ARCH 3352 | Building Information Technology Syllabus
Fall 2021

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Office Hours: Room 508, by appointment
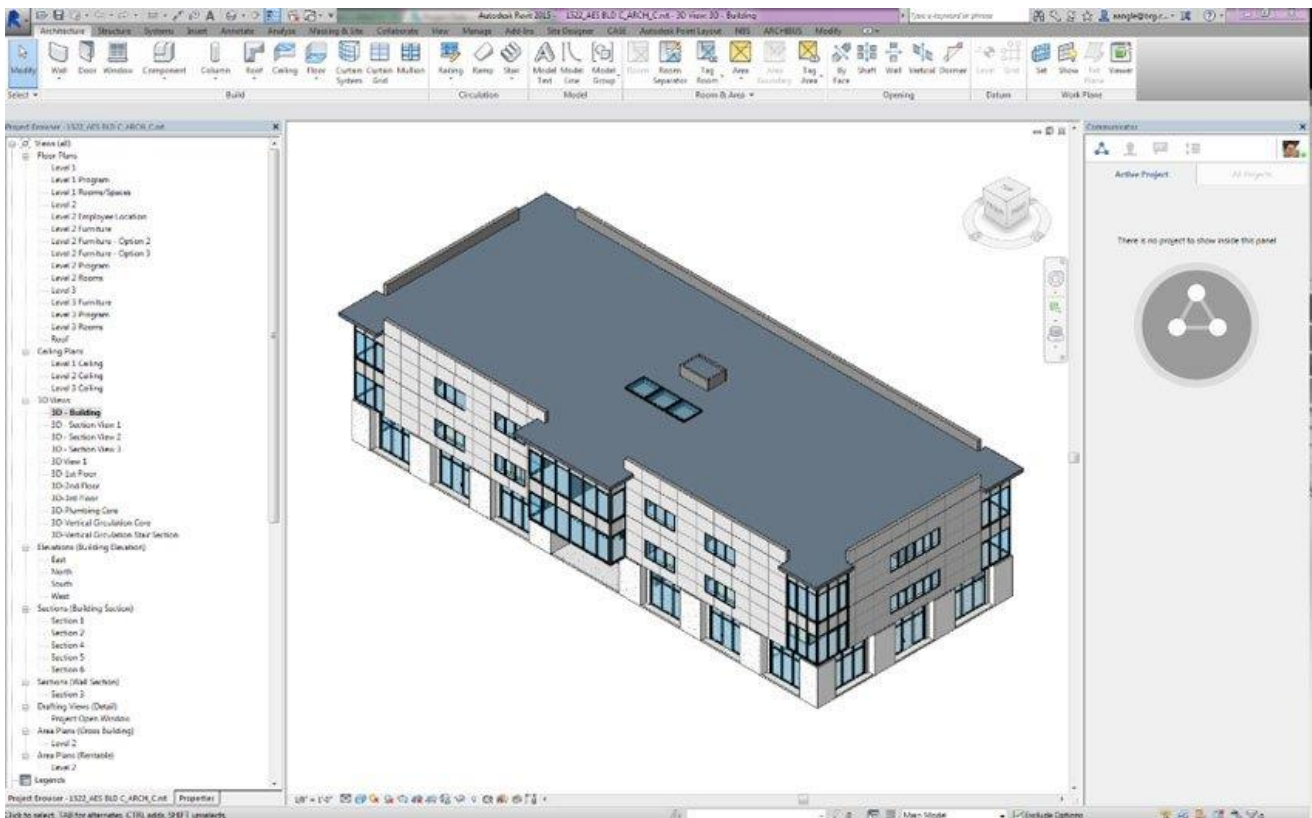
Catalogue Description: Building Information Technology - Prerequisite: ARCH 1353, ARCH 2355, and ARCH 3350. Analysis of communication of technical information and the process of preparing documents for building construction using Building Information Modeling (BIM).

Course Description: Construction drawings, often referred to as working drawings, are a communication medium whose purpose is to graphically convey the design requirements for a construction project. They respond to the intent of the design by indicating in considerable detail how the building components of the project are assembled and joined. The drawings work together with the specifications to illustrate and describe the intended results. While the drawings communicate how the building's elements and components come together to realize the design intent, the specifications define the exact nature of each building component, and how it must perform.

Students in this class will use Revit to produce a set of construction drawings for a small building while taking into consideration required code and accessibility constraints. The concept of specifications will be addressed in the class as well.

