



SPRING
2022

COMPUTER APPLICATIONS IN DESIGN

Revit 2022

ARCH 4164 CRN: 10964 (Undergraduate Students)

ARCH 5064 CRN: 11086 (Graduate Students)

Monday 7:15pm – 10:00pm
Online
Samer Bitar

Computer Applications in Design will focus on concepts of BIM (Building Information Modeling) and develop beginner- to intermediate-level skills required to utilize this software as a designer. We will integrate BIM into the design process by teaching methods of design, analysis, and production that compliment methods used in the academic studio and professional practice.

The course will be structured as a series of workshop-style lectures with related tutorial assignments and a final project presentation showcasing each student's design project as developed in Autodesk Revit software.

Please note that this course will accept a maximum of 18 students. In case of over-enrollment, we will prioritize full-time students registered for design studio over part-time students and/or students not attending studio this semester.



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COMPARATIVE URBANISM SEMINAR

Washington and Darmstadt

ARCH 5644

CRN: 11107

Tuesday

9:00am – 12:00pm

Hybrid: Online with Site Visits

Scott Archer

Minneapolis and St Paul. Chicago and New York. Paris and Buenos Aires.
Washington and Darmstadt?

We inevitably compare cities, which often come in pairs as twins, rivals, siblings, or offspring of form, culture, and power. In this seminar, we will deepen our experiences of cities, augmenting personal knowledge with research to share the ways in which they are alike and different.

This year, we're excited to partner with the Department of Architecture of Technische Universität Darmstadt. Students and faculty from both of our universities will collaborate to design, develop, and compare Washington, DC and Darmstadt, Germany – specifically focusing on the broad categories of accessibility and use of public space. Students will work in teams composed of peers from both universities to develop collaborative research projects and presentations.

This course will take the format of a true seminar focusing on academic discussion of assigned short readings and contemporary urban issues, as well as student projects and lectures from both Darmstadt and WAAC faculty. We will meet in a synchronous virtual environment multiple times throughout the semester, with regular virtual or hybrid sessions with our VT cohort of students, and occasional asynchronous research group collaboration. This class is required for graduate Urban Design students, but also open to students of other programs.



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BUILDING CITIES

ARCH 4034 CRN: 21094 **(Undergraduate Students Only!)**

Tuesday 9:30am – 12:15pm
Online (Taught from Blacksburg)
Andrew Gipe-Lazarou

This course will explore the design of both realized and imagined urban spaces in cultural-historical contexts across the world. Major themes will include the dichotomy of values, interventions, building typologies, and design priorities between the local community and the modern metropolis; the genealogy of urban space-making; ways in which terrain, geography, and infrastructure influence urban development; the relationship of the city to the broader socio-political context and the cultural imagination; and the role of activists and visionaries, planning institutions, and social change on equity and diversity in design.



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PHOTOGRAPHY

ARCH 3514 CRN: 22209 (Undergraduate Students)
ARCH 5116 CRN: 22727 (Graduate Students)

Tuesday 1:30pm – 4:00pm
In-Person: Cloud Room
Andargé Asfaw

This introductory photography course will explore digital and analog image creation, exposure and lighting challenges, composition and design, photo editing, and printing methods, with a focus on creating imagery as a means of visual and artistic expression. Emphasis will be placed on hands-on problem solving, craftsmanship, aesthetics, and reflection. Class critiques will allow opportunities for growth and improvement in image creation.



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TOPICS IN ARCH HISTORY AND THEORY

Landscape Architecture History

ARCH 4214 CRN: 10968 (Undergraduate Students)

ARCH 5134 CRN: 11102 (Graduate Students)

Tuesday 1:30pm – 4:00pm
In-Person: 1021 Big Room (305)
Paul Kelsch

This course will examine the development of landscape architecture across major time periods and places. We'll view important landscapes within various contexts in order to shed light on the cultures that produced them and to show the deep historical roots of current ideas about landscape. The contexts we'll examine will include philosophical and theoretical ideas about design; cultural practices that shape how different social groups view landscape; changing ideas about nature and its expression in designed landscapes; and the formation and habitation of urban landscapes. The course will take the form of a seminar based on discussion of extensive readings, including both primary and secondary sources.



