ARCH 4601   Architectural Design VII [396]
ARCH 5503/7000   Advanced Design Studio + Research [396]
College of Architecture, Texas Tech University
FALL 2021 Undergraduate + Graduate Integrated/Vertical Study Abroad Studio
MWF 1:00 - 4:50pm Lubbock / MWR 9:00am - 1:00pm Costa Rica

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office hours by appointment

CR LAB 'sea lab 2021' study abroad
Environmental Research Lab Costa Rica + 2022 AIA Top Ten

Turrialba Volcano, Turrialba Costa Rica

Monday, August 23, 2021
Jeremy Wahlberg

CR LAB 'sea lab 2021' study abroad
Environmental Research Lab Costa Rica + 2022 AIA Top Ten

CATALOG DESCRIPTION

Arch 4601 - UNDERGRADUATE
(6) Prerequisite: ARCH 3602. Provides instruction in advanced architectural design projects. Students develop integrated design skills negotiating the complex issues of program, site, and form in a specific cultural context. Integrates aspects of architectural theory, building technology, and computation into the design process.
6　Credit hours
12　Lab hours

ARCH 5503 - GRADUATE
(5) Topical studio that explores design, theoretical and/or technological issues that affect current architectural thought and practice.
5.　Credit hours
12.　Lab hours

ARCH 7000 - GRADUATE
(1) Research course in which students will learn and demonstrate the core skills necessary to draft a thesis, or generate an alternative research project.
1　Credit hours

COURSE DESCRIPTION & STUDIO BRIEF

COSTA RICA, A LABORATORY
In 2019 Costa Rica received the Champions of the Earth award, the UN's highest environmental honor, and recently President Carlos Alvarado Quesada initiated a decarbonization plan aiming to achieve net zero emissions by 2050. Costa Rica is a laboratory; and a template for conscious, cleaner, compassionate, successful and sustainable design strategies.

Over the past 70 years, the people of Costa Rica developed and continue to push forward sustainable initiatives. This commitment has lead to to the protection of biodiverse habitat, 5% of the world's biodiversity is located in Costa Rica, inspired numerous countries and nations to implement carbon reduction initiatives, fostered: tourism, science, education, and research as well as growth of a successful economy and culture dedicated to peace, nature and prosperity. ¡Pura Vida!

This is an immersive and vertically integrated studio combining undergraduate 4th year students as well as second year graduate students. It is the first architecture studio connecting Texas Tech Lubbock and Texas Tech Costa Rica campuses. The first inaugural international studio experience between TTU CoA Lubbock and TTU Costa Rica combines excursions to various regions of Costa Rica, workshops and discussions with local experts, designers, and government officials focused on sustainability.

The studio will prompt students to consider the impact of architecture specific to the diverse landscapes of the 'rich coast': **forest**, **mountain**, **city**, **volcano**, **river**, **beach**, **sea**. The studio will utilize the AIA Framework for Design Excellence as a template for ecological, equitable, healthy, intelligent and energy efficient proposals to generate an innovative solution for an environmental research facility as part of the 2022 COTE International Competition.

Continued…

Monday, August 23, 2021
Jeremy Wahlberg

ARCHITECTURE 21ST CENTURY + SUSTAINABILITY
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 must prepare students to 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. 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 points to an urgent need to slow the rate of planetary warming within less than a decade to avert catastrophic consequences. Therefore, the buildings and cities 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.

BRIEF + PHASES
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 utilize the model laboratory of Costa Rica. The project will be completed in teams with final team assignment by the instructor, as well as the bio-climatic regions. The emphasis of team oriented projects includes promoting efforts of integration, collaboration and communication; skills necessary for all sustainable initiatives.

The project will be completed in five phases:
1. **TERRAIN / ECOLOGY RESEARCH + PROGRAM DEVELOPMENT**: mapping context + site analysis
2. **FORMAL DESIGN STRATEGIES + SCHEME DESIGN**: programming + schematic design
3. **ENVIRONMENT, LANDSCAPE + BUILDING DESIGN I**: environmental integration + performance
4. **ENVIRONMENT, LANDSCAPE + BUILDING DESIGN II**: synthesis + technical documentation
5. **FINAL**: resolution + exhibition

PROGRAM + SITE
Programmatic concerns will be developed individually through a series of investigations, research prompts, and an understanding of the issue that your research facility will impact within the initial three weeks. Based on your individual interests and research foci, your research will culminate in the choosing of a specific site and the design of contextually relevant multi-story research facility and educational complex somewhere in Costa Rica. A series of specific and varied bio-climates of Costa Rica will be explored by the class – **forest**, **mountain**, **city**, **volcano**, **river**, **beach**, **sea** – and students will develop site specific, climate adaptive, resilient, and carbon-neutral architectural propositions, each uniquely attuned to its surroundings.

