 pandemic, no required travel is associated with this studio. Hopefully the research and semester-long investigation will entice and educate you to plan a future trip to experience the Pura Vida.

COTE International Design Competition.

This studio will encourage innovative design proposals for an environmental research lab in Costa Rica for the 2022 COTE International Competition. The AIA COTE® Top Ten for Students Competition is sponsored by The American Institute of Architects Committee on the Environment (AIA COTE®), in partnership with the Association of Collegiate Schools of Architecture (ACSA). Each year, the competition recognizes ten exceptional student design studio projects that integrate health, sustainability, and equity, evaluated following the same categories of the AIA COTE® Top Ten Award for built work, and the AIA Framework for Design Excellence (now adopted as the basis of professional practice and awards across the AIA). Each project should be forward-thinking, embracing innovative technologies (both passive and active systems) to right-size your design solution while addressing several measures from the AIA Framework for Design Excellence:

DESIGN FOR INTEGRATION Sustainable design is an inherent aspect of design excellence. Projects should express sustainable design concepts and intentions and take advantage of innovative programming opportunities.

DESIGN FOR EQUITABLE COMMUNITY Sustainable design values the unique cultural and natural character of a given region.

DESIGN FOR ECOSYSTEMS Sustainable design protects and benefits ecosystems, watersheds, and wildlife habitat in the presence of human development.

DESIGN FOR WATER Sustainable design conserves water and protects and improves water quality.

DESIGN FOR ECONOMY Sustainable design celebrates affordable solutions around true economy—good first costs, good long term operations cost, and true benefits for occupant health and productivity.

DESIGN FOR ENERGY Sustainable design conserves energy and resources and reduces the carbon footprint while improving building performance and comfort. Sustainable design anticipates future energy sources and needs.

DESIGN FOR WELL-BEING Sustainable design creates comfort, health, and wellness for people who inhabit or visit buildings.

DESIGN FOR RESOURCES Sustainable design includes the informed selection of materials and products to reduce product life-cycle embodied carbon and other environmental impacts while enhancing building performance and prioritizing occupant health and comfort. When an available option, preservation, renovation, and adaptive reuse of existing buildings can achieve these goals with much lower material consumption and at a carbon footprint than new construction.

DESIGN FOR CHANGE Sustainable design anticipates adapting to new uses, climate change, and resilient recovery from disasters.

DESIGN FOR DISCOVERY Sustainable design strategies and best practices evolve over time through documented performance and shared knowledge of lessons learned.

CRITERIA FOR JUDGING

Successful responses should demonstrate design moving towards carbon-neutral operation through a creative and innovative integration of design strategies such as daylighting, passive heating and cooling, materials, water, energy generation, and other sustainable systems, through a cohesive and beautiful architectural understanding. Issues to consider include community enhancement, land use and effect on site ecology, bioclimatic design, energy and water use, impact on health and wellness, approach to environmental quality, materials and construction, adaptation, long-life considerations, and feedback loops. Entries will also be judged for the success and innovation that the project has met the ten measures of the Framework for Design Excellence.

AWARDS + RECOGNITION

Ten projects will be chosen for recognition at the discretion of the jury. Winning projects will be announced and displayed at the 2022 AIA National Convention. A total of \$5,000 will be distributed to the winning teams, with each of the top 10 winning projects will receive a \$500 stipend to attend the 2022 AIA National Convention. Winning students will be recognized during the 2022 AIA National Convention at the COTE reception.

Student Learning Objectives

Disciplinary knowledge gained through the successful completion of this course will enable conveyance of:

1. Design Processes. Demonstrating the ability to conceive of architectural concept, iterate through continual analysis and improvement of a design through rigorous, creative-thinking and development of both the pragmatic and poetic through drawing, physical model-making and digital representational tools.
2. Form and Space. Defined by systems of structure, enclosure, and circulation, hierarchical organization, and composition, articulated by principles of scale, and theories of proportion.
3. Precedents. Locate and determine applicable examples of exemplary design solutions found in professional and academic works.
4. Context. Thorough analysis of larger ecological, environmental and climatic issues to situate ideations within proper physiological, psychological and societal territories.
5. Integration. Create, measure and refine design concepts into quantifiable and clear impact on the environment.