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TOPICS IN DESIGN METHODS

Human-Centric Design Theories and Methods

ARCH 4304 CRN: 10971 (Undergraduate Students)

ARCH 4304 CRN: 10975 (Graduate Students)

Tuesday 4:15pm – 7:00pm
In-Person: Cloud Room
Tuwanda Green

In this course, we will learn human-centric design theories, basic biology and scientific methods, and methods of application to help justify their need in all design projects. The course will be divided into three parts: 1) History of Wellness and Theories, 2) Internalizing the Built Environment (the science), and 3) Theory and Science in Practice. Student journal/sketch entries will be an integral part of this course and will challenge, develop, or analyze students' original positions regarding human-centric design. Each week, we will introduce an assignment for active and reflective journaling. Weekly lectures will establish context by identifying architects, scientists, and other cross-disciplinary specialists to introduce the relevant concepts, theories, and discerning cultural histories as well as their practical use in the design office. As such, we will discuss the development of architectural wellness design theories and ideas over time while developing a new comprehension of its required science and thoughtful application. Weekly journals and related reading assignments will encourage understanding and synthesis of a given topic while the final extended journal will allow the student to reflect upon, broaden, focus, and develop their specific ideas.

By the end of this course, you should be able to explain human-centric design to others and recommend its appropriate application in design.



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URBAN DESIGN SEMINAR

Urban Footfall: A Walk to the Grocery, A Global Crisis
City Form and Climate: Establishing the Connection

ARCH 5624

CRN: 11106

Tuesday

4:15pm – 7:00pm

Hybrid: 1021 Zoom Room with Option for Remote Participation

David Lever

Does it matter if you can walk to the grocery? In 1864, George Perkins Marsh noted in his ground-breaking *Man and Nature* that small and over-looked aspects of human behavior often have enormous impacts on the natural world: firewood gathered to cook a family's daily meal that leads to deforestation of the Mediterranean basin, ordinary farming practices that loosen the soil and cause harbors to fill with silt, destroying commerce and spreading malaria in the process.

Urban footfall, the action of negotiating the city by foot, has the potential to be just such a consequential individual behavior. When people confront barriers to walking in urban areas, and have available a means of transport as effortless and flexible as the automobile, it is obvious how they will respond. Statistics tell the story: with 230 million licensed drivers in the United States out of a total population of around 331 million, over one billion personal trips are taken and over 8.8 billion miles are covered daily.

Questions arise: How many of these trips can be attributed to urban form? What are the actual benefits of walkability (as opposed to the rhetoric expended on the subject)? What are the urban design paths to altering this situation, particularly in the low-density, dispersed, vehicle-dominated outlying areas of our cities? What are the larger consequences for the impact that cities have on the environment?



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URBAN DESIGN SEMINAR (CONT.)

A Research and Design Undertaking. We will conduct this course as a seminar, examining conditions in the built environment that impede walkability, with evidence from fields as diverse as environmental science and mental health. We will jointly explore the information that supports, or does not support, the claim that converting our cities to walkable environments will have a significant environmental effect. Going beyond research, we will explore a set of design principles to redress the conditions we find in the most challenging urban situations.

Partial List of Texts and Sources

- George Perkins Marsh, *Man and Nature; or, Physical Geography as Modified by Human Action*
- C40 Cities, *Seizing the Urban Opportunity*
- Fred London, *Healthy Placemaking: Wellbeing Through Urban Design*
- David Miller, *Solved: How The World's Great Cities Are Fixing The Climate Crisis*
- Readings by Waldheim, Corner, Cronon, Gehl, Duany, Speck, and others

Requirements will consist of class discussion, research, presentations, and a semester paper or project.