SITE SELECTION
1 unique and 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 site
3 have some existing access to existing infrastructure [ie: roadways, harbor, heliport, etc.]

All of these requirements should be easily satisfied within the incredibly 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 word. It is important that the site study reach far beyond the aspects of the individual site in order to determine the context for design, the programmatic brief for the building, and inform the design process.

SITE STUDIES
local   the direct site context, microclimate, ground/sky/flora/fauna to your intervention
intermediate   local transportation + infrastructure
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?

COURSE LECTURES FROM TTU LBK
8/30/21	McReynolds, Sustainable site design	1-2 PM
9/9	Zook, Sustainability and health,	1-2 PM
9/13	Aranha, Passive cooling	1-2 PM
9/29	Raab, Material assemblies	1-2 PM
10/11	Wahlberg, 1-2, Profession paths & dogs	1-2 PM

COURSE LECTURES FROM TTU Costa Rica
[see schedule from TTU CR]

COTE INTERNATIONAL DESIGN COMPETITION

This studio will develop 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 environ-mental 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. Winners and their faculty sponsors will be notified of the competition results directly. Winning projects will be announced and displayed at the 2022 AIA National Convention. Winning projects will also be promoted on the ACSA website at www.acsa-arch.org & the AIA COTE® website at www.aia.org/cote, 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
Focus on input vs. output and the delta of change through the arc of the semester. We develop analytical skills of verbal/non verbal communication, skills of observation, research, analysis, and documentation in order to synthesize and deepen our understanding of architecture, travel, sense of place, culture, technology, society, history and sustainability of Costa Rica's rich landscape. We hone our skills of critical thinking via production of analog and digital drawings, sketches, illustrations, maps, writings as well as the curation of photographs from our study and visit to specific local sites.

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

Design Processes
Demonstrate 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 hand-drawing, physical model-making and digital representational tools.

Form and Space
Defined by systems of structure, enclosure, and circulation, hierarchical organization, and composition, articulated by principles of scale, and theories of proportion.

Precedents
Locate and determine applicable examples of exemplary design solutions found in professional and academic works.

Context
Thorough analysis of larger ecological, environmental and climatic issues, situate ideation within proper physiological, psychological and societal territories.

Sustainability
Through analysis, discussion, dialog and research, uncover and apply principles of resilient, adaptive, conscious and sustaining design solutions.

STUDENT PERFORMANCE OBJECTIVES
Utilize tools from a critical thinkers toolkit, including but not limited to: writing, mapping, documentation, measuring, hand drawing, digital/analog drawing, painting, rendering, sketching, diagramming, typology, design and the act of making.

Professional knowledge gained from the successful completion of this course includes conveyance of:

Site & Environment
Ecological and environmental design strategies consider bio-climate, solar orientation and insolation, wind direction, temperature, precipitation and thermal comfort requirements across the spectrum of interior and exterior conditions.

Program
Plan and accommodate human physical and psychological needs, identify spatial requirements and relationships within a large-scale 'mixed-use' project that connects the rural to urban.

Technical Acumen
Methods of construction, materials, structural systems, assemblies and detailing demonstrate an understanding of preliminary design documentation of architectural ideation.

Systems Integration
Understand specific thermal comfort conditions and how to implement passive and active strategies into a thorough design scheme.

MEANS OF EVALUATION
Criticism of design proposals presented in drawings, models and process studies during class sessions, pinups and formal reviews will be the primary methods of assessment. Specific production specifications and documents will be required at the completion of each project phase. Details will be determined by each assignment with the minimum to include:

Deliverables
Well-crafted drawings, models, concepts and rigorous development of an architectural idea.
[refer to course schedule, project gantt chart, and additional information for further details]

Phases
1. **TERRAIN / ECOLOGY RESEARCH + PROGRAM DEVELOPMENT**
2. **FORMAL DESIGN STRATEGIES + SCHEME DESIGN**
3. **ENVIRONMENT, LANDSCAPE + BUILDING DESIGN I**
4. **ENVIRONMENT, LANDSCAPE + BUILDING DESIGN II**
5. **FINAL**

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 nonlinear 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 documented extenuating circumstances exist in relation to University policy. 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 includes: 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 digital 'cloud' folder according to specified file-types and file naming formats, announced by the instructor.