Student Performance Objectives

Professional knowledge to be gained from the successful completion of this course will be:

1. Site & Environment. Ecological and environmental design strategies must consider bio-climate, solar orientation and insolation, wind direction, temperature, precipitation and thermal comfort requirements across the spectrum of interior and exterior conditions.
2. Program. The planning and accommodation of human physical and psychological needs, identifying spatial requirements and relationships of the environmental research facility within a larger bio-climatic context.
3. Technical Acumen. Methods of construction, materials, structural systems and detailing to demonstrate an understanding of preliminary design documentation of an architectural ideation.
4. Systems Integration. Understanding of specific thermal comfort conditions and how to implement passive and active strategies into a comprehensive design scheme.

Means of Evaluation:

1. Deliverables. Well-crafted drawings, models, concepts and rigorous development of an architectural idea.
2. Methods of Assessment. Expectations of the deliverables set forth above shall be completed in a timely manner, assessed through regular interaction, participation, and criticism of design output with the instructors. Students are expected to further their design through a process which is not necessarily linear, but flexible (somewhat circular) design process as each iteration leads to greater clarity, resolution, definition, and specificity. It is important to note that this process does not always move from general to specific, as design processes will often require iteration, testing, and re-design throughout the semester. Students will be required to present the process of their work (*printed* digital drawings and *constructed* physical models) at the end of each phase, at final review, and submit design documentation. Be prepared at the beginning of class-time. There will be unscheduled pinups, discussions, presentations, and critiques as needed to facilitate work progress.

Assignments. Each student is responsible for reading, understanding, and absorbing all assignments, references, precedents, and other content presented in studio. Given the extensive scope of the course content, and the non-linear necessities of developing architecture, there may be multiple assignments occurring at any one time. All assignments must be completed in a timely manner. Assignments are cumulative, and therefore students unable to maintain the speed of the schedule may need to withdraw from the course. Extensions to due dates will not be granted unless circumstances. Substantial grade reduction will occur if work is received late or incomplete.

Design Documentation. Each student is responsible for submitting a comprehensive on-going record of design process materials generated throughout the semester. This will include: design process sketches, scans of markup prints, analytic diagrams, final technical drawings, and high-quality digital photographs of all physical models. Digital files will be uploaded to your designated OneDrive folder according to specified to specified file-types and file naming formats, announced on the studio web site.

Teaching Methods/Studio Methods:

Methodology. This graduate level design studio promotes the strategies, tactics, and techniques of making architecture as a discourse between theory and practice. Emphasis is placed on a critical approach to design. Architecture is presented as a system of systems, synthesized into a collaborative design project for an environmental research facility in Costa Rica. A wide range of variables include not only the technical and the pragmatic, but also aesthetic, theoretical, formal, spatial, and sequential considerations. In addition to the specific materials required for this studio, you will develop a clear process and position (critical ideology) within the field of architecture. As an ongoing critical search, you should not be seeking off-the-shelf answers, but instead asking better questions. This studio will be integrative in approach as the project develops from urban and formal strategies translate to structural, material and the detail. The art of detailing is an exercise in judgment inspired by intellect and tempered by care. Several complex systems [programmatic, environmental, site, accessibility, structural, performance, and building envelope assemblies] will be investigated, iterated, and technically documented to create an integrated architectural project. The studio inculcates a high standard of proficiency, pride, and confidence in producing high-quality work.

