School of Architecture & Design

Introduction

The University of Kansas School of Architecture and Design (https://arcd.ku.edu/) (ArcD) has been using interdisciplinary learning to produce pioneering leaders in different areas of Architecture and Design for more than 100 years. Our experienced, diverse faculty and innovative degree paths promote the development of creative talent that fits each student's personal interests and abilities. Our students learn through design-thinking that uses various methods of designing, drawing and making to find architectural and design solutions for human problems, taking advantage of a wide array of global study opportunities, community engagement, and collaborative research.

Our courses are significantly influenced by the practical input of architects and designers from major firms the world over. These employers consistently say that those who receive degrees from KU are not only able to contribute as soon as they begin work, but also quickly ascend to leadership positions. Prepared as designers, critical thinkers, and problem solvers, our graduates enjoy personal career fulfillment and serve, enrich, and sustain their professions and communities.

Architecture (https://catalog.ku.edu/architecture/architecture/)

Bachelor of Arts in Architectural Studies (https://catalog.ku.edu/architecture/architecture/ba-architectural-studies/)

Master of Architecture (5-year) (https://catalog.ku.edu/architecture/architecture/master-architecture-five-year/)

Bachelor of Science in Interior Architecture (https://catalog.ku.edu/architecture/architecture/bs-interior-architecture-design/)

Undergraduate Certificate in Architecture Acoustics (https://catalog.ku.edu/architecture/architecture/architecture-acoustics-undergraduate-certificate/)

Master of Architecture (3-year and 2-year) (https://catalog.ku.edu/architecture/architecture/master-architecture-three-year/)

Master of Arts in Architecture (https://catalog.ku.edu/architecture/architecture/master-arts-architecture/)

Doctor of Philosophy in Architecture (https://catalog.ku.edu/architecture/architecture/phd/)

Graduate Certificate in Architectural Acoustics (https://catalog.ku.edu/architecture/architecture/architectural-acoustics-gcert/)

Graduate Certificate in Architecture of Health and Wellness (https://catalog.ku.edu/architecture/architecture/architecture-health-wellness-gcert/)

Graduate Certificate in Designbuild (https://catalog.ku.edu/architecture/architecture/designbuild-gcert/)

Graduate Certificate in Historic Preservation (https://catalog.ku.edu/architecture/architecture/historic-preservation-gcert/)

Graduate Certificate in Urban Design (https://catalog.ku.edu/architecture/architecture/urban-design-gcert/)

Design (https://catalog.ku.edu/architecture/design/)

Bachelor of Fine Arts in Design (https://catalog.ku.edu/architecture/design/bfa/)
Minor in Design (https://catalog.ku.edu/architecture/design/design-minor/)
Minor in Design Entrepreneurship (https://catalog.ku.edu/architecture/design/design-entrepreneurship-minor/)
Undergraduate Certificate in Book Arts (https://catalog.ku.edu/architecture/design/book-arts-ucert/)

Master of Arts in Design with a concentration in Design Management & Strategy (https://catalog.ku.edu/architecture/design/ma-design-management/)
Master of Arts in Design with a concentration in Interaction Design & User Experience Design (https://catalog.ku.edu/architecture/design/ma-interactive-design/)

Professional tools. Inspiring Spaces.

The School of Architecture and Design (ArcD) at the University of Kansas is committed to providing students with all the facilities (https://arcd.ku.edu/arcd-facilities/) and resources needed to prepare for careers and make impacts as designers, architects, and creative leaders.

Marvin Hall, located on historic Jayhawk Boulevard, offers connections to most ArcD campus facilities, resources, and people. Built in 1908, the four-level building houses ArcD academic services and administration offices, Department of Architecture studios and faculty offices, and multiple facilities that support students in all academic programs.

The Forum, designed and built in 2014 by ArcD students in the Studio 804 program, sits directly centered between the two campus buildings that have long been home to our academic departments. This light-filled LEED Platinum-certified glass, steel, and timber structure is a gathering place for our school community and a venue to welcome visitors. The Forum includes a 121-seat lecture hall and a multipurpose space with moveable exhibition walls, flexible furniture systems, and digital displays. The Forum Commons, a student lounge and exhibition gallery, connects The Forum to Marvin Hall.

Chalmers Hall, connected to Marvin Hall by an elevated walkway known as "The Bridge," is a large and bustling building where creative practice and output is in full view. This longtime home to Department of Design academic programs, studios, and faculty offices, also holds multidisciplinary labs, common areas, galleries, and amenities that support the whole ArcD student experience.

East Hills Designbuild Center, with approximately 66,500 square feet of floor area, is probably the largest academic makerspace in the world. Home to multiple Architecture and Industrial Design design-build studios, this steel and concrete building contains fabrication labs, collaborative research spaces, a computer lab, and multiple cavernous assembly areas for ArcD students and researchers.

Center for Design Research (CDR) is a working laboratory and incubator that brings together KU students, faculty, and industry representatives. Located on KU's West Campus on the site of a former dairy farm, CDR facilities are housed within a repurposed historic stone barn and farmhouse, and a LEED Platinum-certified building completed in 2011 by ArcD students in the Studio 804 program.

Marvin Studios (more commonly referred to as "The Mud Hut") is home to studios, presentation space, and advanced digital fabrication labs. Students in both departments have opportunities to gain experience using advanced computer systems and automated tools to create 3D prototypes, manufacture products, and research innovative material applications.

Snow Hall, directly across Jayhawk Boulevard from Marvin Hall, houses architecture and interior architecture studio and presentation spaces, offices, and a computer lab. Located in a unified space overlooking Potter Lake and Memorial Stadium on the first floor of Snow Hall, facilities include large studio spaces, a flexible presentation gallery, and is home to PhD in Architecture student offices.

The **Helen Foresman Spencer Museum of Art** houses the only comprehensive art collection in Kansas. Collections are particularly noteworthy in medieval art, 17th- and 18th-century German and Austrian painting, sculpture, American painting, prints, American photography, Japanese art of the Edo period, textiles, and decorative arts. Spencer Museum sponsors exhibitions, lectures, films, workshops, and activities that support curricular instruction in the arts.

The KU Libraries have over 5.7 million volumes in seven library locations. In addition to the physical collections, students and faculty have access to more than 1.5 million electronic books, 168,000 electronic journals, and 1,733 subscription databases. An important resource for the School of Architecture and Design is the **Murphy Art and Architecture Library,** which has a collection of approximately 182,000 volumes.

Undergraduate Programs

Degree programs available to entering first-year students include a 5-year professional Master of Architecture (https://catalog.ku.edu/architecture/architecture/master-architecture-five-year/); a 4-year degree Bachelor of Science in Interior Architecture (https://catalog.ku.edu/architecture/architecture/bs-interior-architecture-design/), and a 4-year degree Bachelor of Fine Arts in Design (https://catalog.ku.edu/architecture/design/bfa/) with concentrations in Animation, Illustration, Industrial Design, Interaction Design, and Visual Communication Design (Graphic Design).

Admission

You can locate details regarding undergraduate admission standards and requirements, along with information on application procedures and deadlines, by visiting the School of Architecture & Design (https://arcd.ku.edu/undergraduate-admissions/) website. For details about admission to KU, visit the KU Office of Admissions (http://admissions.ku.edu). If you are an international student seeking admission information, you can find it at the Office of International Support Services (http://www.iss.ku.edu/). If you are planning to transfer into programs such as Architecture, Interior Architecture, Animation, Illustration, Industrial

Design, Interaction Design, or Visual Communication Design (Graphic Design), please reach out our admissions team via email at arcd@ku.edu.

Advising

Jayhawk Academic (https://advising.ku.edu/)Advising is the advising home for Jayhawks and they offer both appointments and drop-in advising. For assistance with enrollment planning, please schedule an appointment with your academic advisor.

University Honors Program

The School encourages qualified students to participate in the University Honors Program (http://www.honors.ku.edu/).

Graduate Programs

Graduate programs include:

- Master of Architecture (https://catalog.ku.edu/architecture/ architecture/master-architecture-three-year/) (M.Arch.), a 2-year or 3-year professional degree for students already holding bachelor's degrees in any field;
- Doctor of Philosophy in Architecture (https://catalog.ku.edu/ architecture/architecture/phd/) (Ph.D.);
- Master of Arts (M.A.) in Architecture; (https://catalog.ku.edu/ architecture/architecture/master-arts-architecture/)
- Master of Arts (https://catalog.ku.edu/architecture/design/ma-design-management/) (M.A.) in Design with a concentration in Design Management & Strategy; and
- Master of Arts (https://catalog.ku.edu/architecture/design/ma-interactive-design/) (M.A.) in Design with a concentration in Interaction & User Experience Design.

School of Architecture & Design

Financial Aid

Undergraduate Scholarships and Financial Aid

KU offers renewable merit-based scholarships to incoming freshman students who apply by the priority deadline. More information can be found on the admissions website (https://admissions.ku.edu/afford/ scholarships/).

Current students can search for scholarship opportunities using the University of Kansas Award & Scholarship Hub. (https:// ku.academicworks.com/)

Please note that students pursuing the 5-year Master of Architecture degree will only qualify for undergraduate scholarships for their first four years of study. In their 5th year, Master of Architecture students pay graduate tuition.

Continuing students may be eligible for architecture or design-specific awards listed on the website (https://arcd.ku.edu/scholarships-affordability/).

Graduate Fellowships and Assistantships

The Self Memorial Scholarship (https://selfgraduate.ku.edu/self-memorial-scholarship/) is a merit-based scholarship that recognizes outstanding seniors from the University of Kansas who will be transitioning into their

first year of a master's or doctoral degree program at KU in the fall semester.

A limited number of merit-based scholarships are available for incoming students to the Master of Architecture Track II program and the Master of Arts in Design. These awards are highly selective and are selected by committee. In addition, a limited number of Graduate Teaching Assistantships (GTA) are available to incoming Master of Architecture II or III students. These awards include a small stipend as well as a tuition reduction.

New graduate students enrolling in the Master of Architecture Track II or III program and who are Missouri residents qualify for in-state tuition. Learn more (https://policy.ku.edu/registrar/KS-MO-reciprocity/).

For PhD students, select applicants may be offered GTA appointments, or be nominated for one of KU's graduate fellowships: the University Graduate Fellowship (https://ogs.ku.edu/university-graduate-fellowships-ugf/), the Chancellor's Fellowship (https://ogs.ku.edu/chancellors-doctoral-fellowship/), and the Bernadette Gray-Little Fellowship (https://ogs.ku.edu/ bernadette-gray-little-doctoral-fellowship/).

The Office of Financial Aid and Scholarships (http://financialaid.ku.edu/) administers grants, loans, and need-based financial aid.

Architecture & Design Regulations

For information about University regulations, see Regulations (https:// catalog.ku.edu/regulations/) or visit the University of Kansas Policy Library (http://www.policy.ku.edu/).

For more information about regulations specific to Architecture or Design, see the Regulations tab under each department.

Absences

A student with excessive absences may be withdrawn from the course by the dean.

Credit/No Credit

A Credit/No Credit option is available to all degree-seeking undergraduates. You may enroll in one course a semester under the option, if the course is a free or external elective not in your major or minor. Students must submit an online form during the two-week period designated by the University in order to elect a course for Credit/ No Credit. For more information, visit the KU Policy Library (http:// www.policy.ku.edu/) or speak with your academic advisor.

Warning: Certain undesirable consequences may result from exercising the option. Some schools, scholarship committees, and honorary societies do not accept this grading system and convert grades of No Credit to F when computing grade-point averages.

Credit/No Credit is allowed for electives not in the major. It is not allowed for required courses or electives in the major.

ARCH 590 can only be graded as Satisfactory/Unsatisfactory.

Graduation with Distinction and Highest Distinction

Students who rank in the upper 10 percent of their graduating class graduate with distinction. The upper third of those awarded distinction

graduate with highest distinction. The list is compiled each spring and includes July, December, and May graduates.

Honor Roll (Dean's List)

Undergraduate students who have completed at least 15 hours in a fall or spring semester and have earned a 3.75 GPA are recognized on the honor roll or dean's list in fall and spring. An Honor Roll notation appears on the advising report and the transcript.

Maximum and Minimum Semester Enrollment

No student may enroll in more than 19 credits without the approval of the department. No more than 15 hours for architecture students and no more than 9 hours for design students may be taken in summer session without permission of the respective departments.

Prerequisites and Corequisites

The School strictly enforces prerequisites for all courses. Students enrolled in a course without successfully completing the appropriate prerequisites may be administratively dropped with notice in the first weeks of the semester.

Required Work in Residence

Please visit the Policy Library (https://policy.ku.edu/governance/USRR/) for more information regarding required work in residence requirements.

Architecture Courses

ARCH 100. Architectural Foundations I. 4 Credits.
An introductory design studio directed toward the development of spatial thinking and the skill necessary for the analysis and design of architectural space and form. This course is based on a series of exercises that include demonstrating observational and analytical skills through freehand drawing, full-scale studies in the making of objects that explore the relationship between 2D and 3D through mapping and extruding, and the design of a sequence of architectural spaces that explores path-space relationships and threshold. Students are introduced to different descriptive and analytical media and techniques of representation to aid in the development of critical thought, including orthographic projection, paraline drawing, exploded views, and measured perspective. Open only to students in Architectural Engineering. Prerequisite: Approval from the Dean of the School of Architecture and Design.