METHODS OF ASSESSMENT
Criticism of project proposals, writing, documentation, drawings, models, sculptures, sketchbooks and process studies during class sessions, pinups and formal reviews will be the primary methods of assessment. Production specifications and documents will be required at the completion of each project. **Completion of ALL deliverables in a timely manner is required**. Design criticism given by instructor, guest critic or external juror. Thoughtful engagement with critical questions regarding appropriate topics and respectful actions towards others is required. Details will be determined by each assignment.

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 design 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.

ADDITIONAL IMPORTANT INFO
Additional specific details to be provided per project. ALL students to utilize template(s) provided by instructors. **Projects to be digitally archived at the conclusion of the course for the express purpose of an exhibit of completed student work. Details to be provided by instructor.**

COURSE STRUCTURE / TEACHING METHODS / STUDIO METHODS
As stated above, students will engage in various methods of work throughout the semester. The schedule is broken into *three primary phases* and *five different areas of presentation.* Students will meet at a minimum 3x weekly. Due to the nature of study abroad, classes may be spread out over the course, or grouped together to adjust to travel schedules and provide flexibility to the entire class cohort. This studio is managed as an 'atelier' or studio environment, with instructor acting as director to multiple teams of students. The atelier will function as a wholistic team, sharing knowledge, encouraging development of all teams and striving to push the group further together. Expect the socratic method from the instructor to further the discourse, engage critical thinking and stoke discussion and debate.

Methodology
This integrated / vertical 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 critical questions. This studio will be integrative in approach as the project develops urban and formal strategies that translate to structural, material and 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 demands 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, ana-lyzed, and rebuilt throughout the semester. Architectonic construction should be representative through joinery, de-tail, and intentional material choice. Even though much of this course will be taught online, it is imperative that stu-dents 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 rep-resentational 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 (cliched) 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 dig-ital techniques with drawing, imagery and precision. The intensive production throughout the entire semester is es-sential to success in this studio. Poor craftsmanship in any of the above category will result in a substantial deduc-tion of grade.

Professionalism in the Studio
As a study abroad and vertically integrated 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.**

Guidelines for Success

space	be prepared inside & outside / clean / be mindful / keep it clean / keep us safe / distance
food	plan meals / eat regularly / bring snacks / keep nutritious / stay fueled
activity	stay active / physical / mental / emotional / we are a team
time	plan a calendar / finite / managed / scheduled / material
rest	consistency is key / substantive / required
memory	save your work! / make iterations / track versions / notes / resources / materials
self	check in with yourself / care / awareness / reliance / acknowledgement

Respect in the Classroom
Respect is earned. Trust is earned. Our actions are our most immediate voice. Be mindful of each other. Faculty and students are expected to assist in maintaining and fostering an environment that is secure, quiet, respectful, mutually civil, and conducive to working individually and in teams, and to listening to the instructor and to other students. See College Studio Culture Policy - we will follow protocol for this course.

Digital Accountability
Due to the new nature of learning, communication, dialog and discussion through virtual platforms we are required to adjust our level of involvement. It becomes crucial to become flexible while maintaining culture. Students are expected to arrive to virtual sessions on time, engage fully, begin with cameras on as available, and to invest themselves into the format provided.

Social Media & Hashtags
Projects and processes can be shared on the social media platform Instagram to promote 'instant' and real-time active contributions to the culture and exploration of the college, course and our social environment. To help maintain productive work-life balances, and to keep social life independent, it is recommended to create an academic profile. Please use appropriate hashtags; below is a staring point of what will likely evolve to reflect the culture of the course:

Tag instructor **@wahlberg_teaching @p_raab_teaching @ttucoa @texastechcr #wahlberg_CRLabSealab2021**
#dustcoasttorichcoast #costarica #architecturalsketch #dustcoast #costadepolvo #costarica #lubbocktocostarica #studyabroad #ttucoa #puravida #architecture #texastech #architecturedrawing #archidrawing #archdaily #architecturestudent #landscape …

Course Work File Naming
Proper file naming is essential to maintain productive digital work flows. Use of a common standard naming convention is important for production files, output and documentation. **Make file iterations, versions, and save multiple variations of work in an organized fashion ... use the cloud to your advantage!! OneDrive will be utilized for final archive and documentation.**