Criticism. Managing and implementing criticisms is the responsibility of the student. Students are expected to listen, understand, accept, study, and apply criticisms to their work. Critiques from the instructor, outside reviewers, and other classmates during critiques should be perceived as a constructive analysis of the work and/or process, not as a personal attack. In order to receive effective criticism, students must continuously present progress of their work as printed and/or refined digital drawings (at correct architectural scale). Only significant new work that contributes and moves forward the progress of the project will be discussed. Minor changes, repeated works, or verbal descriptions of intentions will not be critiqued. All previously completed work (sketches, prints, models and digital files) must be available in studio because the design process demands comparative reference to these works.

Productivity. Time management and a high level of consistent production is key to success in this studio. Students are expected to invest a significant amount of time working on the studio project outside of class time. Experience has shown that students who work in studio before and/or after class hours and on weekends on a consistent basis have a greater degree of success in the course because they can interact, discuss, clarify, and exchange ideas or methods with peers.

Representation. Students must demonstrate the ability to employ appropriate representational media to convey essential architectural ideas at each stage of the design process through physical models, orthographic and axonometric drawing, and rendered imagery. Every mode of representation for comment/criticism must be a precise, well crafted, and intentional representation of architectural ideation.

Model making. Finely crafted and intentional model-making skills are required as physical models will be built, analyzed, and rebuilt throughout the semester. Architectonic construction should be representative through joinery, detail, and intentional material choice. Even though much of this course will be taught online, it is imperative that students develop physical models to test ideas and iterate. With online presentations at the conclusion of each of the class phases, high-quality photographs of your models are required, and the only way to truly convey your intention.

Drawings. High-quality digital drawing techniques utilizing vector-based drawings post-produced in either a CAD program or Adobe Illustrator. NO crudely exported drawings from Rhino, Revit, or similar sources are unacceptable. All drawings must show sophisticated and appropriate line weights ranging from heavy, medium, and thin; and representational line types of solid, dashed, and dotted dependent upon representational intention. Tones and color are supplemental expressive techniques that can enhance the reading of the drawings but shall not obscure or as a substitute for properly line-weighted drawings. In the case of technical documentation, drawings require correct US material designations, dimensions and keyed labelling. While plans and sections may begin as basic cuts from a 3d digital model, iteration and refinement must be within a 2d CAD program (Not Illustrator!) to reconstruct, redraw and redefine architectonic intentionality.

Renderings. Perspectives, section perspectives and axonometrics must include line information. Post-production is required to represent intention and proper scale (people), context (imagery from site) and the experiential (materiality and light). Off the shelf (clipped) rendering is discouraged. Analog and digital drawing will be employed at various times throughout the semester, and a specific hybrid drawing workshop will be utilized to combine physical and digital techniques with drawing, imagery and precision. The intensive production throughout the entire semester is essential to success in this studio. Poor craftsmanship in any of the above category will result in a substantial deduction of grade.

Professionalism in the Studio. As a graduate-level studio, maturity and professionalism is expected, similar to an office environment. Collaboration between students is essential for the creation of a vibrant studio culture, and sharing of technical knowledge is encouraged. Therefore, all of the following behaviors are prohibited during class hours:

1. No eating of meals within the studio (snacks are ok).
2. No walking in and out of formal lectures/discussions during studio.
3. Internet usage is limited to studio work communications and research purposes only.
4. No working on assignments for other classes during studio. (Including GSA duties).
5. No disruptive behavior.
6. Limit earphone/headphone usage during studio hours.

*****Any unprofessional behavior observed during studio may result significant grade reduction for the semester.*

Course Requirements.

Required Computer + Internet Connectivity. Students must provide and maintain their own laptop computer used for studio assignments. See the college website for minimum specifications. With much of the class being digital, including design review and desk critiques, a laptop with camera and microphone will be extremely important for conveying design ideas. Technical difficulties, viruses, corrupted files, crashes, server, or print bureau problems will not be accepted as excuses for not producing assigned work. All digital work should be regularly backed up.

Required Software. Using illegal copies of software violates ethical code and can cause unexpected results.

