ARCH and CAP Elective Options- Spring 2022

All ARCH and CAP electives require sophomore-standing or higher. Some courses may have additional pre-requisites; see description for pre-requisite information. All meeting days/time are subject to change; please double-check listing in UCDAccess.

Classes offered by *Landscape Architecture (LDAR)* contained in this guide may apply only as "CAP Electives" (not ARCH Electives) for students declared in the Arch. Design or Arch. Studies tracks (Fall 2021 or later). LDAR courses may count toward "ARCH Electives" *only* for students declared in the pre-Fall 2021 degree requirements and who do NOT have "CAP Elective" requirements. Please check with your CAP academic advisor if you are unsure how these courses will apply for you.

<u>LDAR 1015 Engaging Landscape for Wicked Change is approved for Core Arts credit, only</u>.

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- **ARCH 3600.001 – Special Topics Cultural: Architecture & Nature**
    - o The emerging fusion between human needs and wants and the natural environment is unprecedented. Blurring the limits between the two creates an opportunity for a deeper understanding of the natural world and systems that materialize as the foundation for meaningful investigation. Fostering contemplation of the relationship between nature, land, and building may, in turn, empower us to begin to frame a new discourse for sustainable design, passive architectural strategies, and building technology.

      This course is experimental rather than numerical. It is about contemplating, assessing, and weaving ecological ideas with other influences in design. Because of the tremendous physical impact of the human dwelling on the natural environment, the course will focus on architecture and its relationship to the land and environment as a low-impact, physical intervention from the following three perspectives:

      > *Within the structure*– an internal, personal, contemplative awareness focuses on balancing the emotional, spiritual, social, and physical elements through spatial experiences connected to the natural environment.

      > *Outside of the structure*– an external holistic experience that (re)connects to context, land, and the natural environment.

      > *The Interface*– the transitional threshold, between in and out, separating, blurring, and (re)connecting.

      Through lectures and individual and group projects, students will explore the integration of the natural environment with design, understand the relationship between land and building, explore current ecotechnology, and analyze traditional building practices.
        - ▪ T/TH 2:00– 3:15pm (Zoom)

- **ARCH 3600.002 – Special Topics Cultural: Other Modernism**
    - o The Western dominated historiography of modern architecture has recently been revisited in support of a polycentric historiography that recognizes the plurality, diversity, and heterogeneity of modern architecture across the globe. The recent revisionist histories and critical theories have emphasized the need to shift the

architectural history/theory focus from a central or exclusively Western dominated modernisms to the peripheral geographies— "non-Western" or "other" modernisms.

This course highlights the need to widen the discourse of modern architecture through an exploration of modernism and modernities in the non-Western world. We will explore how the imported discourses of modern architecture and urbanism were manifested, contested, selectively appropriated, and altered in the peripheral geographies.

- W 5:00- 7:45pm (Zoom)

- **ARCH 3600.003- Special Topics Cultural: Embodying Memory**
    - o In response to public tragedies, architects, designers, and artists are often called to respond by creating sites of public memory. Such monuments, memorials, and sites can serve to create a common spatial frame for otherwise disparate experiences and understandings. However, "memory" is far from a neutral recollection of the past. How and why are memorial sites constructed? What is the power of mourning, of memory?

        In Embodying Memory, we will explore a history and theory of memory in the form of monuments and memorials. Whose lives count as grievable, and whose do not? Who, exactly, is the "public" that public art serves?

        As a class we will explore these questions through a variety of readings and case-studies. Students will be asked to develop discussion questions, to present on case-studies, and to develop responses to critical questions presented by the instructor. These responses will serve as the foundation for the final assignment, which will be to conceptualize a site of public memory through a series of sketches, collage, and/or digital media.
        - F 12:30- 3:15pm (In Person)

- **ARCH 3600.H04- Special Topics Cultural: Building on the Past**
    - o Every day, each one of us steps out into a world someone else conceived, designed, built, used, cared for, or neglected. We become attracted to parts of it and repulsed by others. However, sometimes we just stop actively observing, discovering, and appreciating what is around us and how it got there. Established institutions like museums, schools, and local governments have attempted to bridge the gap by creating historic sites and monuments. However, in recent years, the practice of historic preservation itself has become 'old'. As designers we can "build on the past" not by obliterating it or embalming it, but by reinterpreting its meaning for contemporary and future users to experience.