YearCourseprefixCoursenumber_ FacultyLastNameFacultyFirstInital_ StudentLastName_StudentFirstiNital_ phasenumber_ articlenumber_ descriptor(if needed) .ext

Example: **2021ARCH4601_Wahlberg_YourName_P1_001.jpg**

Monday, August 23, 2021
                                                                                      Jeremy Wahlberg

!! DRAFT SCHEDULE !! MORE INFORMATION TO BE UPDATED/INTEGRATED W/ TTU CR
FALL 2021 ARCH STUDIO 4601 + 5503/7000 (see Gannt chart for project deliverables / deadlines)

	week	date	day	lesson / visit / guest	notes
				01_TERRAIN / ECOLOGY RESEARCH / PROGRAM SELECTION	
	1	8/23 8/25 8/27	M W F	All School Meeting (1:00 – 3:30p) // Meet & Greet Rm 506 Studio Day / Introduce Syllabus / Prompt + Costa Rica Workshop I: GIS + Data Mapping	
	2	8/30 9/01 9/03	M W F	Workshop II: Ecological Design + AIA Framework for Excellence Studio Day Studio Day	
	3	9/6 9/8 9/10	M W F	LABOR DAY // No Class Studio Day **DESIGN REVIEW 01: SITE / RESEARCH. Site Selection + Program Development**	
				02_FORMAL DESIGN STRATEGIES + SCHEME DESIGN	
	4	9/13 9/15 9/17	M W F	Studio Day Studio Day Workshop III: Creating Narrative w/ Design for Ecosystems + Design for Integration	**TRAVEL TO COSTA RICA**
	5	9/20 9/22 **9/23**	M W R	Studio Day Studio Day Studio Day	1st week in Costa Rica
	6	9/27 9/29 9/30	M W R	Studio Day Studio Day **DESIGN REVIEW 02: FORM / SCHEME Formal + Scheme Design**	
				03 ENVIRONMENT, LANDSCAPE + BUILDING DESIGN I	
	7	10/4 10/6 10/7	M W R	Studio Day Studio Day Workshop IV: Creating Community w/ Design for Equity + Design for Well-Being	
	8	10/11 10/13 10/14	M W R	Studio Day Studio Day Studio Day	
	9	10/18 10/20 10/21	M W R	Studio Day Studio Day **DESIGN REVIEW 03: MID REVIEW Environment, Landscape + Building Design I**	
				04_ENVIRONMENT, LANDSCAPE + BUILDING DESIGN II	
	10	10/25 10/27 10/28	M W R	Studio Day Studio Day Workshop V: Environmental Awareness I w/ Design for Resources + Economy	
	11	11/1 11/3 11/4	M W R	Workshop VI: Environmental Awareness II w/ Design for Energy / Design for Water Studio Day Studio Day / Raab presenting at 2021 TXA Conference, San Antonio	
	12	11/8 11/10 11/11	M W R	**Studio Day** **Studio Day** **DESIGN REVIEW 04: COMPETITION POSTER / MOCK FINAL** **Integration + Narrative / Building Design II**	
				05_SYNTHESIS + FINAL INTEGRATION	
	13	11/15 11/17 11/18	M W R	Workshop VII: Model-Making Studio Day Workshop VIII: Architecture Futures w/ Design for Economy + Design for Discovery	
	14	11/22 11/24 11/25	M W R	**FINAL REVIEW** **RETURN TRAVEL** **THANKSGIVING HOLIDAY / NO CLASS**	HOLIDAY / TRAVEL / RETURN LBK
	15	11/29 12/1 12/3	M W F	**EXHIBIT PREP WEEK, gallery tbd**	
	16	12/3 12/6	FRI MON	**FINAL EXHIBIT FFAT W/ STUDIO**	END OF SEMESTER TAKE DOWN EXHIBIT TBD

FALL 2021 PROJECT GANNT CHART

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	16	17	wks
phase	8/23	8/30	9/6	9/13	9/20	9/27	10/4	10/11	10/18	10/25	11/1	11/8	11/15	11/22	11/29	12/6	**15**
1			R1												FINAL PRINT EXHIBIT		3
2						R2											3
3									R3								3
4												R4					3
5														R5			3

R1 - R5 equate to reviews / critiques. Students should anticipate each phase overlaps and work continues post-review.