1. Adobe Photoshop, Illustrator, InDesign, and Acrobat. Illustrator is required for all 2D drawing output.
2. AutoCAD or Rhino can be used for general drafting.
3. Use the 3D software that you know the best for design modeling including: Rhino (and Grasshopper, strongly encouraged), AutoCad, Revit, SketchUp, and form•Z 8.6.

Required Output Technologies.

1. It is strongly suggested that you have an 11 x 17 inkjet printer at your desk (in studio) for everyday studies (11 x 17 paper; inkjet cartridges).
2. Required Camera. digital or smart phone camera (minimum of 3 mega-pixel; 2048 x 1536 pixels).
3. Laser cutting, CNC & 3D printing COA Shop (tbd., depending on COVID restrictions).

Required Materials.

1. exhibiting: push pins, clips and tape for hanging work.
2. criticism: 12" & 18" wide rolls of white/yellow trace.
3. drawing: variety of pencils, water-based colored pens and markers.
4. measuring: Architect's Scale, Engineering Scale.
5. cutting: healing cutting board, metal straight edges, triangles, x-acto knife and olfa w/ blades.
6. modeling: basswood, birch plywood, foam-core, cardboard, chipboard, museum board and paper.
7. glue: non-toxic water-based glues such as Elmer's Glue-All, Elmer's Wood Glue, Sobo Glue, Tacky Glue, or hot glue stick guns (low and high heat).
8. paint: Golden Acrylic Gesso or Liquidtex Gesso; high-quality water-based flat interior latex.

Attendance Policy

1. Students are responsible for attending all scheduled class meetings for the full class period.
2. Attendance requires each student to have their computer, tools, materials, and supplies available for all studio activities.
3. When you are absent you miss important course content that effects student performance. You will have to work harder to make up for any absences.
4. Absences will affect the final grade at the instructor's discretion.
5. Violating a maximum of four absences for studio will require the student to drop the class or receive a grade of "F" in compliance with drop deadlines (see COA Attendance policy).
6. Absences are only for reasonable unforeseen circumstances such as getting sick or emergencies. If you are sick, please stay home. Inform the instructor directly.
7. Any absence is considered UNEXCUSED, unless it meets the criteria discussed in the TTU Student Handbook, Part II Community Policies, Section D: Class Absences (page 62) for the following:
 - a. Illness requiring an absence from class for more than one week.
 - b. Religious Holy Day Absences.
 - c. Student Absence due to Sponsorship of Student Activities and Off-Campus Trips.
 - d. See section II on specific COVID-19 Instructions related to attendance.

Recommended Texts:

Books on Reserve COA Library. The resources below are by no means complete, but should give you a basis for supplementing your existing knowledge on architecture, structure, environmental systems, programming, detailing, and assemblies. Other readings may be assigned by your professor throughout the semester.

Digital References:

1. 2022 COTE International Competition (<https://www.acsa-arch.org/competitions/2022-cote-competition/>) with overview of the competition program, rules, registration, resources and examples of previous winners.
2. [AIA Framework for Design Excellence](#); within each 'measure' or principle, select 'Projects' tab [AIA COTE Top Ten Award](#) (professional); select 'Past recipients' tab
3. 2030 Palette (<http://2030palette.org/>) is a database of sustainable principles, strategies, tools and resources.
4. United States Climate Resilience Toolkit (<https://toolkit.climate.gov/>) includes [Climate Explorer toolkit](#) (for United States only, but also several key project examples which may help with deigning resilient architecture for food, water, infrastructure, energy and varied ecosystems.
5. Climate Consultant (<http://www.energy-design-tools.aud.ucla.edu/>) helps visualize climate data. It uses downloadable hourly climate files for thousands of weather stations around the world. The tool also offers climate-based recommendations for which passive strategies will be most effective to provide comfort at least energy.