ARCH 101. Architectural Foundations II. 4 Credits.
A continuation of ARCH 100, with major emphasis on the design relationships between architectural space, human experience, and the environment. This course focuses on the basic design of a small architectural work on a real site, beginning with site analysis, the construction of a 3-dimensional site model, the learning of organizational principles, and the understanding of how the use of precedent can inform design. The design process itself is highly iterative, from 2- and 3-dimensional parti diagramming to generate ideas, to 3D investigations at different architectural scales. In design development, students learn the impact of internal programmatic forces and external site forces on design, including the seasonal and diurnal variations in natural lighting through sun path diagrams. By the end of the semester, students will have worked through the fundamental processes of building design towards the synthesis and presentation of a final scheme. Prerequisite: ARCH 100. Open only to students in Architectural Engineering.

ARCH 103. Introduction to Architecture and Interior Architecture. 3 Credits.
An introduction to the study and practice of architecture and interior architecture. This course aims at orienting the student to the various disciplinary facets which make up the total architecture and interior architecture curricula, as well as to the various professional roles which architects and interior architects can be expected to perform. Architecture and interiors are both an art and a science and considered complex and interdisciplinary professional activities.

ARCH 108. Architectural Foundations I. 6 Credits.
An introductory design studio directed towards the development of spatial thinking and the skills necessary for the analysis and design of architectural space and form. This course is based on a series of exercises that include direct observation: drawing, analysis and representation of the surrounding world, and full-scale studies in the making of objects and the representation of object and space. Students are introduced to different descriptive and analytical media and techniques of representation to aid in the development of critical thought. These include but are not limited to freehand drawing, orthographic projection, para-line drawing, basic computer skills, and basic materials investigation. Students must bring a lap top computer to this class. Prerequisite: Must be current student in the M.Arch Track I (5 year), B.A. Arch Studies, or B.S. Interior Architecture degrees.

ARCH 109. Architectural Foundations II. 6 Credits.
A continuation of the Architectural studio sequence with major emphasis on the design relationships among people, architectural space, and the environment. The course is based on a series of exercises leading to the understanding of architectural enclosure as mediating between people and the outside world. Issues of scale, light, proportion, rhythm, sequence, threshold, and enclosure are introduced in relation to the human body, as well as in relation to the human body as well as the architectural form. Students will engage in drawing, perspective projection, model building, and basic computer graphics. Students must bring a lap top computer to this class. Prerequisite: ARCH 108 with a grade of C- or higher and must be current student in the M.Arch Track I (5 year), B.A. Arch Studies, or B.S. Interior Architecture degrees.

ARCH 110. Introduction to Computing. 3 Credits.
This course prepares students for design computation topics in the degree program. Topics covered in the class include computer basics, bitmap representation, vector-based graphics, 3-D modeling, scene modeling, building modeling, production of technical drawings, and other issues. These topics are covered in relation to architectural representation and involve skill development in both 2-D and 3-D modeling. The course includes projects that align with those covered in first-year design studios, presenting students with an alternative tool for the representation of two-dimensional diagrams and three-dimensional models. Requirements: Laptop computer with software that meets course specifications. Prerequisite: Must be current student in the M.Arch Track I (5 year), Track II or Track III M.Arch, B.A. Arch Studies, or B.S. Interior Architecture degrees.

ARCH 208. Form and Function. 6 Credits.
A continuation of the Architectural Studio sequence with major emphasis on introducing students to the basic form determinants of architecture-from limited scope exercises to complete building designs. Using diagrams and sketches, plans, sections, elevations and models, students explore the spatial ordering of human activity, site and landscape analysis, light and air modulation, simple environmental controls and energy conservation, basic framing systems, volumetric organization and the materials of building skins and envelopes. Students must bring a laptop computer to this class. Prerequisite: ARCH 109 with a grade of C- or higher and must be current student in the M.Arch Track I (5 year) or B.A. Arch Studies degrees.

ARCH 209. Sustainability, Site, and Context. 6 Credits.
A continuation of the Architectural Studio sequence with major emphasis on the synthesis of basic form determinants of medium-sized, multi-story public building in the urban environment. Students will demonstrate competence in basic architectural design, and preparedness for the third-year focus on materials and methods of building construction. Students are required to bring a laptop computer to this class. Prerequisite: ARCH 208 with a grade of C- or higher and must be current student in the M.Arch Track I (5 year) or B.A. Arch Studies degrees.

ARCH 215. Professional Communications. 3 Credits.   GE22
This course is an introduction to visual and oral communication skills. It will build practical skills to design and communicate ideas to a variety of audiences. This practice-based approach will introduce the students to two major fundamentals of communications. Oral competency, through presentations and writing; and visual communications through color theory, layout design, and branding. The students will have an opportunity to present their work through one on one discussions, small and large group presentations. The course is intended to equip students with the practice-based tools to communicate and demonstrate their design ideas in relation to different fields and to a variety of audiences in practical situations. Prerequisite: ARCH 109 and students must be in the 5 year M.Arch or Architecture Studies degree plan.

ARCH 340. Global History of Architecture I: Origins to Industrial Revolution (3500 BCE-1700 CE). 3 Credits.   GE3H AH
The first unit of the two-part survey history course explores the historical changes of architecture in relation to civilizational change, techno-spatial experiments and town-building efforts, from the earliest evidence of human dwelling to the beginning of the industrial revolution. Emphasis is on the architecture as an integrated development of commercial, technological, and ideological transferences among different regions, nascent religious groups and evolving political enterprises. In regard to the geographical and geopolitical regions, the course includes South and Central America, Europe, Classical Greece and Italy, Asia Minor, North Africa and Asia. This course is offered at the 300 and 500 levels with additional assignments at the 500 level. Not open to students with credit in ARCH 540.

ARCH 359. Special Problems. 1-3 Credits.
Special problems in architecture. The study of a particular problem in architecture involving individual research and presentation. Conferences and reports. (May be taken for Credit/No Credit.) Prerequisite: Prior to enrollment, a student must contact a faculty with a statement of the problem that the student wishes to pursue, the methodology they plan to use in the program, and the objectives of the special problems. The faculty member and the student must agree on the above prior to enrollment being approved. Once approved, a permission number must be used in order to enroll in the course, which can be requested through the Architecture & Design Scheduling Officer.

ARCH 501. Architectural Foundations I. 6 Credits.
An introductory design studio directed towards the development of spatial thinking and the skills necessary for the analysis and design of architectural space and form. This course is based on a series of exercises that include direct observation: drawing, analysis and representation of the surrounding world and full-scale studies in the making of objects and the representation of object and space. Students are introduced to different descriptive and analytical media and techniques of representation to aid in the development of critical thought. These include but are not limited to freehand drawing, orthographic projection, para-line drawing, basic computer skills and basic materials investigation. Students must bring a lap top to class. Prerequisite:

Admission to M.Arch. III program and/or permission of the Chair of Architecture.

ARCH 502. Architectural Foundations II. 6 Credits.
A continuation of the Architectural studio sequence with major emphasis on the design relationships among people, architectural space, and the environment. The course is based on a series of exercises leading to the understanding of architectural enclosure as mediating between people and the outside world. Issues of scale, light, proportion, rhythm, sequence, threshold, and enclosure are introduced in relation to the human body, as well as in relation to the human body as well as the architectural form. Students will engage in drawing, perspective projection, model building, and basic computer graphics. Students must bring a lap top computer to this class. Prerequisite: ARCH 501 studio, must be a current student in the Track III M.Arch degree, or permission of the Chair of Architecture.

ARCH 503. Form and Function. 6 Credits.
A continuation of the Architectural Studio sequence with major emphasis on introducing students to the basic form determinants of architecture-from limited scope exercises to complete building designs. Using diagrams and sketches, plans, sections, elevations and models, students explore the spatial ordering of human activity, site and landscape analysis, light and air modulation, simple environmental controls and energy conservation, basic framing systems, volumetric organization and the materials of building skins and envelopes. Students must bring a laptop computer to this class. Prerequisite: ARCH 502 and must be current student in the Track III M.Arch degree, or permission of the Chair of Architecture.

ARCH 504. Sustainability and Context. 6 Credits.
A continuation of the Architectural Studio sequence with major emphasis on the synthesis of basic form determinants of medium-sized, multi-story public building in the urban environment. Students will demonstrate competence in basic architectural design, and preparedness for the third-year focus on materials and methods of building construction. Students are required to bring a laptop computer to this class. Prerequisite: ARCH 503 studio, and must be current student in the Track III M.Arch degree, or permission of the Chair of Architecture.

ARCH 508. Material and Tectonics. 6 Credits.
A continuation of the Architectural Studio sequence with major emphasis on studies in urban spaces and design development of building envelopes as related to urban public-life, structural and mechanical systems, and principles of sustainability. Students shall work individually on an advanced building design. Work will focus on medium scale, multi-story, urban-infill, buildings developed to an appropriate level of technical resolution as evidenced in clear schematic wall sections and structural proposals. Students shall demonstrate an understanding of formal ordering and building-concept development as related to the tectonic form determinants. Students are required to bring a laptop computer to this studio class. Prerequisite: ARCH 209 with a grade of C- or higher and must be current student in the M.Arch Track I (5 year) or B.A. Arch Studies degrees.

ARCH 509. Designbuild. 6 Credits.   AE61 CAP
A continuation of the Architectural Studio sequence with major emphasis on materiality and construction of built assemblies through hands-on activities. Development of craft, process, collaboration and technical documentation skills will be primary objective of the course. Students are required to bring a laptop computer to this studio class. Prerequisite: ARCH 209 with a grade of C- or higher and must be current student in the M.Arch Track I (5 year) or B.A. Arch Studies degrees.

ARCH 510. Architectural Detailing. 3 Credits.

Architectural detailing during design and construction phases is a fundamental skillset for architectural practice. This course will focus on technical drawing skills and professional drawing standards and conventions, including construction documentation, shop drawings, and analytical drawing techniques aimed at exploration and communication of the technical aspects of architectural design. Prerequisite: ARCH 209 with a grade of C- or higher, concurrent enrollment in ARCH 509 with same instructor, and must be current student in the M.Arch Track I (5 year) or B.A. Arch Studies degrees.

ARCH 515. Building Information Modeling. 3 Credits.
This course will expose students to building information modeling: a digital representation of the building process that facilitates exchange and interoperability of information in digital format. The focus will be on the software's potential for reducing the information loss that occurs during each handoff of the project during the traditional delivery method. Possibilities for integrated practice including lifecycle costing and knowledge management are discussed.

ARCH 516. Portfolio Development. 3 Credits.
The aim of the course is to teach practical presentation skills using computer software, in addition to graphic design theories and strategies. This course will provide an opportunity for students to design and produce a design portfolio appropriate for internship and/or graduate school applications. Prerequisite: ARCH 208.

ARCH 520. Architectural Acoustics. 3 Credits.
An introduction to the physics of sound. Objective and subjective evaluation and control of sound as applied to architectural spaces. Room shaping, mechanical and electrical system noise and vibration control, and electro-acoustic sound reinforcement. May not be taken for credit by students with credit for ARCE 520, ARCE 720, or ARCH 720. (Same as ARCE 520.) Prerequisite: Junior or Senior students or consent of instructor.

ARCH 521. Electro-Acoustical Systems. 3 Credits.
A study of electro-acoustic sound reinforcement and reproduction systems for buildings. May not be taken for credit by students with credit for ARCE 521, ARCE 721, or ARCH 721. (Same as ARCE 521.) Prerequisite: Junior/Senior standing or consent of instructor.

ARCH 524. Structures I. 3 Credits.
The fundamental principles of structural behavior including stress and deformation in structural components and systems. Open to architecture students only. This course is offered at the 500 and 700 levels with additional assignments at the 700 level. Not open to students with credit in ARCH 724. Prerequisite: PHSX 114 and must be current student in the M.Arch Track I (5 year) or B.A. Arch Studies degrees.

ARCH 530. Environmental Systems I. 3 Credits.
This introductory course addresses human needs and comfort in relation to the natural and man-made environments. Specific topics include: climate and weather, environmental health, indoor air quality, thermal comfort, passive and active systems and design strategies for heating, ventilating, and air-conditioning, building acoustics, mechanical noise control, and building management systems. This course is offered at the 500 and 700 levels with additional assignments at the 700 level. Not open to students with credit in ARCH 730. Prerequisite: PHSX 114 and must be current student in the M.Arch Track I (5 year), B.A. Arch Studies, or B.S. Interior Architecture degrees.

ARCH 531. Environmental Systems II. 3 Credits.
This course addresses human needs and comfort in relation to the natural and man-made environments. Specific topics include: daylighting, electrical lighting systems, electrical power distribution systems, alternative energy sources, communication systems, plumbing, transportation, and life safety systems. This course is offered at the 500 and 800 levels with additional assignments at the 800 level. Not open to students with credit in ARCH 831. Prerequisite: ARCH 530 and must be current student in the M.Arch Track I (5 year), B.A. Arch Studies, or Interior Architecture program.