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PROFESSIONAL PRACTICE

ARCH 4044 CRN: 10953 (Undergraduate Students)
ARCH 5044G CRN: 11081 (Graduate Students)

Wednesday 7:15pm – 10:00pm
In-Person: Cloud Room
Randall “Randy” Mars

This course will cover the basic elements of professional architectural practice, from marketing to product delivery. We will discuss the history of the profession, noting how the industry has developed through time. We will also review office organization and operation, as well as how to establish relationships with associated professionals, including engineers, consultants, contractors, and owners.

We will review construction document delivery options, procedures and client services, marketing, and fees. We will also gain an understanding of legal matters and professional ethics. Finally, by seeing our designs through to fruition, we will review the role of the architect during construction and the many relationships involved in that process.

Guests to the class will include general contractors, owners, representatives, engineers, and attorneys, all of whom will share their views of the profession.

Students will be required to complete a series of exercises and encouraged to participate in class lectures and discussions. Midterm and final exams will test students' comprehensive understanding.



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TOPICS IN ARCH HISTORY AND THEORY

Mirror of Design

ARCH 4214 CRN: 10968 (Undergraduate Students)

ARCH 5134 CRN: 22728 (Graduate Students)

Thursday 1:30pm – 4:00pm
In-Person: Red Room
Paul Emmons

By inscribing a mark, an architect vivifies a drawing surface in order to divine in its depths the conception of a future edifice. Drawing, as a mirror of design, is itself a fertile wellspring of ideas that emerge from within the effort of drafting. Since architects make drawings, not buildings, the question of how drawings affect and reflect the architect's imagination is central to any theory and practice of architecture. The act of projecting a complex, habitable three-dimensional structure through the making of two-dimensional drawings is the magic act at the center of architectural creation.

The current dominant rationalist approach to drawing overlooks its double act of embodiment, which includes both the drafter's visceral engagement with a drawing under construction as well as the imagined bodily projection of inhabiting a future building. Hand drawing practices first developed to make palpable this imaginative bodily connection. In this course, we will study numerous elements of manual architectural drawing that exemplify this condition, including dashed lines, scale measures, and material symbols. Rationalist approaches treat architectural marks as conventional symbols, while embodied approaches reveal the process of vestiture as a material practice. At the close of the era of hand drawing, it is critically important to engage the significant aspects of manual drafting in the development of, and interaction with, electronic representational modes.



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MIRROR OF DESIGN (CONT.)

REQUIREMENTS: Each student will construct four elegant and meditative drawings of one's own design project or of an existing building, landscape, or city, using at least two different media. Students will provide with each drawing a two-page ekphrasis including a reflection on the project's relationship to electronic drawing. The final drawing will include a visual documentation (movie) of its process of construction.

ARCHITECTURE AND URBANISM SEMINAR II

Making Modernities: Representing Modern Architectural Texts

ARCH 5706

CRN: 11109

Thursday

4:15pm – 7:00pm

In-Person: Cloud Room

Marcia Feuerstein



In this second semester of Architecture and Urbanism, we'll engage in playful yet precise readings of selected architecture and urbanism texts (i.e., treatises) written during the "Modern" era of architectural practice ranging from the 18th to the 21st century. We'll augment these readings with other "texts" – drawings, buildings, urban settings, and films – representing architecture in alternative forms. All of these will demonstrate past, recent past, and current architectural topics. The seminar will invite you to imagine the implications of these works on our current and future built worlds, and to see the class and our work together as an imaginative process based on careful exploration of the texts, while at the same time allowing our imaginations to interpret findings.

According to a number of academic dictionaries, the source (etymology) of the word "text" is the Latin word *textus*, meaning "fabric" or "the structure of a text" –



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ARCH AND URBANISM SEMINAR II (CONT.)

a “style” or the “tissue of a literary work” (from Quintilian), “that which is woven, web, texture,” from the Latin *texere*, meaning “to weave.” The use of “structure” refers to the structure of words – wording – in a piece of writing or printing.¹ However in this seminar, the idea of something woven, a web and texture and “structure,” opens other possibilities.