Ecological Building References:

1. Graham, James (ed.), et al., CLIMATE: ARCHITECTURE AND THE PLANETARY IMAGINARY.
2. Hausladen, et. al. CLIMATESKIN: CONCEPTS FOR BUILDING SKIN.
3. Kwok, Alison, and Walter Grondzik. THE GREEN STUDIO HANDBOOK, 3rd ed.
4. Muller, Brook. ECOLOGY AND THE ARCHITECTURAL IMAGINATION.
5. Passe, Ulrike and F. Battaglia, DESIGNING SPACES FOR NATURAL VENTILATION: AN ARCHITECT'S GUIDE.

Technical References:

1. Allen, Edward + Patrick Rand. ARCHITECTURAL DETAILING: FUNCTION, CONSTRUCTIBILITY, AESTHETICS, 3RD EDITION. also online access.
2. Allen, Edward + Joseph Lano. THE ARCHITECT'S STUDIO COMPANION: RULES OF THUMB FOR PRELIMINARY DESIGN.
3. Allen, Edward. FUNDAMENTALS OF BUILDING CONSTRUCTION: MATERIALS AND METHODS.
4. Alread, Jason + Thomas Leslie + Rob Whitehead. DESIGN-TECH: BUILDING SCIENCE FOR ARCHITECTS.
5. Bell, Victoria Ballard + Patrick Rand. MATERIALS FOR DESIGN 2.
6. Ching, Francis. BUILDING CODES ILLUSTRATED. A GUIDE TO UNDERSTANDING THE 2015 INTERNATIONAL BUILDING CODE. also online access.
7. Ching, Francis. BUILDING CONSTRUCTION ILLUSTRATED.
8. Ching, Francis. BUILDING STRUCTURES ILLUSTRATED. also online access.
9. Ching, Francis. GREEN BUILDING ILLUSTRATED. online access only.
10. Deplazes, Andrea. CONSTRUCTING ARCHITECTURE: MATERIALS, PROCESSES, STRUCTURES. 3RD EDITION.
11. Ford, Edward R THE ARCHITECTURAL DETAIL. also online access.
12. Hall, Dennis J. ARCHITECTURAL GRAPHIC STANDARDS.
13. Killory, Christine + Rene Davids. DETAILS, TECHNOLOGY, AND FORM.
14. Killory, Christine + Rene Davids. DETAIL IN PROCESS.
15. Killory, Christine + Rene Davids. DETAILS IN CONTEMPORARY ARCHITECTURE
16. Lechner, Nobert. HEATING COOLING LIGHTING SUSTAINABLE DESIGN METHODS FOR ARCHITECTS.
17. Leonardi, Nicola. NEW FORMS: PLANS AND DETAILS FOR CONTEMPORARY ARCHITECTS.
18. Lewis, Paul + Mark Tsurumaki + David Lewis. MANUAL OF SECTION. (TTU online access).
19. McMorrough, Julia. MATERIALS STRUCTURES STANDARDS.
20. Moe, Kiel. THERMALLY ACTIVE SURFACES. New York: Princeton Architectural Press, 2010. (TTU online access).
21. Moscatelli, F., + Charles Gute. DIANE LEWIS: INSIDE-OUT : ARCHITECTURE NEW YORK CITY.
22. Schittich, Christian. BUILDING SKINS. also online access.
23. Schittich, Christian. GLASS CONSTRUCTION MANUAL.
24. Wachsmann, Konrad. THE TURNING POINT OF BUILDING : STRUCTURE AND DESIGN.
25. Wallick, Karl. KIERANTIMBERLAKE : INQUIRY.

Grading.

Grading certifies that the student has clearly demonstrated a level of expertise for the design process and product, as required for each studio phase. Studio grading is not an exact mathematical assessment. It is based on years of experience and expertise in the criticism and judgment of student design process and final work. Production and hard work lead to improvement, and demonstrated improvement is a key component in final grading.

Grade definitions.