01   **TERRAIN / ECOLOGY RESEARCH / PROGRAM SELECTION**
02   **FORMAL DESIGN STRATEGIES + SCHEME DESIGN**
03   **ENVIRONMENT, LANDSCAPE + BUILDING DESIGN I**
04   **ENVIRONMENT, LANDSCAPE + BUILDING DESIGN II**
05   **FINAL**

NOTES:
1. Be prepared, ALWAYS, ALWAYS, ALWAYS have your sketchbook!!.
2. schedule and class location are subject to change depending on travel, excursions, circumstances etc.
3. See detailed course schedule and assignment prompts for specific instructions.
4. Details are subject to change at the discretion of the instructor and/or the College of Architecture or TTU CR.
5. Once in Costa Rica, we will need to remain flexible and work outside of designated 'studio time' to take advantage of excursions.
6. ALL project components to be compiled into course compendium booklet; schedule subject to modification per instructor.

Templates to be used for ALL submissions; templates provided by instructor.

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 4 absences is considered excessive, requiring the student to drop the class or receive a grade of "F" in compliance with drop deadlines. (see guidelines regarding COVID-19)

Tardiness, arriving more than 15 minutes late, will be recorded as 1/4 of an absence. All absences are considered unexcused except for absences due to religious observance (notify instructor of intended observance) or officially approved field trips. Students are expected to comply with rules for reporting student illness requiring absence from class for more than one week. (see guidelines regarding COVID-19)

See University Academic Regulations. Attendance is defined as full participation in all activities including group and individual critiques, lectures, presentations, demonstrations, discussions, in class assignments, and possible field trips.

Attendance requires students have their sketchbook, computer, tools, supplies and work available for all studio actives. Excessive tardiness, leaving early, lack of participation, walking in and out of lectures, undivided attention, and disruptive behavior will count as an absence. Working on assignments from other classes is not be allowed during class time.

Monday, August 23, 2021
                                                                                             Jeremy Wahlberg

SUGGESTED TEXT & MEDIA

Digital Resources
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 Toolki (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 down-based recommendations for which passive strategies will be most effective to provide comfort at least energy.

[additional offered in studio]

COURSE REQUIREMENTS
Architecture is an act of making. Be prepared to divest/obtain necessary resources of time and material for the successful completion of work. Be thoughtful, smart and decisive about your resources ... you don't have to spend tons of money. Consider options carefully to acquire materials in the most efficient and economical manner (for example group purchasing or online/discount vendors). Expect to buy computing, design drawing, and making materials throughout the semester as assigned. Be prepared with the appropriate tools, equipment and clothing essential for every class session. This includes the ability to work from screen, to shop (training, sticker, appropriate clothing and shoes).

DESIGN SKETCHBOOK
1 small sketchbook [spiral bound likely most useful]
Students must keep a design sketchbook for tracking/documenting course activity (sketches, drawings, notes, writings, etc.). The sketchbook is a tool for output and reflective thinking, a vessel of key ideas and explorations reflected in your work. Have it available for use everyday. Sketchbook scans/photos will be required weekly. Suggested investment in a large clipboard, could be MDF with binder clips. Invest in felt pen, ball point pen, mech anical pencil, graded pencils, markers, watercolor or color pencils.

COMPUTING
Students must provide and maintain their own laptop computer for assignments. See the college website for minimum specifications. Technical difficulties, viruses, crashes, server and print bureau problems, or corrupted files will not be accepted as excuses for not producing assigned work. All digital work should be regularly backed up and organized with proper naming. Create file iterations, various versions, save multiple variations of work in an organized fashion ... and, use the cloud to your advantage.

SOFTWARE
Current working editions of Rhino/Sketchup and Adobe Creative Suite (including Photoshop, Illustrator, InDesign and Acrobat X Pro) will be required. Available at the Texas Technology Store or at Creative Engine. Suggested free educational version of ACAD for simple drafting work.

PRINTING
Output of work and review prints is vital to productive design process. Efforts will be made to accommodate PDF reviews when possible, however each student should be prepared to print as needed to complete assignments. Printing can occur at the college Print Bureau or any other means that produces effective results. Utilize scratch paper, recycle and up-cycle as possible.

PHOTOGRAPHY
Digital camera for documenting work and field conditions (minimum of 12 megapixel resolution) is an essential tool for an architect. While mobile phone cameras have become particularly robust, there will be times where results will improve from using a traditional tripod mounted camera. To support your work in the college photo studio, the Information Technology department has equipment for check out.

