ARCH Elective Options- Fall 2021

All ARCH 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 count for either "ARCH Elective", or "CAP Elective" depending on what's most advantageous for the student's degree program; *LDAR 1015 Engaging Landscape for Wicked Change is approved for Core Arts credit, only*.

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- **ARCH 3600.001 – Special Topics Cultural: The Classical Elements**
  - *Classical Elements* provides skills for the *Classical Studio* (optional) and prepares students to apply for Certificate in Classical Architecture from the Institute of Classical Architecture and Art (optional). The basic vocabulary, proportional systems, and theory of classical architecture with reference to treatises and precedents from Vitruvius through the Beaux-Arts will be introduced. Exploring the Tuscan and Doric orders through descriptive geometry is emphasized while referring to selected foundational texts of classical architecture.
    - W 2:00 pm – 4:45 pm (In-Person)

- **ARCH 3600.003 – Special Topics Cultural: Women in Architecture**
  - Architecture has a long-standing history of being a male-dominated profession. The profession and mainstream history of architecture continue to struggle with representation, inclusion, and recognition of women in the field. This course highlights the importance of equal representation for women in architecture and explores their significant yet overlooked contribution to the history of architecture. Taking a global perspective, the course uses lectures, readings, case studies, and discussions during the semester to discuss the work, legacy and struggles of women architects throughout history.
    - M,W 3:30 pm – 4:45 pm (Remote)

- **ARCH 3602.001 - Architecture Photography**
  - Architecture Photography is an introduction to making and critically analyzing photographs in general, as well as architectural images specifically. Students will be challenged to create compelling imagery and to think critically about the ways in which images communicate. Students will complete a number of in-class mini assignments, four photographic assignments, and a final photographic project. Throughout the semester students will learn:

    - How to operate a DSLR/mirrorless system camera
    - Photographic composition
    - Adobe Lightroom Classic CC, and components of Adobe Photoshop
    - Approaches to photographing architectural exteriors and interiors
    - How to use photography to capture design inspiration
    - About photographic artists and their work
    - In order to successfully complete this course students will need:
    - Access to a DSLR or mirrorless system camera
    - Can be purchased or borrowed from a friend or family member

- A **limited** pool of cameras will be available through the college
- An external hard drive or laptop

    - M,W 5:00 pm – 6:15 pm (In Person)

- **ARCH 3700.001 - Special Topics Design: Geometry in Design**
    - "Geometry is an integral part of design from start to finish" – Sonya Lehner.

      What connects the Ancient Classical Greeks to Bauhaus? Galileo to Calatrava? The use of Geometry to establish space, proportion, structure and pattern.

      Descriptive geometry can help us see how complex shapes meet and cast shadows. In this course, students will become geometers, using hand and CAD drawing tools to understand how to generate geometric relationships, proportions and intersections. Students will study precedents to find the underlying geometric logic of their designs in elevation and plan.

      The ancient understanding of the character of numbers (the quality, not just the quantity) can be demonstrated and discovered through geometric relationships. Students will investigate the commonality of number character and their geometric manifestations that can be found in disparate cultures, represented in visual arts, architecture, music and philosophy.

      Students will meet once a week for a 2hr 45min seminar that will include lecture, discussion and drawing. There will be weekly readings, drawings and other assessments. The course will be in-person to allow interactive student discussions and guided drawing. Students should expect to work with both analog and digital drawing tools.

        - F 12:30 pm – 3:15 pm (In Person)

- **ARCH 3705.001 – Human Centered Design**
    - Introduces collaborative interdisciplinary design and innovation from a human perspective. Using the wide array of InWorks prototyping facilities, teams of students will design and implement human-oriented projects of increasing scale and complexity, in the process acquiring essential innovation and problem-solving skills. No previous design or prototyping experience is expected or required! *This course is taught by InWorks faculty, and does not focus on architectural design; it counts as Architecture Elective credit for the BS ARCH program.
        - T,R 3:30 pm – 4:45 pm (REMOTE)

- **ARCH 3800.001 – Special Topics Technical: Digital Design & Fabrication**
    - The Digital Fabrication seminar provides an opportunity for students to explore cutting edge fabrication technologies in a seminar/supervised lab format. Projects will introduce core software and hardware tools used in the Design Fabrication Lab as well as new techniques that are produced as a result of the course.