A (excellent) exceptional work, exceeding the requirements of the course, showing strong understanding, skills, effort, initiative, and independent resourcefulness.

B (good) performance above the norm; work demonstrates adequate understanding, skills, effort, initiative, and improvement beyond the minimum requirements of the course.

C (average) meets minimum requirements and demonstrates satisfactory understanding, skills, and effort; little initiative to investigate the problem without substantial prodding from the instructor; work shows minimal improvement.

D (inferior) work that does not satisfy minimum requirements, understanding, skills, and effort; initiative lacking; improvement not noticeable.

F (failure) does not meet requirements to the extent the student must repeat the course.

Plus and minus marks may be used to indicate higher and lower rating in each grade division for the purposes of averaging progress reports and final grades. A student who has shown clear successful improvement throughout the semester may be given the advantage in the case of borderline final grade averages.

++More on grading: TTU OP. 34.12 on Grading <https://www.depts.ttu.edu/opmanual/OP34.12.pdf>

The instructor will issue two progress evaluations during the semester and a final grade at the conclusion of the semester utilizing the following criteria for assessment:

1. Process/Rigor (development and articulation)
2. Craft/Precision (analog-digital representation)
3. Resolution (curricular integration)
4. Critical Ideology (research and critical thinking)
5. Professionalism (passion, dedication, timely submission of work, and attendance record)

Studio Phases. Three major phases will occur within the studio, each resulting with a formal review. As graduate students, full participation in all pin-ups, reviews and discussion are required. At the conclusion of phase 02 and phase 04 progress grades will be issued to notify the students of their current standing. The phases are as follows:

01 TERRAIN / ECOLOGY RESEARCH + PROGRAM DEVELOPMENT: mapping context + site analysis	15%
02 FORMAL DESIGN STRATEGIES + SCHEME DESIGN: programming + schematic design	15%
03 ENVIRONMENT, LANDSCAPE + BUILDING DESIGN I: environmental integration + performance	20%
04 ENVIRONMENT, LANDSCAPE + BUILDING DESIGN I: synthesis + technical documentation	20%
05 FINAL: resolution + exhibition	30%

Retention of Student 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 (NAAB 2020).

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.

Below are the program and student criteria emphasized within this course.

3.1 Program Criteria (PC)

A program must demonstrate how its curriculum, structure, and other experiences address the following criteria.

PC.3 Ecological Knowledge and Responsibility

How the program instills in students a holistic understanding of the dynamic between built and natural environments, enabling future architects to mitigate climate change responsibly by leveraging ecological, advanced building performance, adaptation, and resilience principles in their work and advocacy activities.

PC.5 Research and Innovation

How the program prepares students to engage and participate in architectural research to test and evaluate innovations in the field.

PC.6 Leadership and Collaboration

How the program ensures that students understand approaches to leadership in multidisciplinary teams, diverse stakeholder constituents, and dynamic physical and social contexts, and learn how to apply effective collaboration skills to solve complex problems.

3.2 Student Criteria (SC): Student Learning Objectives and Outcomes

A program must demonstrate how it addresses the following criteria through program curricula and other experiences, with an emphasis on the articulation of learning objectives and assessment.

SC.4 Technical Knowledge

How the program ensures that students understand the established and emerging systems, technologies, and assemblies of building construction, and the methods and criteria architects use to assess those technologies against the design, economics, and performance objectives of projects.

SC.5 Design Synthesis

How the program ensures that students develop the ability to make design decisions within architectural projects while demonstrating synthesis of user requirements, regulatory requirements, *site conditions*, and *accessible design*, and consideration of the *measurable environmental impacts of their design decisions*.

SC.6 Building Integration

How the program ensures that students *develop the ability to make design decisions within architectural projects while demonstrating integration of building envelope systems and assemblies, structural systems, environmental control systems, life safety systems, and the measurable outcomes of building performance*.