ARCH 540. Global History of Architecture I: Origins to Industrial Revolution (3500 BCE-1700 CE). 3 Credits.   GE3H
The first unit of the two-part survey history course explores the historical changes of architecture in relation to civilizational change, techno-spatial experiments and town-building efforts, from the earliest evidence of human dwelling to the beginning of the industrial revolution. Emphasis is on the architecture as an integrated development of commercial, technological, and ideological transferences among different regions, nascent religious groups and evolving political enterprises. In regard to the geographical and geopolitical regions, the course includes South and Central America, Europe, Classical Greece and Italy, Asia Minor, North Africa and Asia. This course is offered at the 300 and 500 levels with additional assignments at the 500 level. Not open to students with credit in ARCH 340. Prerequisite: Must be current student in the Track II or Track III M.Arch.

ARCH 541. Global History of Architecture II: From Industrial Revolution to Present (1700 CE-Present). 3 Credits.   AE42
The second unit of study of the two-part survey history course offers a global perspective of the development of modern architecture from the industrial revolution to contemporary times. This course traces the genealogy of modern architecture to its multiple roots in European enlightenment, global dissemination of industrial knowledge, invention of new building materials and techniques, and development of architectural theory. Emphasis is on the historical context of how the diverse approaches of architects from different regions create variations of formal expressions, spatial program and theoretical underpinning, and thus create multiple meanings and images of modern architecture. This course is offered at the 500 and 700 levels with additional assignments at the 700 level. Not open to students with credit in ARCH 741. Prerequisite: ARCH 340 or ARCH 540 or consent of instructor must be current student in the M.Arch Track I (5 year) or B.A. Arch Studies.

ARCH 546. American Architectural History. 3 Credits.
This course surveys the history of architecture in the USA from the beginning of European settlements to mid-20th century. It is organized based on place types that include, among others, townships, housing, commercial developments, civic structures, agricultural and rural buildings and settlements, and religious buildings and communities. It also covers a range of topics such as architectural styles, typologies, building tectonics, patterns of diffusion, and socio-economic factors that influenced the development of these historic place types. This course is offered at the 500 and 700 level with additional assignments at the 700 level. Not open to students with credit in ARCH 746.

ARCH 547. Historic Preservation Theory. 3 Credits.
This course presents the historical development and contemporary status of the theories and philosophies of historic preservation. It particularly covers the concepts and approaches developed by UNESCO for the management of tangible and intangible cultural heritage resources worldwide and the related international charters, conventions, operational guidelines, and institutions. Using international case studies, it illustrates a range of theoretical, philosophical, ethical, and practical issues and debates in historic preservation in a global context. This course is offered at the 500 and 700 levels with additional assignments at the 700 level. Not open to students with credit in ARCH 747.

ARCH 548. Historic Preservation Planning. 3 Credits.

The focus of this course is on the development of concepts and practices of retrieving, recycling, and curating the built environment from the mid-nineteenth century to the present. After a series of introductory readings and discussions, students are encouraged to investigate particular environmental, technological, social, or ideological questions of their choice, focusing on structures that demonstrate persistence over great distances and, co-existing with this persistence, ability to accommodate changes over time. This course is offered at the 500 and 700 level with additional assignments at the 700 level. Not open to students with credit in ARCH 748.

ARCH 549. Historic Preservation Technology. 3 Credits.

This course introduces students to architectural historiography and preservation technology. It covers a range of curatorial issues in preservation and adaptive reuse of historic buildings. The topics include technical documentation of historic buildings, archival research, assessment of causes of deterioration and preservation needs in historic buildings, selection of preservation strategies, and techniques of building material preservation. Also covered are the integration of sustainable technologies into historic construction and examination of the ecological advantages of adaptive reuse and preservation. This course is offered at the 500 and 700 levels with additional assignments at the 700 level. Not open to students with credit in ARCH 749.

ARCH 552. Ethics and Leadership in Professional Practice. 3 Credits.   AE51

This course takes the perspective that architectural design is inherently an ethical act. Through this lens, students will learn the essentials of office practices, the many definitions of client and their roles in the design process, the legal responsibilities of the profession, the importance of continuous professional development and the obligation the profession has to provide civic leadership in regard to the built and natural environment. This course is offered at the 500 and 700 levels with additional assignments at the 700 level. Not open to students with credit in ARCH 752. Prerequisite: ARCH 508 and 509 and must be current student in the M.Arch Track I (5 year), B.A. Arch Studies, or B.S. Interior Architecture degrees.

ARCH 558. Programming and Pre-Design Issues. 3 Credits.

This course will introduce the concepts, methods, techniques, and information used by the architect to establish the parameters of a project, prior to entering the formal design process. The course will introduce the student to the social, technical, legal and economic dimensions of architectural programming,. The content will introduce the core competencies in programming, site, and environmental analysis required by the profession. Programming theory, research techniques, information analysis, evaluation of significance, and creative synthesis of the multivalent factors acting upon the pre-design process of project definition will be covered. Exercises may include programming and analysis of projects and sites assigned in the Architectural Design Studio sequence. This course is offered at the 500 and 700 levels with additional assignments at the 700 level. Not open to students with credit in ARCH 758. Prerequisite: ARCH 209 and must be current student in the M.Arch Track I (5 year) or B.A. Arch Studies degrees.

ARCH 590. Architecture Study Abroad. 6 Credits.

May be repeated up to a maximum of 18 credits. Students participate in a study abroad program approved by the Architecture Chair. Students will be evaluated upon a submitted journal, sketchbook, or equivalent assignments assigned by the instructor. This course is offered at the 500 and 700 levels with additional assignments at the 700 level. Not open to students with credit in ARCH 790. Prerequisite: Study Abroad is a required component of the M.Arch Degree. Students can study abroad as soon as the Winter Break of their second year.

ARCH 600. Special Topics in Architecture: _____. 3 Credits.

This course is for the study of architectural topics on a one time or experimental basis in response to changing needs and/or resources in the Program. It may be offered concurrently by different instructors under different subtitles as announced in the Timetable. May be repeated for credit. Prerequisite: Varies by topic.

ARCH 602. Accelerated Design IV. 6 Credits.

Graduate studio emphasizing urban context and design theories and architectural tectonics. Students will undertake developing a detailed wall assembly, represented through drawings and/or models. Prerequisite: ARCH 504 and must be current student in the Track II or Track III M.Arch degrees, or permission of the Chair of Architecture.

ARCH 605. Visualizing Site and Natural Environmental Systems. 3 Credits.

This course advances empirical understanding and abilities to visualize natural forces as they both shape and affect siting and designing buildings that shape human experience. Students will develop abilities to demonstrate the principles of environmental systems' design, how design criteria can vary by geographic region and the tools used for performance assessment. In-class and applied studies will help students learn about site characteristics, soils, topography, solar systems, ecology, climate, building orientation, active and passive heating and cooling, solar geometry, day-lighting and natural ventilation. Prerequisite: ARCH 109 or equivalent; or ARCH 502; and must be current student in the M.Arch Track I (5 year), Track II or Track III M.Arch, or B.A. Arch Studies degrees.

ARCH 608. Urban Dwelling. 6 Credits.

A continuation of the Architectural Studio sequence with major emphasis on program analysis and design of urban building(s) and urban spaces with culture, context and precedent as major form determinants. Students are required to bring a laptop computer to this studio class. Prerequisite: ARCH 508 and ARCH 509 with a grade of C- or higher; or ARCH 602; and must be current student in the M.Arch Track I (5 year), Track II or Track III M.Arch, or B.A. Arch Studies degrees.

ARCH 609. Integrated Design. 9 Credits.   AE61 CAP

An advanced architectural design studio with major emphasis on an architectural design project that uses previously learned skills through synthesizing user requirements, regulatory requirements, site conditions, accessible design, and consideration of environmental impacts. Students should also demonstrate the ability to make design decisions while integrating previously learned building envelope systems and assemblies, structural systems, environmental control systems, life safety systems, and building performance. The project design process and final product should be documented to demonstrate above abilities by using technical drawings and well-researched written documentation in addition to other means of visual representation. Prerequisite: ARCH 608 with a grade of C- or higher and must be current student in the M.Arch Track I (5 year), Track II or Track III M.Arch, or B.A. Arch Studies degrees.

ARCH 610. Integrated Design Documentation. 3 Credits.

Integrated design documentation, including drawings and specifications, is fundamental to the development a professional architectural project. This course is designed to complement and support ARCH 609 Integrated Design Studio in the technical documentation of the studio project and to shed light on professional expectations for design documentation. Prerequisite: Concurrently enrolled in ARCH 609, and students must be in the 5 year M.Arch or M.Arch Track II or III or Architecture Studies degree plan to enroll in this course.

ARCH 620. Theory of Urban Design. 3 Credits.

An examination of the relationship between architecture and urban design through contemporary interpretations of future urban form and

the determinants of the location, spatial structure, growth and decline of cities. Foundations for an interdisciplinary synthesis are examined in an attempt to bridge the hiatus between large-scale architectural design and incremental adjustments to urban dynamics. This course is offered at the 600 and 800 levels with additional assignments at the 800 level. Not open to students with credit in ARCH 820. Prerequisite: ARCH 208 and must be current student in the M.Arch Track I (5 year) or B.A. Arch Studies degrees.

ARCH 622. Material Investigations. 3 Credits.

This course will provide opportunities for students to learn about research methods in the realm of architectural materials. The course will have two concurrent phases: the first phase will consist of a series of field trips and lectures. The purpose of the first phase is to understand how materials are developed and made, the research involved in their development, and what are their characteristics and potential applications. The second phase will consist of a self-directed research project based on the students' natural curiosity about a particular material or process. The project will have three components: 1) a research agenda, rigorously developed and executed; and 2) a "built" component, with actual materials, executed by the students' own hands and financial resources; and 3) final documentation of the research project.

ARCH 624. Structures II. 3 Credits.

A continuation of ARCH 524, with focus on applying learned principles to basic contemporary structural systems such as concrete, steel, and wood framing systems. Open to architecture students only. This course is offered at the 600 and 800 levels with additional assignments at the 800 level. Not open to students with credit in ARCH 824. Prerequisite: ARCH 524 and must be current student in the M.Arch Track I (5 year) or B.A. Arch Studies degrees or consent of instructor.

ARCH 626. Building Technology I: Construction Systems and Assemblies. 3 Credits.

This course is an introduction to the materials, processes and craft of construction. Along with presenting the information required for understanding the basic principles and appropriate application and performance of construction systems and assemblies, the course also provides a conceptual framework to bridge between the physical conditions of construction and the more abstract processes of design. Teaching method includes modeling and hands-on building experiences. Prerequisite: ARCH 209 or Corequisite: ARCH 508 or ARCH 509 or ARCH 503 or ARCH 504; and must be current student in the M.Arch Track I (5 year), Track II or Track III M.Arch or B.A. Arch Studies, or B.S. Architectural Engineering.

ARCH 627. Building Technology II: Culture of Building Technology. 3 Credits.

A continuation of ARCH 626. Introduction to industrialized production. A consideration of the detailed sub-systems and cultural practices that comprise the built environment, and the factors responsible for their design and installation. Includes discussion of building codes, mechanisms of failure, and materials selection. Lectures and demonstrations by the instructors and visitors, films, slide projections, quizzes and written examinations. A student should demonstrate an understanding of elementary systems of construction and be able to relate this understanding to the design process. Prerequisite: ARCH 626 and must be current student in the M.Arch Track I (5 year), Track II or Track III M.Arch, or B.A. Arch Studies degrees.

ARCH 630. Theory of Architecture. 3 Credits.

An examination of architectural theories that understand the designed environment as a cultural medium and product of a sociocultural process that expresses values and ideas. Understanding of these theories will be enhanced through the analysis of paradigmatic buildings, urban form

and ideologies that have influenced architectural culture. This course is offered at the 600 and 800 levels with additional assignments at the 800 level. Not open to students with credit in ARCH 830. Prerequisite: Must be current student in the 5 year M.Arch degree or Arch Studies degree.

ARCH 691. Architecture Practicum. 6 Credits.

Based upon the student's approved proposal, each student will explore the process of creating the built environment by working in a setting that is intended to provide a new perspective for that student. The range of venues may include non-profit organizations, research settings, hands-on building experiences, and other professional settings as approved by the instructor. Students evaluation will include an assessment by the supervisor in the practicum settings as well as on a final paper using appropriate graphics to illustrate key points. Graded on a satisfactory/unsatisfactory basis.

ARCH 692. Documentation. 3 Credits.

Students will document their experience in ARCH 690 or another approved study abroad program. This is intended as a critical reflection upon the student's experience and is additional documentation produced beyond the work done for the study abroad credit. The final product will include a written paper, using appropriate graphics to illustrate key points.

ARCH 695. Internship Documentation. 3 Credits.   AE61 CAP

Students will document their experience in ARCH 691 or other approved internship or relevant work experience. The purpose of this course is to give students a structured opportunity to select, explore, research, and document a topic relevant to their internship experience and that goes beyond the work done for the internship credit.

ARCH 699. Study Abroad Experience. 2 Credits.

Students returning from study abroad will work with the faculty program director to document the experiences gained abroad, with particular emphasis on sharing architectural knowledge, historical or cultural aspects, and immersive experiences to benefit the broader student body.

ARCH 700. Directed Readings in Architecture:. 1-3 Credits.

Individual study of special topics and problems. May be repeated for credit. Prerequisite: Prior to enrollment, a student must contact a faculty with a statement of the problem that the student wishes to pursue, the methodology they plan to use in the program, and the objectives of the special problems. The faculty member and the student must agree on the above prior to enrollment being approved. Once approved, a permission number must be used in order to enroll and can be requested through the Architecture & Design Scheduling Officer. Graduate standing.