In addition to the primary COA instructor for contract documents and construction drawings, there will be teaching assistants who will offer assistance.
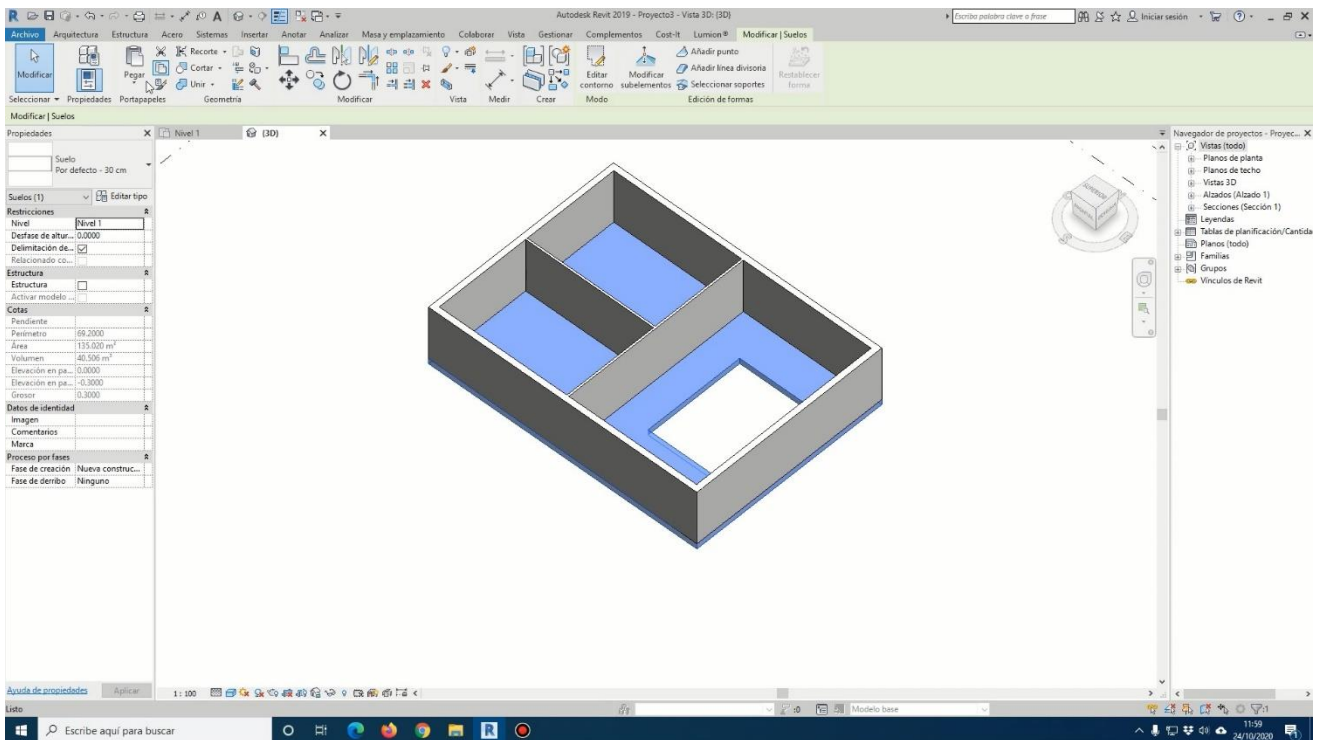
Communication Literacy Plan:

Communication Literacy (CL) in Architecture is evidenced by competency in speaking, writing, and usage of representational media in order to clearly communicate design ideas, site relations, spatial conditions, materials, systems, and components to both within the profession and with the general public. Our faculty members endorse a sequenced approach to the CL plan with each course building on skills acquired in the previous course and advanced to the subsequent course. The CL plan in Architecture, concludes with the upper level three courses in which students demonstrate fulfillment and efficiency of verbal presentation, writing and technical documentation within their critical thinking in architecture.

Learning Outcomes:

Students completing this class will be able to:

1. Technically document critical aspects of construction drawings including the sequence of drawings, dimensioning, conventions and techniques, and specifications that communicate the materials, assemblies and details of all elements that control how a building is built.
2. Demonstrate the logic and critical thinking by which design drawings are further defined and measured to describe the building elements and the technology necessary to realize a functioning built form.
3. Recognize fundamental factors effecting building costs and communicate in writing why one cost estimate is more valid than another.