Course Schedule

01 TERRAIN / ECOLOGY RESEARCH / PROGRAM SELECTION

WK1	8/23	M	All School Meeting (1:00 – 3:30p) // No Class
	8/25	W	Studio Day / Introduce Syllabus / Prompt + Costa Rica
	8/27	F	Workshop I: GIS + Data Mapping.
WK2	8/30	M	Workshop II: Ecological Design + AIA Framework for Excellence.
	9/01	W	Studio Day
	9/03	F	Studio Day / Pin-Up
WK3	9/06	M	LABOR DAY // No Class
	9/08	W	Studio Day
	9/10	F	DESIGN REVIEW 01: SITE / RESEARCH. Site Selection + Program Development

02 FORMAL DESIGN STRATEGIES + SCHEME DESIGN

WK4	9/13	M	Studio Day
	9/15	W	Studio Day
	9/17	F	Workshop III: Creating Narrative w/ Design for Ecosystems + Design for Integration
WK5	9/20	M	Studio Day
	9/22	W	Studio Day
	9/24	F	Studio Day
WK6	9/26	M	Studio Day
	9/28	W	Studio Day
	10/1	F	DESIGN REVIEW 02: FORM / SCHEME. Formal + Scheme Design (via Zoom + Miro)

03 ENVIRONMENT, LANDSCAPE + BUILDING DESIGN I

WK7	10/4	M	Studio Day
	10/6	W	Studio Day
	10/8	F	Workshop IV: Creating Community w/ Design for Equity + Design for Well-Being
WK8	10/11	M	Studio Day
	10/13	W	Studio Day
	10/15	F	Studio Day
WK9	10/18	M	Studio Day
	10/20	W	Studio Day
	10/22	F	DESIGN REVIEW 03: MID-TERM REVIEW. Environment, Landscape + Building Design I

04 ENVIRONMENT, LANDSCAPE + BUILDING DESIGN II

WK10	10/25	M	Studio Day
	10/27	W	Studio Day
	10/29	F	Workshop V: Environmental Awareness I w/ Design for Resources + Design for Economy
WK11	11/01	M	Workshop VI: Environmental Awareness II w/ Design for Energy / Design for Water
	11/03	W	Studio Day
	11/05	F	Studio Day / Raab presenting at 2021 TXA Conference, San Antonio.
WK12	11/08	M	Studio Day
	11/10	W	Studio Day
	11/12	F	DESIGN REVIEW 04: COMPETITION POSTER / MOCK FINAL. Integration + Narrative / Building Design II

05 SYNTHESIS + FINAL INTEGRATION

WK13	11/15	M	Workshop VII: Model-Making
	11/17	W	Studio Day
	11/19	F	Workshop VIII: Architecture Futures w/ Design for Economy + Design for Discovery
WK14	11/22	M	Studio Day // Section Model Due, 5p.
	11/24-26	W/F	THANKSGIVING HOLIDAY // No Class
WK15	11/29	M	FINAL DESIGN REVIEW 04. Resolution (all day / virtual?) // LAST DAY OF CLASS
	12/01	T	TTU // Super Jury / TBC // Room-clean out + FFAT Install.
	12/03	F	FFAT (FIRST FRIDAY ART TRAIL) EXHIBIT / CELEBRATION (6p – 9p) / Location TBD
WK16	12/10	R	Grades Due (noon)
WK21	01/12	W	2022 COTE Competition Submission Due (11:59p)

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

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:

While the absence policy is clearly stated above, in the event of a student requiring to be quarantined or isolated due to exposure to COVID-19, please inform your student assistant and professor if you need extended days of absences and time to make up missed work. Please do not come to class if you are sick or supposed to be quarantined.

In-Person Office Hours: In an effort to mitigate asymptomatic spread of the COVID-19 within our campus community, masks are optional but strongly recommended and social distancing may require for meeting outside the physical confines of the instructors office or virtually by Zoom if the student is experiencing any illness and/or would prefer to meet virtually.

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 tleix.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.