ARCH 702. Construction Documents. 3 Credits.

This course introduces students to construction documents and the associated contractual services and legal documents as part of delivering architectural projects. Students will need the information delivered in this course to succeed in any professional internship. The topics include drawings, fees, specifications, BIM, Budgets, construction administration, consultant coordination, code ratings, project delivery methods, professional liability, and more. Prerequisite: Must be current student in the M.Arch Track I (5 year), Track II or Track III M.Arch, B.A. Arch Studies, or by permission of instructor.

ARCH 720. Architectural Acoustics. 3 Credits.

An introduction to the physics of sound. Objective and subjective evaluation and control of sound as applied to architectural spaces. Room shaping, mechanical and electrical system noise and vibration control, and electro-acoustic sound reinforcement. May not be taken for credit by students with credit in ARCH 520/ARCE 520/ARCE 720. (Same as ARCE 720.)

ARCH 721. Electro-Acoustical Systems. 3 Credits.

A study of electro-acoustic sound reinforcement and reproduction systems for buildings. May not be taken for credit by students with credit in ARCH 521/ARCE 521/ARCE 721. (Same as ARCE 721.)

ARCH 722. Building Technology Practicum I. 3 Credits.

This is a course offering that runs concurrent to enrollment in Studio 803. The combination of these two courses affords students a real-world experience outside of the academic setting. The structure of the experience is like that of an architect's office with the exception being that we build what we design. There is no room for 'make believe' and so the experience is an opportunity for students to synthesize their education with a high level of serious thought being given to their design studio experiences and numerous support courses, such as building technology, structures, mechanical systems, site planning, detailing, sustainability, etc. that contribute to the result. This is tempered by the need to work in a team setting with their classmates where a high level of productivity is expected. At semesters end we hope to have designed, documented, permitted and created the frame of what will become, by the next semesters end, a completed building. Prerequisite: ARCH 609 and must be current student in the 3.5 or 5 year M.Arch degree or Arch Studies degree. Corequisite: ARCH 803.

ARCH 723. Building Technology Practicum II. 3 Credits.

ARCH 723 is a course offering that runs concurrent to enrollment in Studio 804. The combination of these two courses is a continuation of the Arch 623/803 course offering of the previous semester. Students will be working on site, picking up where they left off from the previous semester. Full scale mockups are made of most details to help the group understand the implications of the details. A great portion of our work is bound by the notion that the design success for most projects can be found in the details. An emphasis is placed on the need to have a clear understanding of how a problem will be solved before a commitment is made to pursue a solution. This work is documented so the process has been preserved and students can see the benefit of thinking through the various iterations of design and technology that will lead to a successful project. As in the previous semester, the complete documentation of the process is expected at the end of the project. Prerequisite: ARCH 803 and must be current student in the 3.5 or 5 year M.Arch degree or Arch Studies degree. Corequisite: ARCH 804.

ARCH 724. Structures I. 3 Credits.

The fundamental principles of structural behavior including stress and deformation in structural components and systems. Open to architecture students only. This course is offered at the 500 and 700 levels with additional assignments at the 700 level. Not open to students with credit in ARCH 524. Prerequisite: ARCH 502 and must be current student in the Track III M.Arch degree.

ARCH 730. Environmental Systems I. 3 Credits.

This introductory course addresses human needs and comfort in relation to the natural and man-made environments. Specific topics include: climate and weather, environmental health, indoor air quality, thermal comfort, passive and active systems and design strategies for heating, ventilating, and air-conditioning, building acoustics, mechanical noise control, and building management systems. This course is offered at the 500 and 700 levels with additional assignments at the 700 level. Not open to students with credit in ARCH 530. Prerequisite: ARCH 502 and must be current student in the Track III M.Arch degree.

ARCH 731. Architecture of Health. 3 Credits.

This is a seminar that will focus on the architectural dimensions of health and wellness. The course will investigate the ways the environment contributes to the well being (physical, emotional, spiritual) of people. The history of healthcare environments will be explored to show how healthcare environments have evolved to meet changing medical protocols and environmental technologies. A range of contemporary building types will studied, from critical-care hospitals to assisted-living residences and health spas. Students will research bibliographic sources, prepare case studies of existing health and wellness environments and prepare preliminary planning and design proposals for an environment that human well being.

ARCH 734. Housing Seminar. 3 Credits.

This course examines various notions of "home" and the forces that impact residential design with an emphasis on modern housing typologies. Through the evaluation of past housing types, participants will be asked to speculate on appropriate future housing models and their ability to deliver sustainable, safe, and dignified shelter equitably to society. Topics covered will include traditional typologies, social structure in human habitation and settlement, affordability, housing policy, construction technology, neighborhood design, urban design, and the role that architects and designers play in creating vibrant and healthy communities.

ARCH 735. Graduate Seminar in Environmental Systems. 3 Credits.

The intention of this seminar is to provide a substantive overview of the literature and themes in environmental systems. It will serve to introduce students to skills required to conduct research in environmental systems. In addition, the course will entail discussions of students' works in progress, peer review sessions, and completion of a conference paper.

ARCH 741. Global History of Architecture II: From Industrial Revolution to Present (1700 CE-Present). 3 Credits.

The second unit of study of the two-part survey history course offers a global perspective of the development of modern architecture from the industrial revolution to contemporary times. This course traces the genealogy of modern architecture to its multiple roots in European enlightenment, global dissemination of industrial knowledge, invention of new building materials and techniques, and development of architectural theory. Emphasis is on the historical context of how the diverse approaches of architects from different regions create variations of formal expressions, spatial program and theoretical underpinning, and thus create multiple meanings and images of modern architecture. This course is offered at the 500 and 700 levels with additional assignments at the 700 level. Not open to students with credit in ARCH 541. Prerequisite: ARCH 540 and must be current student in the Track II or Track III M.Arch degrees.

ARCH 746. American Architectural History. 3 Credits.

This course surveys the history of architecture in the USA from the beginning of European settlements to mid-20th century. It is organized based on place types that include, among others, townships, housing, commercial developments, civic structures, agricultural and rural buildings and settlements, and religious buildings and communities. It also covers a range of topics such as architectural styles, typologies, building tectonics, patterns of diffusion, and socio-economic factors that influenced the development of these historic place types. This course is offered at the 500 and 700 level with additional assignments at the 700 level. Not open to students with credit in ARCH 546.

ARCH 747. Historic Preservation Theory. 3 Credits.

This course presents the historical development and contemporary status of the theories and philosophies of historic preservation. It particularly covers the concepts and approaches developed by UNESCO for the management of tangible and intangible cultural heritage resources worldwide and the related international charters, conventions, operational guidelines, and institutions. Using international case studies, it illustrates a range of theoretical, philosophical, ethical, and practical issues and debates in historic preservation in a global context. This course is offered

at the 500 and 700 levels with additional assignments at the 700 level. May not be taken for credit by students with credit in ARCH 547.

ARCH 748. Historic Preservation Planning. 3 Credits.
The focus of this course is on the development of concepts and practices of retrieving, recycling, and curating the built environment from the mid-nineteenth century to the present. After a series of introductory readings and discussions, students are encouraged to investigate particular environmental, technological, social, or ideological questions of their choice, focusing on structures that demonstrate persistence over great distances and, co-existing with this persistence, ability to accommodate changes over time. This course is offered at the 500 and 700 levels with additional assignments at the 700 level. May not be taken for credit by students with credit in ARCH 548.

ARCH 749. Historic Preservation Technology. 3 Credits.
This course introduces students to architectural historiography and preservation technology. It covers a range of curatorial issues in preservation and adaptive reuse of historic buildings. The topics include technical documentation of historic buildings, archival research, assessment of causes of deterioration and preservation needs in historic buildings, selection of preservation strategies, and techniques of building material preservation. Also covered are the integration of sustainable technologies into historic construction and examination of the ecological advantages of adaptive reuse and preservation. This course is offered at the 500 and 700 levels with additional assignments at the 700 level. May not be taken for credit by students with credit in ARCH 549.

ARCH 750. Documenting Historic Buildings. 3 Credits.
This course builds upon the introductory knowledge gained in the first semester in architectural historiography and pathology of historic buildings. The topics include technical documentation of historic buildings, with the use of traditional techniques such as hand measuring, drafting, sketch plans, field photography, as well as the emerging digital documentation methods such as laser scanning, photogrammetry, and Geographic Information System (GIS). The course also focuses on building retrofitting for energy conservation/sustainable practices in historic buildings. Prerequisite: ARCH 749.

ARCH 751. Advanced Topics in Historic Preservation. 3 Credits.
This course builds upon the introductory knowledge gained in the first semester in historic preservation technology. It focuses on additional topics in architectural history; historic preservation theory; preservation planning, and preservation technology. Prerequisite: ARCH 749.

ARCH 752. Ethics and Leadership in Professional Practice. 3 Credits.
This course takes the perspective that architectural design is inherently an ethical act. Through this lens, students will learn the essentials of office practices, the many definitions of client and their roles in the design process, the legal responsibilities of the profession, the importance of continuous professional development and the obligation the profession has to provide civic leadership in regard to the built and natural environment. This course is offered at the 500 and 700 levels with additional assignments at the 700 level. Not open to students with credit in ARCH 552. Prerequisite: Must be current student in the Track II or Track III M.Arch degrees.

ARCH 758. Programming and Pre-Design Issues. 3 Credits.
This course will introduce the concepts, methods, techniques, and information used by the architect to establish the parameters of a project, prior to entering the formal design process. The course will introduce the student to the social, technical, legal and economic dimensions of architectural programming,. The content will introduce the core competencies in programming, site, and environmental analysis required by the profession. Programming theory, research techniques, information analysis, evaluation of significance, and creative synthesis of the multivalent factors acting upon the pre-design process of project definition will be covered. Exercises may include programming and analysis of projects and sites assigned in the Architectural Design Studio sequence. This course is offered at the 500 and 700 levels with additional assignments at the 700 level. Not open to students with credit in ARCH 558. Prerequisite: ARCH 504 and must be current student in the Track II or Track III M.Arch degrees.

ARCH 790. Architecture Study Abroad. 6 Credits.
May be repeated up to a maximum of 18 credits. Students participate in a study abroad program approved by the Architecture Chair. Students will be evaluated upon a submitted journal, sketchbook, or equivalent assignments assigned by the instructor. Study Abroad is a required component of the M.Arch Degree. This course is offered at the 500 and 700 levels with additional assignments at the 700 level. Not open to students with credit in ARCH 590.

ARCH 799. Independent Study. 1-3 Credits.
May be repeated for credit up to a total of nine (9) credits. Prerequisite: Prior to enrollment, a student must contact a faculty with a statement of the problem that the student wishes to pursue, the methodology they plan to use in the program, and the objectives of the topic or problem. The faculty member and the student must agree on the above prior to enrollment being approved. Once approved, a permission number must be used in order to enroll and can be requested through the Architecture & Design Scheduling Officer. Graduate standing and consent of instructor.

ARCH 800. Special Topics in Architecture: _____. 3 Credits.
Advanced or experimental courses on specialized topics representing unique or changing needs and resources in the graduate program in architecture.

ARCH 803. Designbuild and Materiality I. 6 Credits.
An advanced studio with an emphasis on issues of designbuild and/or materiality with a focus on problem-setting, discovery, and analysis. Students are required to bring a lap top computer to this studio class. Prerequisite: ARCH 609 with a grade of C- or higher and/or consent of the Architecture Department Chair.

ARCH 804. Designbuild and Materiality II. 6 Credits.
Continuation of the critical and rigorous investigations into issues of designbuild and/or materiality with an increasing focus on synthesis and evaluation. Prerequisite: ARCH 803 with a grade of C or higher.

ARCH 805. Sports & Leisure Internship. 6 Credits.
Faculty-directed investigations within the context of a 7-Month Sports & Leisure professional internship experience will focus on the development of a research topic related to sports or leisure architecture or sports or leisure urban district planning. Prerequisite: ARCH 609 with a grade of C- or higher and acceptance into the sports and leisure option.

ARCH 806. Sports & Leisure Capstone Studio. 6 Credits.
An advanced studio focused on research and design concepts for large-scale architectural projects including stadiums, convention centers, entertainment venues, and other recreational facilities, with an emphasis on urban site analysis, programming, concept design, and building technology. Students are required to bring a laptop computer. Prerequisite: ARCH 805 with a grade of C or higher.

ARCH 807. Health and Wellness Design Internship. 6 Credits.
Investigations of the connections between built environments and human health and well-being. Students are exposed to environmental issues of healthcare design through seven-month professional internships in firms doing significant work in this field. Prerequisite: Successful completion of

ARCH 609 with a grade of C- or higher and acceptance into the Health and Wellness design option.

ARCH 808. Health and Wellness Capstone Studio. 6 Credits.
An advanced capstone studio with an emphasis on investigations into healthy and sustainable environments and a focus on problem-solving, research, and design synthesis. The course builds on the real-world experience gained by students in their ARCH 807 internships. Prerequisite: ARCH 807 with a grade of C or higher.

ARCH 811. Architectural Investigation I. 6 Credits.
A workshop-based course involving approved self and group directed investigations in a particular area of architectural investigation with a focus on problem-setting, discovery and analysis. Students are required to bring a lap top computer to this studio class. Prerequisite: ARCH 609 with a grade of C- or higher.