This course explores and investigates *Architectural DIGITAL Fabrication Research* to help students build an understanding of the workflows and techniques involved. In addition, the goal of working within a "lab" context is to encourage knowledge transfer between the various research themes, ideas, trajectories and projects, with the expectation that students will share technical expertise in a collaborative manner throughout the course.
    - W 2:00 pm – 4:45 pm (In Person)

- **ARCH 3800.002 - Special Topics Technical: Grasshopper**
    - 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 pm – 9:15 pm (In Person)

- **ARCH 3801.001 – Introduction to Digital Media**
    - Introduction to Digital Media is a workshop-based project-oriented skills course that is specifically constructed to provide each student with the vital tools and methods that they will need to excel in the studio environment. The course teaches software workflows that will be supplemental and critical to their success. The course is structured into three mini-projects that will reinforce increasingly complex workflows in drawing, digital modeling, rendering. The course representation outcomes parallel design concepts that will complement the early studio sequence. As such, students are strongly encouraged to enroll in Digital Media I as they enroll in Studios 1 and 2.
        - Tutorials will be given in each class that will be accompanied by comprehensive assignment worksheets. Students will turn in progress work each week leading up to three successive assignments. At the end of the semester, a design review will be held to display the three assignments together and give students a chance to present their work in a gallery format.
        - Students will be asked to use Rhino 3D, Adobe Photoshop, Adobe Illustrator, and Adobe Indesign outside of class. Access to this software will be available in the computer labs.
        - ***No co-credit with ARCH 1721 Visualization II***
        - M,W, 2:00 pm – 3:15 pm (In Person)

- **ARCH 3805.001 - Beginning Revit**
    - **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.

- **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.
  - *Prereq: ARCH 3110 and 3130*
  - T,R 5:00 pm – 6:15 pm (In Person)

- **LDAR 3601.001 – Introduction to Landscape Architecture**
  - This course will introduce students to the contemporary practice of landscape architecture through an active-learning classroom. Students will be exposed to theories, methods, and applications used when designing the landscape as well as the social and historical evolution of the profession. Students will also be introduced to critical concepts associated with the planning and design profession and current topics such as climate resilience, environmental justice, community engagement, and visual storytelling.

    Critical thinking as well as graphic and written communication will be key aspects of this course as students learn to apply their comprehension of the material to the analysis and evaluation of the built environment. This skill will be an important component of students' ability to synthesize new and creative design works, solidly anchored in an understanding of landscape.
    - M,W 3:30 pm – 4:45 pm (In Person)

- **LDAR 4421.001 – History of Landscape Architecture**
  - Intro survey course fosters workable understanding of landscape architecture design history and theory and offers a base for understanding trends and ideas influencing contemporary practice. Emphasizes Western Europe and the United States from antiquity to early twentieth century. 3 credits ARCH or CAP ELECTIVE.
    - W 9:30 am – 12:15 pm (In Person)

- **LDAR 4470.001 – Plants in Design**
  - Explores the challenges, opportunities and responsibilities of designing with living, growing, and ever-changing organisms. Students learn to identify plants that are commonly used in the Colorado region and the principles, theories, methods, and techniques for planting design. Restriction: Restricted to undergraduate students at a junior standing or higher. 3 credits ARCH ELECTIVE.
    - W 9:00 am – 11:45 am (In Person)

Note: ARCH 3707 Color Theory (3 credits) and LDAR 4486 Living Architecture (3 credits) may also be added as Fall 2021 elective options; please reference the registration system in UCD Access for the most updated course offerings.