        This class is a visually and graphically oriented exploration of:
        1. Seeing 'time' in the places around us.
        2. Asking tough questions about what is worth saving and for whom.
        3. Exploring the material evidence of past building efforts and the layering of lives in environments near and far.
        4. Connecting with the aspirations and constraints facing the designers, builders, and occupants we never met.
        5. Making artifacts and visual assemblages probing culture across time.

The class proceeds through the study of previous efforts to "preserve heritage" and moves toward a broader awareness of both cultural identity and environmental (including climate) action.

By the end of this class students should be better prepared to:
- • Discuss the role of historical awareness and research in designing for the future.
- • Observe clues in the 'everyday' built environment.
- • Critically contextualize, assess, and interpret mediated images.
- • Make design proposals and prototypes expressive of new temporal and spatial insights.

Hence, students will develop design skills through:
- • Critical reading and reasoning
- • Small group discussion
- • Field photography and graphic representation
- • Graphic layout and prototyping

- ▪ F 12:30- 1:45pm (Hybrid- In-person and Online)

- **ARCH 3620.001- Landscape Architecture Theory and Criticism**
  - o Explores and assesses theory in landscape architecture and the concepts, ideas and discourses underlying contemporary design approaches. Emphasizes developing critical understanding of the roles and agency of theoretical inquires in landscape architecture in relation to aligned disciplines.
    - ▪ F 12:45- 3:30pm (In Person)

- **ARCH 3700.002- Special Topics Design: Portfolio**
  - o This course will focus on methods for organizing and presenting your work. We will dive into Indesign and use it as one tool to workshop: layout, content, concept, narrative, legibility, and mood. We will also have a few great guest lecturers to help along the way.
    - ▪ M/W 9:30- 10:45am (In Person)

- **ARCH 3700.H01- Special Topics Design: Drawing Out the Interiors**
  - o As the title suggests, students will learn how to **draw out the interiors** by observing, analyzing, and drawing key attributes that define and create an interior environment.

    In this course, students will develop critical and creative skills in free-hand sketching, diagramming, and perspective drawing. Throughout the course, we will employ analog techniques and digital tools, including Photoshop, Illustrator, and Form-It, to analyze the poetics of spatial experience. Readings, guest speakers, and class discussions will help us understand the principles and theories that underpin interior design decisions.

    Together we will explore:
    - ▪ How storytelling and spatial narrative inform hierarchy and program adjacencies
    - ▪ How color and light affect our physical and emotional wellbeing
    - ▪ How context, environment and culture can amplify social sustainability
    - ▪ How interior design can be a vehicle for equity and social justice

The class is structured with lectures, guest speakers, class discussions, local field trips and (4) mini project-based assignments.
- ▪ T/TH 3:30- 4:45pm (Hybrid- Tuesday In Person and Thursday Zoom)

- **ARCH 3701.H01- Survival Sketching**
  - o The focus of this course will be the sketchbook and the keeping of a sketchbook.
    - ▪ F 11:00am- 12:15pm (Hybrid- In Person and Online)

- **ARCH 3706.001- 3D Design, Computation, and Prototyping**
  - o Introduces the design and computer-controlled fabrication of three-dimensional objects using both additive (3D printing) and subtractive (laser cutter, CNC router/mill) processes. Various commercial and open-source software tools for 3D design (CAD), manufacturing (CAM) and visualization will be explored. Increasingly complex projects throughout the semester will be used to illustrate fabrication techniques. The course will culminate in a final project. Cross-listed with IWKS 3100 and 5170 *(Do not take this course if you have already taken one of the cross-listed courses).*
    - ▪ Th 3:30- 6:20pm (In Person)

- **ARCH 3708.001 – Introduction to the Essentials of Biomimicry**
  - o Biomimicry is the conscious emulation of nature's genius that can be applied to the fields of design, engineering, medicine, transportation, and social interaction. This class will be geared towards designers and will give an overview of the discipline, the (3) Essential Elements, the human-nature connection, The Biomimicry Thinking Methodology, and Life's Principles.
    - ▪ M/W 11:00am- 12:15pm (In Person)