ARCH 812. Architectural Investigation II. 6 Credits.
Continuation of the critical and rigorous investigations in a particular area of architectural investigation with an increasing focus on synthesis and evaluation. Prerequisite: ARCH 811 with a grade of C or higher.

ARCH 813. Urban Design Internship and Cooperatives. 6 Credits.
Faculty-directed investigations within the context of a 7-month Urban Design professional internship experience will focus on the development of a research topic related to urban design. It has an emphasis on professional collaboration and scholarship. Prerequisite: ARCH 609 with a grade of C- or higher and acceptance into the Urban Design Internship program.

ARCH 814. Urban Design Capstone Studio. 6 Credits.
An advanced studio centered upon the research and development of transformational urban design projects, including district framework strategies, infrastructure and public realm proposals. Projects will emphasize site research and analysis; urban equity and access; public space programming; ecological resiliency; architectural concepts and emergent technology. students are required to bring a laptop computer. Prerequisite: Successful completion of ARCH 813 with a grade of C or higher or an equivalent studio as approved by Architecture Program Chair.

ARCH 815. Global Internship: _____. 6 Credits.
An architectural internship that is part of the global Internship program with a focus on international architectural design practice, and professional development. Prerequisite: ARCH 609 with a grade of C- or higher and acceptance into the Global Internship Program.

ARCH 816. Global Internship Documentation. 3 Credits.
A documentation and reflective analysis of the experience, and professional development of the student during their Global architectural internship. Prerequisite: ARCH 609 with a grade of C- or higher and acceptance into the Global Internship Program. Corequisite: ARCH 815.

ARCH 820. Theory of Urban Design. 3 Credits.
An examination of the relationship between architecture and urban design through contemporary interpretations of future urban form and the determinants of the location, spatial structure, growth and decline of cities. Foundations for an interdisciplinary synthesis are examined in an attempt to bridge the hiatus between large-scale architectural design and incremental adjustments to urban dynamics. This course is offered at the 600 and 800 levels with additional assignments at the 800 level. Not open to students with credit in ARCH 620. Prerequisite: Must be a current student in the Track II or Track III M.Arch degrees.

ARCH 824. Structures II. 3 Credits.
A continuation of ARCH 724, with focus on applying learned principles to basic contemporary structural systems such as concrete, steel, and wood framing systems. Open to architecture students only. This course is offered at the 600 and 800 levels with additional assignments at the 800 level. Not open to students with credit in ARCH 624. Prerequisite: ARCH 724 and must be current student in the Track II or Track III M.Arch degrees.

ARCH 830. Theory of Architecture. 3 Credits.
An examination of architectural theories that understand the designed environment as a cultural medium and product of a sociocultural process that expresses values and ideas. Understanding of these theories will be enhanced through the analysis of paradigmatic buildings, urban form and ideologies that have influenced architectural culture. This course is offered at the 600 and 800 levels with additional assignments at the 800 level. Not open to students with credit in ARCH 630. Prerequisite: Must be current student in the Track III M.Arch degree.

ARCH 831. Environmental Systems II. 3 Credits.
This course addresses human needs and comfort in relation to the natural and man-made environments. Specific topics include: daylighting, electrical lighting systems, electrical power distribution systems, alternative energy sources, communication systems, plumbing, transportation, and life safety systems. This course is offered at the 500 and 800 levels with additional assignments at the 800 level. Not open to students with credit in ARCH 531. Prerequisite: ARCH 730 and must be current student in the Track III M.Arch degree.

ARCH 881. Building Information Modeling. 3 Credits.
This course will expose students to building information modeling: a digital representation of the building process that facilitates exchange and interoperability of information in digital format. The focus will be on the software's potential for reducing the information loss that occurs during each handoff of the project during the traditional delivery method. Possibilities for integrated practice including lifecycle costing and knowledge management are discussed. This course is cross-listed with ARCH 515 Building Information Modeling. To meet the required depth of graduate level course, graduate students will be asked to take additional assignments and conduct an additional study with a specific topic related to Building Information Modeling. The outcome of the study can be various, including academic paper, final project, or implementation of a computer application. May not be taken for credit by students with credits in ARCH 515. Prerequisite: Current students in Master of Architecture 5-year or Master of Architecture 2 year and 3-year program, or Architecture Graduate Certificate in Building Information Modeling (BIM) program.

ARCH 882. Advanced Parametric Modeling: Rhinoceros and Grasshopper. 3 Credits.
The course introduces fundamental concepts in parametric modeling, provides technical instructions in design software applications and discusses topics in generative description, systems thinking and parametric construct of design inquiries and architectural ideas. The objective of the course is to develop practical skills of designing and implementing parametric models and establish theoretical foundations of inquiry into computational design analysis, synthesis and evaluation. As a cross-listed course with ARCH 600 with the topic Advanced Parametric Modeling, which is an undergraduate level course, ARCH 817 is designed for graduate students with additional depth and assignments. Graduate students will have the final project that is to develop a computer application with graphical programming language to resolve an architectural problem that is commonly seen in practice. In the project, graduate students are expected to curate case studies and define the architectural problems, then develop parametric solutions. The process will require students to elevate their skills including parametric modeling and computer programming to develop professional applications. May not be taken for credit by students with credits in ARCH 600 with the

topic Advanced Parametric Modeling. Prerequisite: Current students in Master of Architecture 5-year or Master of Architecture 2 year and 3-year program, or Architecture Graduate Certificate in Building Information Modeling (BIM) program.

ARCH 883. Data Visualization and Parametric Design. 3 Credits.
An introductory course focused on spatial data visualization and parametric design applied to architectural landscapes with focus into qualitative and quantitative methodologies to analyze spatial challenges within different architectural typologies. Students explore tools for spatial data analysis, learn to interpret data, and graphically represent findings through three main exercises: understanding the relationship between buildings and their urban context, acquiring data collection and analysis skills, and visualizing spatial data. Assignments include a comprehensive analysis of case studies, crafting data visualization analyses, and producing analytical reports showcasing design strategies through impactful visual representations. Prerequisite: Current students in Master of Architecture 5-year or Master of Architecture 2 year and 3-year program, or Architecture Graduate Certificate in Building Information Modeling (BIM) program.

ARCH 884. Building Modeling and Visualization in Virtual Environment. 3 Credits.
The course is designed to delve deep into the application of immersive technologies in Building Information Modeling (BIM), focusing particularly on Augmented Reality (AR), Virtual Reality (VR), and Extended Reality (XR). Students will learn to use a variety of software tools, honing advanced visualization techniques that are critical in today's architectural landscape. The course emphasizes not just the technical mastery of these immersive technologies but also their role in enhancing communication and collaboration among various stakeholders throughout the design and construction phases. With a blend of hands-on projects, case studies, and expert guest lectures, students will delve into the practical and ethical dimensions of AR, VR, and XR, equipping them with the skills to navigate and shape the future of architectural design and construction. As a graduate-level course, ARCH 819 will prepare students with a solid foundation in the principles and basic applications of immersive technologies, with a focus on the application of VR visualization for BIM. Students will learn to prepare an animated VR environment, enabling various stakeholders – including architects, clients, and construction teams – to virtually walk through different phases of construction. Different user groups will be able to provide feedback to each other. May not be taken for credit by students with credits in ARCH 600 with the topic Building Modeling & Visualization in Virtual Environment. Prerequisite: Current students in Master of Architecture 5-year or Master of Architecture 2 year and 3-year program, or Architecture Graduate Certificate in Building Information Modeling (BIM) program.

ARCH 899. Thesis or Project Research. 1-6 Credits.
Independent study, research and project work leading to the submission of a master's thesis or master's project. May be repeated for credit. Note: In some cases a Comprehensive Oral Examination Option may be substituted. Prerequisite: Permission of the Architecture Program Chair.

ARCH 930. Doctoral Seminar I. 1 Credits.
The purpose of this discussion-based seminar is to explore issues of architectural research from a variety of perspectives. May be repeated up to a maximum of two (2 credits). Prerequisite: Admission to the Ph.D. in Architecture Program or consent of the Architecture Program Chair.

ARCH 931. Theories of Architectural Inquiry. 3 Credits.
This course will introduce the doctoral student to the major historical and theoretical foundations of architectural research. Architectural inquiry will be defined from diverse and distinct perspectives, and it will be assumed that buildings should be viewed as physical and cultural artifacts, as elements within larger social, natural and urban contexts, and as products of design and fabrication processes. The course will be a seminar format in which students will contribute to the discussions through independent research and critical analyses of the assigned readings and lectures. Prerequisite: Admission to the Ph.D in Architecture Program or consent of the Architecture Program Chair.

ARCH 951. Methods of Inquiry in Architectural Research. 3 Credits.

This course will provide students a foundation in methods of inquiry in researching the built environment. The purpose is to train students in developing research strategies applicable to the areas of design-fabrication processes, dwelling and community, and health and sustainability. Students will be exposed to a variety of methods of inquiry drawn from a number of disciplines. Through critical reading and content analysis, students will consider the value of scholarly research, learn to develop research questions, understand the nature of evidence, and the writing, presentation and illustration of scholarship. The course will be a seminar format in which students will contribute to the discussions through independent research and critical analyses of the assigned readings and lectures. Prerequisite: Admission to the Ph.D. in Architecture Program or consent of the Architecture Program Chair.

ARCH 958. Research Practicum Preparation. 1-6 Credits.
In this course, the students will frame a research question and develop a research proposal. The course is intended to serve as preparation for ARCH 959. Prerequisite: ARCH 931 and ARCH 951.

ARCH 959. Research Practicum. 4 Credits.
This is a research project undertaken and completed under the supervision of the student's major professor. The student designs, executes, and completes a small scale research project and produces a document of publishable quality within his/her area of inquiry. The project is intended to serve as a pilot study leading towards the dissertation. Prerequisite: ARCH 958.

ARCH 999. Doctoral Dissertation. 1-9 Credits.
Individual research work. A minimum of nine credits is required for the degree. May be repeated for credit. Prerequisite: Students must have enrolled in the Architecture PhD program and have successfully completed ARCH 959 and the Comprehensive Oral Examination to enroll in this class.

Architecture Courses

IA 205. Professional Communications Skills. 3 Credits.   GE22
This course is an introduction to visual and oral communication skills. It builds practical skills to design and communicate ideas to a variety of audiences. This practice-based approach introduces students to two major fundamentals of communication. Oral competency through presentations and writing, and visual communications through composition, color theory, typography, and branding. Students will have an opportunity to present their work through one-on-one discussions, and small and large group presentations. The course is intended to equip students with the practice-based tools to communicate and demonstrate their design ideas in relation to different fields and to a variety of audiences. Prerequisite: ARCH 109 and ARCH 110.

IA 208. Interior Architecture Studio I. 6 Credits.
This second-year design studio introduces students to the basic application of design determinants of interior architecture in which precedents research, programming, design ideation, design solutions, and presentation skills are developed. Design solution methodologies for small and medium scale interior spaces allow students to explore spatial configurations, programming, user centered design solutions, human psychology, and behavior in space. There is an introduction to

accessibility requirements. Students learn to demonstrate their design explorations with verbal presentations and visual communication skills including but not limited to sketching, diagramming, photography, digital representations and physical models. Prerequisite: ARCH 109 with a grade of C- or higher and must be admitted to the IA program.

IA 209. Interior Architecture Studio II. 6 Credits.   GE11
A continuation of IA 208, the emphasis of this design studio is to further develop and refine design determinants in which architecture/design precedent study, programming, design ideation, design development, materials and furniture integration, and presentation skills. Design solution methodologies for medium scale interior spaces allow students to explore complex spatial configurations and programming, user centered design solutions, furnishings, manufactured products, materials and finishes integrations. Students further develop design skills to address human psychology and behavior in space, and the ability to apply accessibility requirements in their design solutions. Students will demonstrate their explorations with written narratives, verbal presentations and visual communication skills of sketching, diagramming, photography, digital representations, and physical models. Prerequisite: IA 208 with a grade of C- or higher.

IA 210. Human Factors in the Built Environment. 3 Credits.
This course provides an introduction to human factors theory, data, and analysis from an architectural perspective. Topics covered include how proxemics, anthropometrics, ergonomics, and material choices in the built environment impact our psychology, behaviors, and health. Furthermore, students will learn how human-centered design can be used to create optimal environments for diversity and inclusion. Prerequisite: ARCH 109 with a grade of C- or higher and must be admitted to the IA program.

IA 211. Building Codes, Standards, and Programming. 3 Credits.
This course is an in-depth exploration of programming, standards, codes, and life-safety as they apply to interior design. Students will learn about the significance and history of building codes, legal requirements, and how to apply codes and life-safety requirements to buildings. This course will also introduce and cover the relationship between programming and code requirements through program creation and application in design projects. Prerequisite: IA 210.

IA 220. Sustainable Interior Materiality. 3 Credits.
This course is an introduction to the application of materials, processes, specifications, and craft in the construction of the built environment. Along with presenting the information required for understanding the basic principles and appropriate application and performance of construction systems and assemblies, the course also provides a conceptual framework to bridge between the physical conditions of construction related to materials selections and the abstract processes of tectonics design. Students demonstrate their explorations through different methods including model building and hands-on building experiences. Prerequisite: IA 210.