TYPICAL TOOL KIT
Architects scale; engineering Scale; roll(s) of white or yellow trace paper; water based colored pens and markers; lead holder, leads (6H, 2H, HB, 2B), lead pointer, pencils; clear push pins, and clips for hanging drawings; healable cutting board, metal straight edge, triangles, modeling knives; nontoxic modeling glue and drafting tape, etc. Additional typical desk materials may be required.

MAKING SUPPLIES
Be prepared to invest in construction materials / model materials for the sculpture portion of the course. Depending on COVID and the requirement to switch to fully digital this portion is being kept flexible. Anticipate materials of wood, metal, acrylic, paint, adhesives, screws, nails etc. If needing to switch to online we will explore this in 3D software.

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.

CoA reserves the right to retain, exhibit, and reproduce work submitted by students work submitted for grades is the property of the college/school and remains such until it is returned to the student.

GRADING

Performance based grade evaluations are based on individual performance, daily progress and the products produced over the term of the course, and final reviews. Everything relative to the course production is part of the process. Diligence, consistency, participation, production and hard work are expected. Improvement, growth and change is essential. Input vs output and the equivalent change is crucial.

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.The instructor conducts expert reviews of overall performance following each project of the semester.

The assessment is not negotiated and is based on years of experienced judgment of professional and student work by the instructor.

Evaluation Criteria

General evaluation criteria considered in terms of quality, completeness, technique, and presentation on a 0-100 scale from conceptual strength; articulation and development; technical competency, clarity, and craft; clear and concise verbal or written presentation; passion, commitment, dedication, work ethic, and the ability to ask relevant questions. **Late work is not accepted.** See University policy on Grading Procedures and Academic Integrity. See College Grade Definitions for letter grade determinations.

Below are the numerical definitions of the grading scale to be used for this course [An Incomplete will not be given]:

A +	97 – 100%	B +	87 – 89.99%	C +	77 – 79.99%	D+	67 – 69.99%	F	0 – 59.99%
A	94 – 96.99%	B	84 – 86.99%	C	74 – 76.99%	D	64 – 67.99%		
A -	90 – 93.99%	B -	80 – 83.99%	C -	70 – 73.99% low pass	D-	60 – 63.99%		

**See College Grade Definitions [http://arch.ttu.edu/wiki/Grade_Definitions] for letter grade determinations.
**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

Process/Rigor   development and articulation
Craft/Precision   analog-digital representation
Resolution   curricular integration
Critical Ideology   research and critical thinking)
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 study abroad 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.

Phases are as follows:

01	**TERRAIN / ECOLOGY RESEARCH / PROGRAM SELECTION**	**15**
02	**FORMAL DESIGN STRATEGIES + SCHEME DESIGN**	**15**
03	**ENVIRONMENT, LANDSCAPE + BUILDING DESIGN I**	**20**
04	**ENVIRONMENT, LANDSCAPE + BUILDING DESIGN II**	**20**
05	**FINAL PRESENTATION & EXHIBT**	**30**
		100

NATIONAL ARCHITECTURAL ACCREDITATION BOARD (NAAB) CRITERIA MET
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 Values, Program and Student Criteria Emphasized Within This Course.

SHARED VALUES OF THE DISCIPLINE & PROFESSION
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.5 Leadership, Collaboration, and Community Engagement
Architects Practice Design as a Collaborative, Inclusive, Creative, and Empathetic Enterprise With Other Disciplines, the
Communities We Serve, and the Clients for Whom We Work.

3.1 PROGRAM CRITERIA (PC)
A Program Must Demonstrate How its Curriculum, Structure, and Other Experiences Address the Following
Criteria.

PC.1 Career Paths
How the Program Ensures That Students Understand the Paths to Becoming Licensed as an Architect in the United States and the
Range of Available Career Opportunities That Utilize the Discipline's Skills and Knowledge.
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.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.1 Health, Safety and Welfare in the Built Environment
How the Program Ensures That Students Understand the Impact of the Built Environment on Human Health, Safety, and Welfare at
Multiple Scales, From Buildings to Cities.
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.

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
Instructors of Record may revert to their pre-pandemic absence policies regarding illnesses but take into consideration the variant effects of COVID-19 on people when students report absence due to the virus (e.g., some may need extended days of absences and time to make up missed work).

In-Person Office Hours
IoRs may provide their own statement here with provision that masks are optional but 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."

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.

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