- **ARCH 3800.001 - Special Topics Technical: Grasshopper**
  - o This course explores the use of algorithmic and parametric design with the use of the Rhino plugin Grasshopper 3D. Grasshopper is a visual programming language that allows users to create algorithms used in the Rhino design environment. The algorithms generated are a set of instructions or a road map that Grasshopper uses to create an outcome in Rhino. These outcomes can range from complex building facades to graphic visualizations. Additionally, Grasshopper allows users to communicate to an every growing amount of external resources that range from facade fabrication to robotics. An emphasis on the base elements of Grasshopper, how algorithms influence design, and how to connect Grasshopper to digital fabrication tools such as the CNC router, CNC plasma cutter, and laser cutters will be the focus of this course. *Students should have previous experience using Rhino 3D*, but do not need any previous coding experience or other software knowledge for this course.
    - ▪ T 6:30– 7:45pm (Zoom and Online)

- **ARCH 3800.002 - Special Topics Technical: Greenbuilding Tech**
  - o This seminar will advance the student's knowledge of environmental building and construction methods through studies in material resources, innovative green systems, alternate green technology, energy efficiency, and affordability in "green architectural design."
    - ▪ M/Th 9:30- 10:45am (In Person)

- **ARCH 3801.001 – Introduction to Digital Media**
    - o This course introduces students to advanced principles of two and three-dimensional visual analysis and communication. Students are introduced to advanced mechanical and digital communication techniques and the use of drawings and models as design and communication tools.
        - ▪ ***No co-credit with ARCH 1721 Visualization II***
        - ▪ M/W 2:00– 3:15pm (In Person)

- **ARCH 3805.001 - Beginning Revit**
    - o **Course Description:** This course covers the fundamental operation and use of Autodesk's Revit Architecture software. In this course, students will learn how to operate and navigate the program and will produce drawing sets and renderings for a simple building. The course will closely follow the "Revit Architecture 2019 Essential Training (Imperial)" and other tutorials available on Lynda.com. To access Lynda.com, students will need to purchase a subscription for the duration of the class or obtain free access through the Denver Public Library. This will be in lieu of purchasing a text book. Students who work for the university may have access to a free Lynda.com subscription.
    - o **Course Objective:** By the end of the course, students will be capable of producing full architectural drawing sets including title blocks, floor plans, elevations, sections, details, renderings, and 3D models. The course will cover basic rendering techniques and a limited amount of Adobe Photoshop skills so that students can apply their knowledge of Revit to produce materials for their studio courses as well as in their careers as architects.
        - ▪ *Pre-req: ARCH 3110 or 2111 and 3130*
        - ▪ T/TH 5:00- 6:15 pm (In Person)

- **ARCH 4340 Theory of Structures II (***only applies as an ARCH or CAP elective in the Arch. Studies or Arch. Design tracks; does NOT apply as an ARCH or CAP elective if this course is already specified as a required course in the pre-Fall 2021 curriculum***)**
    - o Focuses on the relationship between architectural concepts and the selection of structural systems. Addresses the qualitative and quantitative analysis of reinforced concrete, steel, and wood structural systems and members.
        - ▪ *Pre-req: C- or higher grade in ARCH 3340*
        - ▪ T/TH 3:30- 4:45pm (In Person)

- **ARCH 4440 Building Systems II** *(only applies as an ARCH or CAP elective in the Arch. Studies or Arch. Design tracks; does NOT apply as an ARCH or CAP elective if this course is already specified as a required course in the pre-Fall 2021 curriculum)*
    - o Focuses on the environmental systems in commercial and other nonresidential buildings. Discusses natural and artificial lighting, HVAC systems, acoustics, vertical transportation and fire protection.
        - ▪ F 12:30- 3:15pm (In Person)

- **ARCH 4612.001 – A History of Modern Architecture**
    - o This course traces the various theoretical and formal developments in European and American Architecture from the end of the 19th century through the 20th century. The works of a select group of architects will be examined and discussed in relation to the

diverse body of goals and objectives, ideas and ideals that constituted the Modern movements in architecture.

- *Pre-req: ARCH 2230*
- M/W 9:30- 10:45am (In Person)

- **LDAR 4430- Site, Society, and Environment**
  - Sites are defined by relationships within environmental and social settings. Therefore site design should be primarily ethical and secondarily technical. This course examines the implications of this idea through site methodologies, conceptual construction of site, site analysis and site typologies.
    - W 1:00- 3:45pm (In Person)

- **LDAR 4432.001- Landform Manipulation**
  - Focuses on the fundamental technical aspects of landscape architectural design and site engineering of related topography, grading, drainage design, landform manipulation, earthwork calculations, and road alignment.
    - W 9:00- 11:45am (In Person)