IA 230. Lighting Design and Technology. 3 Credits.
An exploration of topics on natural lighting and illuminance in interior spaces. Includes lighting sources, technology, specifications of luminaires and design applications through technical drawings. Prerequisite: IA 208.

IA 308. Interior Architecture Studio III. 6 Credits.
This third-year interior architecture studio builds on the skills developed in the second-year interior architecture studios. It covers design development of a non-residential, medium scale project. Students work individually to explore applications of complex programming, spatial configuration, sustainability, lighting design, acoustics, psychology of a space, human experience, and ability to apply code and accessibility requirements to their projects. Students also explore manufactured products and furniture systems with an emphasis on material selections

and specifications. Students demonstrate their creative work written narratives, verbal presentations, and visual communication skills including sketching, diagramming, photography, digital representations and physical models. Prerequisite: IA 209 with a grade of C- or higher, IA 211, IA 220, and IA 230.

IA 309. Advanced Interior Architecture Studio. 6 Credits.
Continuation of the third-year interior architecture studio sequence with an emphasis developing advanced skills of the design process, design research, building codes and regulations, materiality, technical documentation, and design production. Prerequisite: IA 308 with a grade of C- or higher.

IA 310. Contemporary Issues of Interior Architecture. 3 Credits.
This course examines critical and most current topics of the interior design discipline. Students will explore how multi-dimensional approaches to interior design can generate social change. Prerequisite: IA 308.

IA 311. Interior Construction and Detailing. 3 Credits.
This is a lecture-based course designed to provide students with a comprehensive understanding of interior construction and detailing. It is designed to equip students with practical knowledge about structural systems and construction methods. Furthermore, students will apply their new knowledge into their studio work by preparing a comprehensive set of construction documents. Prerequisite: IA 209 and IA third year standing.

IA 322. Furniture Design. 3 Credits.
This course explores the methodology of furniture design and construction. Investigative studies of theory, materials and construction methods of classical, modern, and contemporary furniture design result in a basic knowledge of human factors, design processes, and tectonics. Students will develop skills in design and construction of a piece of furniture from using interior millwork to advanced digital technology. Prerequisite: IA 220.

IA 342. History and Theory of Built Environments I. 3 Credits.
Continued chronological survey of architecture, interiors, art, furniture and decorative arts in European contexts in 20th and 21st centuries. Emphasis is on specific socio-cultural, political, technological, and economic factors that influenced these two centuries and on major design approaches that emerged during these time periods. Prerequisite: ARCH 340.

IA 359. Special Problems: _____. 1-3 Credits.
Special problems in Interior Architecture. This study of a particular problem in Interior Architecture involving individual research and presentation, conferences and reports. Prerequisite: Student must submit to his/her faculty advisor in advance, a statement they wish to pursue. The instructor must give permission to study with the student.

IA 390. Study Abroad. 5 Credits.
Students participate in a study abroad program approved by the IA program. Students will be evaluated upon a submitted journal, sketchbook, or equivalent assignments assigned by the instructor. Graded on a satisfactory/unsatisfactory basis. Prerequisite: Must be admitted to the IA Degree program.

IA 401. Professional Internship. 2-6 Credits.
Students work in a pre-approved professional firm during summer between the third- and fourth-year of the IA degree program. The purpose of this course is to give students a structured opportunity to explore and research about architecture and interior design professional firms, and select, participate and document their internship experience. Students have the option of completing a pre-approved international internship. Prerequisite: IA 309 with a grade of C- or higher.

IA 408. Design Research. 3 Credits.

A seminar-based elective that exposes students to critical interior design research approaches, including but not limited to programming, post-occupancy evaluations (POE), global and cultural dimensions, and design thinking. Topics variable on accreditation needs, represented by subtitles as announced in the semester timetable. May be repeated for credit. Prerequisite: IA 401.

IA 409. Integrated Interior Architecture Studio. 6 Credits.   AE61 CAP

The capstone studio with an emphasis on demonstration of integrating of all previously learned design skills. These include program analysis, space configuration, formal design composition, structure, materials and methods of construction, technical development of interior spaces, environmental systems, lighting design, acoustics, code and regulation compliance, and principles of sustainability with evidence-based and human-centered design approaches. Students also demonstrate an awareness of history, theory, and culture of the given context. The advanced level of project development is demonstrated by technically precise drawings and well-researched written documentation in additional to other means of representation. Students may work in groups and with professional consultants. Prerequisite: IA 401 and must be in the 4-year Interior Architecture Bachelor of Science degree plan to enroll in this course.

IA 690. Study Abroad. 5 Credits.

Students participate in a study abroad program approved by the IA program. Students will be evaluated upon a submitted journal, sketchbook, or equivalent assignments assigned by the instructor. Graded on a satisfactory/unsatisfactory basis. Prerequisite: Must be admitted to the IA Degree program.

Design Courses

ADS 300. Foundations in Interaction Design. 3 Credits.

This course examines the fundamental principles and materials underlying the interactions between people, artifacts, and systems. Students will be introduced to a variety of new tools and techniques that will facilitate the prototyping of interactions/user interfaces/experiences of mobile devices, desktop devices, cars, games, consoles, kiosks, and/or apps. Projects, lectures and tutorials will provide a working knowledge of fundamental principles, processes and current tools. Prerequisite: Admission to a major and/or minor offered by the Department of Design or instructor permission.

ADS 320. KU Design Professional Lecture Series. 1 Credits.

The lecture series invites accomplished, national and international, designers and artists to KU and engage with students. By participating in these lectures, students will have the opportunity to grasp the current state of the industry, dive deep into the intricacies of creative processes, acquire valuable insights into effective collaboration with clients, and glean essential lessons from seasoned professionals. Students enrolled in this course must attend all the lectures in the semester in order to earn a passing grade in the course. Can be repeated for credit. Open to all KU students. Graded on a satisfactory/unsatisfactory basis.

ADS 325. Design Thinking. 3 Credits.

Introduction to the principles of design thinking, design processes, design strategies and methods, including techniques and tools for the development of human-technology interfaces. Abstract through concrete representation methods and techniques will be applied to interaction design projects/problems. Information collection and analysis methods, scenario and prototyping methods, evaluation methods (empirical), creativity methods, and task-oriented methods (non-empirical) will also be considered. Prerequisite: Admission to a major and/or minor offered by the Department of Design or instructor permission.

ADS 340. History of Design. 3 Credits.

Survey of majority American design history from 1800 to the present with emphasis on graphics, architecture, industrial and interior design movements. This course will critically examine the design profession through multiple lenses: mass production, race, gender, technology, key figures, and environment (including accessibility, nature, and socio-political climate). Required course for major and/or minor offered by the Department of Design. Open to all majors. HA 151 is preferred for students interested in Illustration or Animation. Prerequisite: HA 100 or HA 150 or HA 151.

ADS 345. History of Design II. 3 Credits.

Explore the evolution of contemporary design through diverse historical, methodological, and theoretical lenses in this comprehensive course. Though in-depth case studies delve into various realms, including industrial design, graphic design, and architecture. Analyze objects as reflections of broader cultural, economic, and political influences that have shaped modern design history. Gain an in-depth understanding of individual works to unravel how they embody the social, material, and economic challenges faced by designers. By completing the Design History sequence, students will adeptly identify and discuss key figures, events, and trends in modern design, skillfully analyze objects and primary sources for historical significance and contemporary relevance and master the art of crafting clear and concise arguments for written, spoken, and visually communicated forms of expression. Prerequisite: ADS 340 or with permission of the instructor.

ADS 346. History of Animation. 3 Credits.

This lecture course covers the history and development of animation as an art form from the earliest experimental animated films to modern animated works, noting important works across cultures. Students will develop visual literacy though an exploration of animation's origins in art, film, video, and digital media, its various innovators and methods, major important works, and its relationship to the technology of filmmaking and presentation. Readings and discussions are combined with screening and analysis of animated films. Required for Animation students. Upon completion of this course, students will adeptly recognize and articulate key figures, pivotal events, and significant trends in Animation. They will acquire the skills to construct articulate, clear, and concise arguments, proficiently expressing their thoughts through written, spoken, and visually communicated forms of expression. Prerequisite: Admission to a major and/or minor offered by the Department of Design or instructor permission.

ADS 347. History of Industrial Design. 3 Credits.

In this lecture course, participants cultivate a forward-thinking and critical comprehension of the history of product and industrial design, exploring various perspectives such as socio-technological innovation, economics, business dynamics, ethics, gender, scale of production, efficiency, labor, human-centered design, systems thinking, ecological impact, engineering, science, and cultural expression. Through curated readings and engaging lectures, students are exposed to diverse viewpoints, fostering an environment that encourages them to question historical assumptions and develop a nuanced understanding of the multidimensional aspects shaping the evolution of design. Prerequisite: Admission to a major and/or minor offered by the Department of Design or instructor permission.

ADS 348. History of Illustration. 3 Credits.

Lecture course. The history of illustration and illustrators from the mid-19th century to the present. Discussions on social, political, and technical events and their effects on the styles, techniques, and trends in the profession of illustration. Upon completion of this course, students will adeptly recognize and articulate key figures, pivotal events, and significant trends in Illustration. They will acquire the skills to construct

articulate, clear, and concise arguments, proficiently expressing their thoughts through written, spoken, and visually communicated forms of expression. Prerequisite: Admission to a major and/or minor offered by the Department of Design or instructor permission.

ADS 401. Design Ethics. 3 Credits.   AE51

Since the time of Socrates, philosophers have struggled with understanding everyday moral dilemmas, in this course, we will look at how cultures throughout history have framed everyday moral choices and how those choices apply to working as a designer/artist/architect in our contemporary world. Through presentations, guest lectures, small group discussions, and role-playing experiences, we will question and analyze ethical and moral problems faced by today's shapers of culture. Prerequisite: Admission to a major and/or minor offered by the Department of Design or instructor permission.

ADS 402. Visual Culture. 3 Credits.

Visual Culture immerses students in the interplay of art, design, and communication. This interdisciplinary journey imparts indispensable skills to navigate the constantly evolving realm of visual expression, placing particular emphasis on movies, photography, and the influential sphere of popular culture. By course completion, students emerge equipped to meaningfully contribute to discussions on the profound impact of visual culture in contemporary society. Whether analyzing the silver screen or navigating the digital landscape, students develop analytical skills, enabling thoughtful engagement with the evolving language of visual communication. Prerequisite: Admission to a major and/or minor offered by the Department of Design or instructor permission.

ADS 450. Navigating the Creative and Legal Landscape. 3 Credits.

This course is crafted to guide design students through the intricate interplay of design and business. It offers a blend of learning experiences, featuring lectures, guest presentations by legal and industry experts, collaborative group discussions, and immersive hands-on exercises. Topics include copyright, trademarks, pricing strategies, contracts and negotiation, licensing, patents, legal rights, and the establishment of Limited Liability Companies (LLCs). Through practical application, students will actively engage in crafting sample design contracts, negotiating licensing agreements, and navigating the intricacies of LLC formation projects. These scenarios will empower students to seamlessly apply their knowledge in professional contexts, preparing them for the challenges and opportunities that lie ahead in their design careers. Prerequisite: Admission to a major and/or minor offered by the Department of Design or instructor permission.

ADS 455. Senior Show Seminar. 1 Credits.

Design students will work together in the organization and promotion of the Department of Design Senior Show. This event serves as a significant platform for senior design students to showcase their best work to peers, faculty, family, potential employers, and the broader design community. Required to participate in the senior show for credit. Graded on a satisfactory/unsatisfactory basis. Prerequisite: Junior standing in the Department of Design.

ADS 531. Internship Credit. 1-6 Credits.

Students develop professional skills and problems solving through applied work with an employer in a Design field. Supervision by a professional designer, and prior approval by the relevant Area Coordinator is mandatory. May be repeated twice for credit. Graded on a satisfactory/ unsatisfactory basis. Prerequisite: Requires instructor consent.

ADS 532. Study Abroad: _____. 3 Credits.

Students will participate in a Design focused study abroad program. The student will be required to attend group meetings prior to the trip along with development of research topics of interest. Simple documentation would be required - sketchbook/journal responding to day-to-day itinerary and other events, following the trip and presented for a grade. Prerequisite: Junior level or higher standing in Design or with permission of the instructor. Corequisite: ADS 533.

ADS 533. Study Abroad Documentation. 3 Credits.

Consists of research work prior to the trip as well as follow-up and required studio work due after return. A portfolio of work will be required for a grade. Course will also fulfill Design-specific requirements or studio credits for other majors. Areas may designate specific Design courses as substitutions for this course. Prerequisite: Junior level or higher standing in Design or with permission of the instructor. Corequisite: ADS 532.

ADS 560. Topics in Design: _____. 4 Credits.

A study of different topics in different semesters in a special area of interest to a staff member and suitable qualified students. May be repeated for credit. Prerequisite: Third-Year standing in department or permission of instructor.

ADS 580. Special Problems in Design. 1-6 Credits.

A study of current problems in design or crafts with an emphasis on research. Special problems proposals must be discussed with and approved by the instructor and advisor prior to enrollment in the course. A student may not take more than six credit hours of special problems in any one semester. Prerequisite: Junior standing in department.

ADS 601. Design Ethics. 3 Credits.