NAAB Criteria:
For purposes of accreditation, students in this class must demonstrate understanding or ability in the following criteria:

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. 2 Professional Practice- How the program ensures that students understand professional ethics, the regulatory requirements, the fundamental business process relevant to architecture practice in the United States, and the forces influencing change in these subjects.

SC. 3 Regulatory Context- How the program ensures that students understand the fundamental principles of life safety, land use, and current laws and regulations that apply to buildings and sites in the United States, and the evaluative process architects use to comply with those laws and regulations as part of a project.

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.

Grading: (400 PTS TOTAL – two lowest 20pt grades will be dropped)

EX_00	20 points	Interface Quiz
EX_01	20 points	Schematic Floor plan
EX_02	20 points	Code Study
EX_03	20 points	Reflected Ceiling plan
EX_04	20 points	Roof plan
EX_05	20 points	Site Plan
EX_06	20 points	Exterior Elevations
EX_07	20 points	Enlarged Plans
EX_08	20 points	Interior Elevations
EX_09	40 points	DD Level Set
EX_10	20 points	Building Sections
EX_11	20 points	Wall Sections
EX_12	20 points	Detail Sheet
EX_13	20 points	3D Views
EX_14	20 points	Renders
EX_15	**100 points**	**100% CD Set**
EX_16	20 points	Financial Considerations *(not eligible to be dropped from overall grading)*

Class Organization:

SECTION 001
MONDAY
11:00am – 11:50am   Lecture

WEDNESDAY
9:00am – 9:50am   Lecture
10:00am – 11:50am   Lab

Assessment and Extra Credit:

<u>Individual Project and Grading</u> - Each student will design and technically document their own small project. Technical documentation of each student's project will be comprised of weekly assignments throughout the semester to be worked on both inside and outside of lab. Each week, students will be given an assignment to work on during and outside of lab time.

Assignments will be turned in each week as described. The total amount of points available for the semester is 400 (not including extra credit). Extra Credit is available as prescribed in EX_15 100% CD Set. Students will use Revit to prepare technical documentation.

COVID 19:

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:
Due to the continued presence of COVID-19 and it's variants, should you feel ill please notify the instructor immediately. If you get tested for COVID please keep the instructor in the loop so that they may excuse the absence much like having a doctors note from another illness. Absences with notes and advance notice shall be excused so long as the absence is not prolonged without a note from a doctor or testing facility.

In-Person Office Hours: Times may be arranged via email at the students request

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.

Texas Tech University Operating Policies:

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, a nd other Title IX violations are not tolerated by the University. Report any incidents to the Office for Student Rights & Resolution, (8

06)-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 thinki
ng 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 s
ubject to appropriate sanctions according to university policy. Likewise, faculty members are expected to maintain the highest stan
dards
of professionalism in all interactions with all constituents of the university (www.depts.ttu.edu/ethics/matadorchallenge/ethicalpri
nciples.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 additi
onal 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 cam
pus 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, a
nd asexual (LGBTQIA) community and sustaining an inclusive campus that welcomes people of all sexual orientations, gender identi
ties, and gender expressions.

College of Architecture Policies:

 Project Submittals: The College of Architecture (COA) reserves the right to retain, exhibit, and reproduce work
submitted by students. Work submitted for grade is the property of the COA and remains such until it is returned to
the student.

Attendance: Students are responsible for attending class. A total of four absences is considered excessive. The student may be
required to drop the class or receive a grade of "F". Whether an absence is excused or unexcused is determined by the
instructor, with the exception of absences due to religious observance and officially approved trips according to guidelines
specified in the TTU Catalog. Students are expected to comply with TTU rules for reporting student illness requiring absence
from class for more than a week, or immediate family deaths.

Failure to work in class with undivided attention, any tardiness, leaving early, lack of participation, walking in and out of
lectures, general socializing, goofing around, disruptive behavior, etc. may count as absences.

Class Environment: The building is a tobacco and alcohol free environment. Sound devices (TV's, CD, or radios, etc.) require the
use of headphones at all hours. The use of spray paint or aerosol products of any kind is not permitted in the building.

Required Drawings: A list of required sheets will be distributed along with a list of drawings, notes, renderings, and schedules required for each sheet.

Reference Material: Reference sets of Construction Documents will be available in Room 801 and by email as needed.

Software Required: Student version of Revit 2021

Current Reference Texts:

Building Codes Illustrated	*Francis D.K. Ching & Steven R. Winkle*
Building Construction Illustrated	*Francis D.K. Ching*
The Architects Studio Companion	*Edward Allen & Joseph Iano*
Architectural Graphic Standards	*Charles George Ramsey*