“To weave,” a verb, is active and performative, allowing us freedom to explore, imagine, and consider a variety of sources and research that combine and interweave into architectural ideas, interpretations, propositions, arguments, and discoveries embedded within various texts. This seminar will consider its selected texts through various lenses, focusing on topics to draw up and out a consideration of design, theory, and interpretation of architecture and urbanity. Some will be serious, some not. Some texts will be from architects writing about architecture, and others from those who write through architecture – grounding their practice in both designing/building and writing.

In this semester, we’ll frame the study of specific topics through “texts” linking theory with design. Each M. Arch student will co-lead a seminar with the instructor, produce an essay, and design a representation based on the topic and content of the co-led seminar. Each PhD student will lead one seminar, focusing on a selected treatise, and write an original scholarly paper accompanied by a visual “atlas.” We will discuss more detailed requirements during the first seminar.

1. I've used a number of academic dictionaries including the on-line Oxford English Dictionary, accessible via the VT library database (OED), and some historic dictionaries of the English language, such as *Webster's New World Dictionary of the American Language, College Edition*, Cleveland and New York: World Publishing Co., 1953 and the *Compact Oxford English Dictionary, Second Edition*, Oxford: Clarendon Press; USA: Oxford University Press, 1991.



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PRODUCT DESIGN

ARCH 3514 CRN: 10928 (Undergraduate Students)
ARCH 5126 CRN: 11093 (Graduate Students)

Thursday 4:15pm – 7:00pm
In-Person: 1021 Shop
Ryan Pieper

Product Design students will embark on an intensive study of making via a series of design, prototyping, and construction projects based on individual design initiatives. Students will have the opportunity to engage in the full spectrum of constructive thinking, from conception and drawing to modeling, execution, and reflection. By making, we will come to better see that which is made, both by ourselves and by others.

The course will utilize shop demonstrations, workshops, and relevant readings to further design sensibility. This will be a very demanding class and students should be prepared to allocate appropriate time outside of class toward the production and prototyping of projects. The majority of formal meeting time will center on presentation, critique, and technical help. Students will be evaluated on their participation and personal initiative, as well as on their contributions during pin-ups and seminar discussions.

This course is open to students of all skill levels and previous shop experience is not required.



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PRINTMAKING

ARCH 3514 CRN: 10927 (Undergraduate Students)
ARCH 5116 CRN: 11091 (Graduate Students)

Thursday 7:15pm – 10:00pm
In-Person: 1001 Printmaking Lab
Matt Dreher

WE ARE A LAB! A place providing the opportunity for experimentation and observation. We have been through a major social, cultural, environmental, and economic shift. How does our craft respond to these challenges? This course will take place in-person and be taught in three acts.

Act 1: Getting Back to Basics

Printmaking – learning the craft through monoprinting and linoblock printing
Discovery – how can the craft inform our past, present, and future?
Implementation – how does our work inform or complement other work?

Act 2: Printmaking Independent R&D

Learning and Presenting about other artists
Learning and Presenting about other techniques

Act 3: Applied Research

Utilization of Act 1 and Act 2 for a final series of prints

In the past, students have learned various styles of printmaking including different etching techniques, wood block carving, and silk-screening as part of this course. We encourage students to follow their particular passions and apply those passions into meaningful work. Throughout the semester, students will use the Instagram handle @vtwaac_printmaking to showcase their current progress. No prior printmaking experience is required to enroll.



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PHD SEMINAR

Theory of Practice: Practice of Theory

ARCH 4214 CRN: 10967 (Undergraduate Students)

ARCH 6006 CRN: 11170 (Graduate Students)

Friday 10:00am – 12:30pm
In-Person: Red Room
Paul Emmons

This advanced seminar will develop critical thinking, reading and writing skills with texts on the philosophy of architecture drawn from a variety of sources. We will select specific readings for the semester, and all participants will actively engage in discussion. A series of invited guests will present their research to the group, and students will also present their own research. Final grades will be based on class participation and the development or expansion of a final project, which may include a written paper and interpretive drawing.