Since the time of Socrates, philosophers have struggled with understanding everyday moral dilemmas, In this course, we will look at how cultures throughout history have framed everyday moral choices and how those choices apply to working as a designer/artist/architect in our contemporary world. Through presentations, guest lectures, small group discussions, and role-playing experiences, we will question and analyze ethical and moral problems faced by today's shapers of culture. This course is named after industrial designer Victor Papanek, who served as a Distinguished Professor of Architecture & Design at KU from 1981 until his death in 1998. His 1971 book "Design for the Real World" is credited as being one of the first publications which challenged designers to understand their social and ecological responsibilities. Open to all graduate students. Prerequisite: Graduate student status.

ADS 710. Advanced Human Factors in Interaction Design. 3 Credits.

The study of human factors principles and guidelines are fundamental to interaction design. In this course, these principles will be illustrated and applied to real-world design projects/problems. Human physical and cognitive capabilities, computer-human interface and systems properties, interaction design methods, and the physical and socio-cultural environment will be considered. Fundamental issues in human-centered systems, basic research methods, including statistics and literature searches, will be included. Prerequisite: Admission to the MA in Design, Design Management or Interaction Design or instructor permission.

ADS 712. Advanced Design Methods. 3 Credits.

This course will cover the principles of design thinking, design processes, design strategies and methods, including techniques and tools for the development of human-technology interfaces. Abstract through concrete representation methods and techniques will be applied to interaction design projects/problems. Information collection and analysis methods, scenario and prototyping methods, evaluation methods (empirical), creativity methods, and task-oriented method (non-empirical) will also be considered. Methods common to design-related disciplines in the social sciences, business, architecture, communication studies and engineering are integrated. Prerequisite: Admission to the MA in Design, Design Management or Interaction Design or instructor permission.

ADS 714. Service and User Experience Design. 3 Credits.
Business products, services and environments are often intermingled in ways that require more holistic ways of thinking and development. A challenge of service innovation is to design with an understanding of the many dimensions of human experience and satisfaction. This course elaborates how, where, when, and why design can enhance the value of business services. Theory, methods, and practice aspects of services design are presented. Prerequisite: Admission to the MA in Design, Design Management or Interaction Design or instructor permission.

ADS 740. Special Problems in Design. 1-6 Credits.
An in-depth study of current problems in design or crafts with an emphasis on research. Special problems proposals must be discussed with and approved by the instructor and graduate advisor prior to enrollment in the course.

ADS 750. Design Management. 3 Credits.
Design Management has been described as "applied innovation" or the methodical capturing of talent and resources available inside and outside an organization to create valuable new offerings, brands, and business models. This course explores the design functions in business as a means to solve difficult challenges and develop new market-facing opportunities. Subjects include brand value creation, differentiation, coordination, and transformation. Numerous cases will be discussed. Prerequisite: Admission to the MA in Design, Design Management or Interaction Design or instructor permission.

ADS 751. Design Scenarios and Simulations. 3 Credits.
Most organizations are imaginatively challenged and experience difficulty innovating and marketing new concept offerings. Conventional methods spotting and validating new opportunities often lack the persuasive power necessary for change to occur. Scenario-based design and simulation offers ways to vividly representing a future that is different from the past. This course presents theory, methods and practice aspects of design scenario construction and simulation. Prerequisite: Admission to the MA in Design, Design Management or Interaction Design or instructor permission.

ADS 760. Strategic Design Innovation. 3 Credits.
As companies struggle with the demands of increasing consumer, intense competition and downward price pressures, there is a corresponding increase in the demand for more innovative business models and higher-value offerings. These forces have significantly broadened the strategic scope of design. Advanced, multi-disciplinary design teams are being engaged early to help guide new business and product development efforts. Why, where, when, and how this is done in order to deliver on the promise of innovation is the subject of this course. Prerequisite: ADS 750 or instructor permission.

ADS 765. Interaction Design. 3 Credits.
Interaction Design is about creating products, services or environments that offer significant experiential value to people and economic value to organizations. This course engages the comprehensive subject of design for human experience. Building on the gamut of human factors and design methods knowledge, this offers hands-on experience in the research, analysis, modeling and simulation of original and experientially compelling design solutions. ADS 710 must be taken prior to or concurrently with this course. Prerequisite: Corequisite: ADS 710 or instructor permission.

ADS 861. Thesis Research Seminar. 1 Credits.
Approaches to producing original design research. Methods, resources, topics and projects are discussed and evaluated. May be repeated for up to six credit hours in subsequent semesters. Prerequisite: Admission to the MA in Design, Design Management or Interaction Design or instructor permission.

ADS 890. Thesis. 1-8 Credits.
This course involves substantive individual research and thesis development, as well as regular discussions between student and instructor/advisor. Your ADS 890 instructor serves as your thesis advisor, and chairs your thesis committee. A thesis topic and research focus is expected very early in the term, followed by a formal thesis proposal containing clear objectives, schedule and deliverables. When green lighted, the proposed thesis is then executed by the student who prepares and presents the work to their thesis committee for evaluation. Prerequisite: Successful completion of ADS 861 and either ADS 750 or ADS 765.

Design Courses

ANIM 121. Drawing for Animation. 4 Credits.
In this studio students gain a fundamental understanding of drawing human and animal forms using techniques and emphasizing features relevant to animation and illustration. Topics of focus include gesture, stylization, expression, and narrative content. Graded on a satisfactory/unsatisfactory basis. Prerequisite: Admission to a major and/or minor offered by the Department of Design or instructor permission. Corequisite: ILLU 200, ANIM 200.

ANIM 200. Introduction to Animation. 4 Credits.
Studio. This is an introductory course on the foundational principles of 2D animation. Students will begin with traditional paper and pencil techniques to explore the basic principles of motion and how still images run in sequence to produce an illusion of life. Topics covered include squash and stretch, timing and spacing, planning motion, keyframing, breakdowns, and in-betweens. Students will also be introduced to the techniques of 2D animation through traditional media and software/hardware tools. Prerequisite: BDS 101 and BDS 103 with semester grades of "C+" or higher or instructor permission. Corequisite: ILLU 200, ANIM 121.

ANIM 210. Visual Development for Animation. 4 Credits.
This studio introduces students to the design and development of characters, props, and environments for animation. Through lectures, assignments, and critiques, students will learn the principles of developing effective assets for an animated production, and how to format and present their work as part of a larger production team. Topics covered include a focus on appeal, shape language, color and color selection, style development, and supporting a narrative. Students will also take note of ethical concerns of design in animation and media. Prerequisite: ANIM 200 with semester grades of "C" or higher or instructor permission. Corequisite: ANIM 215.

ANIM 215. Second-Year Studio I: Media In Motion. 4 Credits.
In this studio course students will explore a variety of animation techniques using traditional and digital media to broaden their toolbox. Reference collecting, model making, and the creating of photographic reference material will be addressed. An emphasis will be placed on experimentation and exploration of each animation method. Prerequisite: ANIM 200 with semester grades of "C" or higher or instructor permission. Corequisite: ANIM 210.

ANIM 221. Animation Drawing Colloquium. 1 Credits.
Weekly open studio session. Students at multiple levels attend a weekly drawing session with live models, nude and costumed. Course may include occasional field trips to on-site drawing of human or animal subjects as availability and weather permit. Graded on a satisfactory/unsatisfactory basis. Prerequisite: BDS 101 and BDS 103 with semester grades of "C+" or higher or instructor permission.

ANIM 310. Second-Year Studio II: Principles of Story. 4 Credits.

This studio is designed to introduce students to the fundamentals of visual storytelling, and its expression in the form of the drawn storyboard. Students will explore how stories are structured, and how they are written and formatted for film. Topics include: story structure and character story arc, plot, theme, roles and character archetypes. Through lecture, discussion of examples from film, and demonstration, students develop economical drawing skills to express a narrative through a sequence of storyboard panels using the visual grammar of filmmaking. Prerequisite: ANIM 210 and ANIM 215 with semester grades of "C" or higher or instructor permission. Corequisite: ANIM 315. ANIM 321.

ANIM 315. 3D Foundations for Animation. 4 Credits.
Students learn to utilize industry standard 3D tools to convert their artwork into a digital 3D format. Through demonstrations, projects and critiques students will gain an understanding of the basic principles of 3D modeling, the design of 3D materials, texturing and texture design, and the lighting and rendering of 3D scenes. Students will also be introduced to the use of 3D tools in preparing assets for an animation or videogame pipeline including basic techniques of rigging 3D characters and objects and creating animation tests. Prerequisite: ANIM 210 and ANIM 215 with semester grades of "C" or higher or instructor permission. Corequisite: ANIM 310, ANIM 321.

ANIM 321. Anatomy and Figure Construction. 3 Credits.
This studio is designed to introduce students to the anatomical structure of human and animal forms, and to employ that knowledge in drawing the figure. Students study the skeleton and major muscle groups of the human form and study their relationships to pose and action. Human anatomy is compared to that of animal subjects. Using anatomical knowledge, students learn to construct and invent human, animal and anatomically plausible creature drawings. Prerequisite: ANIM 210, ANIM 215 with semester grades of "C" or higher or instructor permission. Corequisite: ANIM 310, ANIM 315.

ANIM 410. Studio Pre-Production. 4 Credits.
In this studio students prepare to produce a group-based animated short film in the following spring semester by exploring historical animated and traditional film structure and practices. Working as part of a pre-production team, students will develop and pitch the concept for an animated short, and then spend the semester developing the visual style and assets needed to turn a story idea into an animated film. At the same time, through lectures and discussion, students will learn principles of production management, production planning, and the development of a production pipeline. Students will learn to manage workflow of a production to set deadlines and deal with limited resources. Prerequisite: ANIM 310, ANIM 315, ANIM 321 with semester grades of "C" or higher or instructor permission. Corequisite: ANIM 415.

ANIM 415. Third-Year Studio I: Action Analysis. 4 Credits.
In this studio students will continue to build upon their animation skills through the analysis of physical and character motion. Students will learn to express physical properties of motion through the tools of timing, spacing, takes, smears, and other animation techniques. Students will also learn to utilize reference footage to study the properties of object and character motion, and to translate and stylize that motion into an animated form. An emphasis is placed on communicating story and emotion in the expression of motion. Prerequisite: ANIM 310, ANIM 315, ANIM 321 with semester grades of "C" or higher or instructor permission. Corequisite: ANIM 410.

ANIM 420. Studio Production. 4 Credits.
Studio. Building on work from the previous semester, student work as teams to produce a final animated short film or similar project based on the pitch previously created. Students will learn about working with specialists in other disciplines as they connect with partners from other programs to add elements like sound, music, and voice acting, branding, graphics and promotional materials to their production. Continued discussion and development of an effective production pipeline and production management techniques. Prerequisite: ANIM 410. ANIM 415 with semester grades of "C" or higher or instructor permission. Corequisite: ANIM 435.

ANIM 435. Third-Year Studio II: Dialogue and Acting. 4 Credits.
This studio continues student's exploration of animation techniques by adding speech and dialogue. Students will learn the principles of matching animation to pre-recorded dialogue by using properly synchronized mouth shapes, poses, and body actions to support the speech. Character design and the design of facial expressions will be covered. Through lectures and exercises students learn to act through an animated speaking character. Prerequisite: ANIM 410. ANIM 415 with semester grades of "C" or higher or instructor permission. Corequisite: ANIM 420.

ANIM 440. Fourth-Year Studio I: Pre-Production. 4 Credits.
This capstone studio directs students through the creation, pitch, and pre-production development of an animated short or similar project to be completed in the following spring semester. Students will individually develop an idea based on their own interests, and work towards a pre-pitch at mid semester for feedback on their concept, and then a revised and expanded pitch and production plan at the end of the semester. Students will apply and demonstrate the knowledge they have built in style development and production design, story development, visual development and asset creation, and production management and planning. Prerequisite: ANIM 420. ANIM 435 with semester grades of "C" or higher or instructor permission. Corequisite: ANIM 445.

ANIM 445. Promotion and Marketing for Animation. 3 Credits.
Focus will be on preparation for entering the profession. Students will explore chosen professional markets through self-assessment and market research, leading to the creation of a professional marketing plan and direction for a senior portfolio. Beginning development of self-promotion and marketing materials will also be covered. Prerequisite: ANIM 420. ANIM 435 with semester grades of "C" or higher or instructor permission. Corequisite: ANIM 440.

ANIM 448. Animation Studio Practicum. 1 Credits.
The Animation Studio Practicum course provides students with the opportunity to gain first-hand knowledge of working as part of an animation production. Students will be assigned roles as part of a faculty lead ongoing animated film or similar project. Roles will be assigned based on production needs, student skills, and students' interests. May be repeated for credit. Prerequisite: ANIM 310. ANIM 315 with semester grades of "C" or higher or instructor permission.

ANIM 450. Fourth-Year Studio II: Production and Post. 4 Credits.
Continuing from their pitch completed in the previous semester, in this capstone course students will spend the semester enacting their planned animated short or similar animation project. Students will apply their knowledge of story development, animation, editing, and production pipelines. Opportunities for students to collaborate with specialists from other disciplines to add sound, graphics, voice acting, and other elements to their final film. Prerequisite: ANIM 440. ANIM 445 with semester grades of "C" or higher or instructor permission.

Design Courses

BDS 101. Design Thinking and Making. 4 Credits.
This course is an introduction to creative problem-solving and the fundamentals of two-, three-, and four-dimensional design. Drawing, Photography, and 2D and 3D models are used in this course as a means of design thinking to visually represent problems and solutions.

Prerequisite: Admission to a major offered by the Department of Design or instructor permission, and must be concurrently enrolled in BDS 103.

BDS 103. Drawing for Design. 4 Credits.
This course will focus on drawing as a tool of communication through freehand exercises that explore observation and perception, form and proportion, dimensional illusion and expressive characteristics using a variety of materials and media. Some identified sections of this course will also use two-and three-dimensional modeling software. Prerequisite: Admission to a major offered by the Department of Design or instructor permission, and must be concurrently enrolled in BDS 101.

Design Courses

ILLU 200. Introduction to Image Making. 4 Credits.
This studio introduces the principles for communication through visual language. Exploration of theories in visual perception and visual communication, with focus on reading and developing visual images for intended meaning. Emphasis is placed on concept development, pose composition, principles of layout, color-theory, values, textures, abstraction, semiotics, drawing-systems and design-process to create successful illustrative visual solutions. Prerequisite: BDS 101 and BDS 103 with semester grades of "C+" or higher or instructor permission. Corequisite: ANIM 200.

ILLU 205. Drawing Media for Illustration I. 4 Credits.
This studio explores the of problems in drawing for various reproduction processes. Emphasis on perspective, head drawing, the clothed and nude figure, nature illustration, perspective, and environments. Various drawing media and materials are explored. Prerequisite: ILLU 200 and ANIM 200 or VISC 201 with semester grades of "C" or higher or instructor permission. Corequisite: ILLU 215.

ILLU 215. Illustration Second-Year Studio I. 4 Credits.
This studio course offers a concentrated study in the development of skills and techniques using media and materials employed in producing contemporary illustration. The focus remains on refining methods of research and idea generation, ensuring students acquire a comprehensive understanding of the tools and processes essential for creating contemporary illustrations. Prerequisite: ILLU 200 and ANIM 200 or VISC 201 with semester grades of "C" or better or instructor permission. Corequisite: ILLU 205.

ILLU 302. Digital Painting for Design. 4 Credits.
Foundations in Digital Painting for Design will allow students to work through a series of rapid-paced skill-building exercises and assignments to gain knowledge and experience for use in delivering illustratively designed solutions using digital media. Get your ideas and images out of your head and sketchbook and into the world of pixels in this skill building course. The course is focused on exploration and growth in the use of blending, color, lighting values, texture, pose, storytelling and other foundational elements of digital painting. Pressure sensitive digital tablet/stylus and Adobe CC required.

ILLU 310. Drawing Media for Illustration II. 4 Credits.
In this studio students explore various drawing and painting media to continue developing their mastery of representational imagery for illustration. Reference collecting, model making, and the creating of photographic reference material will be addressed. Emphasis on mark making, value and color relationships, and placing the figure in an environment is also covered. Prerequisite: ILLU 205 and ILLU 215 with semester grades of "C" or better or instructor permission.

ILLU 320. Concept Art for Illustration I. 4 Credits.
This studio course provides an introductory exploration of theory and methods aimed at developing and enhancing the elements of an illustration, including characters, environments, and props. Topics will be explored through the lens of concept art, visual development, and other areas of entertainment design, with an emphasis on professional techniques and tools. Aspects of professional practice in these industries will also be covered. Prerequisite: ILLU 305 with semester grades of "C" or higher or instructor permission. Corequisite: ILLU 315.

ILLU 325. Concept Art for Illustration II. 4 Credits.
Studio course. Continuation in exploration of theory and methods for developing and improving the elements of an illustration: characters, environments, and props. Building on the skills learned in Concept Art for Illustration I, students will further explore techniques and tools through the lens of concept art, visual development, and other areas of entertainment design. Continued discussion of professional practice in these industries. Prerequisite: ILLU 320 with semester grades of "C" or higher or instructor permission. Corequisite: ILLU 335.

ILLU 330. Third-Year Studio I. 4 Credits.
The focus of this Illustration Concepts studio is to learn how to think and communicate visually. Conceptual methods and tools are introduced to improve the command of visual language and apply it to the problem-solving process for effective illustrations. Continued development of technical skills and visual literacy to gain insight into how to make images that communicate unique ideas clearly. Prerequisite: ILLU 310 with semester grades of "C" or higher or instructor permission. Corequisite: ILLU 320.

ILLU 335. Third-Year Studio II. 4 Credits.
Sequential and Narrative Illustration studio explores thematic illustration through the development of a series of images based on a topic, theme or story. A holistic method of developing illustrations is addressed, including aspects of continuity, consistency, storytelling, pacing, editing, and packaging. Prerequisite: ILLU 215 or ILLU 315 and ILLU 320 with semester grades of "C" or higher or instructor permission. Corequisite: ILLU 325.

ILLU 410. Fundamentals of Animation. 4 Credits.
Concentrated study in developing skills and techniques with digital media and materials employed in producing basic contemporary animation. Development of concept, script, storyboard, and use of audio, music and sound effects are part of this animation experience. Prerequisite: Instructor permission.

ILLU 455. Fourth-Year Studio I: Promotion and Marketing for Illustration. 4 Credits.
Promotion and Marketing for Illustration studio focuses on preparation for entering the profession. Development and completion of a branding and marketing package based on industry research will supplement and support the senior portfolio. Contemporary business practices and legal issues will be addressed. Prerequisite: ILLU 325 and ILLU 335 with semester grades of "C" or higher or instructor permission.

ILLU 465. Fourth-Year Studio II: Promotion and Marketing for Illustration II. 4 Credits.
Promotion and Marketing for Illustration II students will focus on the planning and completion of a professional portfolio. The creation of a new body of work will be strategically tailored to target a chosen market, informed by industry research. Building upon the skills acquired in ILLU 440, this studio involves the continued development and completion of a comprehensive self-promotion and marketing package. Furthermore, students will delve into additional business practices and legal considerations pertinent to the field of illustration. Prerequisite: ILLU 510 or ILLU 445 with semester grades of "C" or higher or instructor permission.

ILLU 510. Advanced Animation. 4 Credits.

Continued development of concepts, scripts, storyboards, and use of audio, music and sound effects in the production of a 1-3 minute animated film. Prerequisite: Instructor permission.

ILLU 535. Promotion and Marketing for Illustration I. 3 Credits. AE61 CAP
Focus will be on preparation for entering the profession. Development and completion of a self-promotion and marketing package will supplement and support the senior portfolio. Contemporary business practices and legal issues will be addressed. Prerequisite: ILLU 435 and ILLU 445 with semester grades of "C" or higher.

Design Courses

INDD 101. Introduction to Industrial Design. 4 Credits.
This studio introduces tools, techniques and processes used in the professional practice of Industrial Design. Learning is through a series of short, focused projects. Techniques in prototyping, drawing, digital fabrication, and presentation are demonstrated and developed. Prerequisite: BDS 101 and BDS 103 with semester grades of "C" or higher or instructor permission. Corequisite INDD 114.

INDD 114. Drawing for Industrial Design I. 4 Credits.
This studio will center on drawing as a tool of communication through a variety of exercises that explore observation and perception, form and proportion, dimensional illusion and expressive characteristics using a variety of materials and media. A significant emphasis will be placed on honing your skills in rapid drawing techniques, with a specific focus on both orthographic and perspective drawing methods. Prerequisite: BDS 101 and BDS 103 with semester grades of "C" or better or instructor permission. Corequisite INDD 101.

INDD 210. Industrial Design Second-Year Studio I. 4 Credits.
This studio introduces the methods and processes used in the profession of Industrial Design. Students integrate design history and theory, with a focus on research, user centered design, and aesthetics through a series of short, focused projects in a variety of areas. Techniques in drawing, computer modeling, physical modeling, and presentation are demonstrated and developed. Strategies to improve creativity are explored. Prerequisite: INDD 101 and INDD 114 with semester grades of "C" or higher or instructor permission. Corequisite: INDD 214.

INDD 214. Drawing for Industrial Design II. 4 Credits.
A sketching studio empowering product designers to rapidly generate ideas, avoiding resource commitment to any single concept. Throughout this course, the continued emphasis on sketching and drawing as a communication tool persists. Diverse exercises persistently delve into and enhance aspects such as form and proportion, composition, dimensional illusion, and expressive attributes. Prerequisite: INDD 101 and INDD 114 with semester grades of "C" or higher or instructor permission. Corequisite INDD 210.

INDD 220. ID Second-Year Studio II. 4 Credits.
A Studio introducing more complex design problems through a rapid sampling of design projects. Students refine research abilities, understanding and meeting users' needs, how to prototype using a variety of media, the power of aesthetic, and how to present & critique work to develop their vocabulary and analytical skills. Students learn how to design for a consumer market and apply manufacturing processes & material considerations to their designs. Prerequisite: INDD 210 and INDD 212 with semester grades of "C" or higher or instructor permission. Corequisite INDD 308, INDD 350.

INDD 308. Materials and Processes. 3 Credits.
A course studying modern materials, design processes, manufacturing processes, communication methods with manufacturers, and construction methods applicable to the field of industrial design. Students will learn the fundamentals of sustainable design and how to assess and improve current design methods and materials. Students also learn how to navigate trends and materials of the future, specifically how materials and processes can drive innovation. Students will conduct case studies of different materials and processes. This course will be supplemented by guest speakers and field trips to area manufacturing and design facilities. Prerequisite: INDD 210 and INDD 214 with semester grades of "C" or higher or instructor permission. Corequisite INDD 220, INDD 350.

INDD 310. Industrial Design Third-Year Studio I. 4 Credits.
A studio course where students participate in a series of design projects often partnered with professional design teams, students explore design problems of greater complexity including group research and problem-solving assignments in advanced product and service design. Advanced techniques in research, problem solving, concept communication, visualization, presenting to professional stakeholders, and overall design expression will be demonstrated and explored. Prerequisite: INDD 210 with semester grades of "C" or higher or instructor permission. Corequisite INDD 315.

INDD 315. Human Factors and Ergonomics. 4 Credits.
A course introducing the field of human factors appropriate to industrial design. The course will cover a wide range of topics that fall underneath the umbrellas of cognitive ergonomics and physical ergonomics to develop effective and safe products and systems. This course aims to examine the cognitive and physical constraints of the human system and how design can address those issues through lectures, case studies, and projects. Prerequisite: INDD 308 with semester grades of "C" or higher or instructor permission. Corequisite: INDD 310.

INDD 320. Directed Readings in Industrial Design. 1 Credits.
This course is an alternative to ADS 320 for Industrial Design students with unavoidable scheduling conflicts. Students will watch relevant films and digital media, read important texts and articles, attend lectures, then compose and submit careful reflections on those media and experiences. Graded on a satisfactory/unsatisfactory basis. Prerequisite: Admission to the Department of Design in the School of Architecture & Design and department permission.

INDD 325. Industrial Design Third-Year Studio II. 4 Credits.
A studio course continuing Industrial Design studios, projects are longer requiring a high level of demonstrated design ability for successful completion. Issues regarding professional ethics, accountability, and responsibility to the public and client are discussed and implemented. Professional design, presentation, and visualization skills will be demonstrated and explored. Finished designs will include full production technical specifications. Prerequisite: INDD 310 and INDD 315 with a semester grade of "C" or higher or instructor permission.

INDD 350. Computer-Aided Design. 4 Credits.
A studio course where students will develop the skills needed to efficiently build parametric Computer Aided Design (CAD) models consistent with industrial design professional standards using leading industry 3D modeling software. Emphasis will be placed on how to translate 2D designs into 3 Dimensional models, focusing on design for manufacturing, understanding complex surfacing, and assemblies. Students will use rendering software to create photo-realistic graphics and animations for communication and marketing. Prerequisite: INDD 210 and INDD 214 with semester grades of "C" or higher or instructor permission. Corequisite: INDD 220, INDD 308.

INDD 378. Problems in Industrial Design: _____. 4 Credits.
This studio course offers in-depth exploration of topics specifically tailored to the interests of industrial design students and faculty. It provides opportunities for individual or group research projects within various

specific design areas. Students can repeat this course for credit as they immerse themselves in the ever-evolving realm of industrial design research and innovation. May be repeated for credit. Prerequisite: INDD 310 with a semester grade of "C" or higher or permission of instructor.

INDD 380. Footwear Design Lab. 4 Credits.
Shoe designers use their knowledge of fashion trends, materials, user profiles / experiences to create shoes for new footwear lines. The studio is an introduction to shoe design methods and techniques. It provides opportunities to research industry trends, explore design concepts, patterns, materials, practice sketching designs by hand, finalize concepts in Adobe Illustrator/Photoshop, to the presentation of finished ideas. Project briefs, feedback and critiques are guided by footwear professionals: Timberland, Columbia, and New Balance have all supported previous studios. Projects require strong hand sketching skills and familiarity with Illustrator and Photoshop. Emerging technologies such as Gravity Sketch and Vizcom.AI are introduced to keep pace with rapidly changing industry expectations. This course may be repeated for credit. Prerequisite: INDD 310 with a semester grade of "C" or higher or permission of instructor.

INDD 382. Digital Guitar Workshop. 4 Credits.
This studio provides a set of projects, demonstrations and lectures that will guide the student through the design and fabrication of electric guitars. As a final project, students will design and build their own electric guitar completely from scratch using both traditional and contemporary tools and practices. Digital tools such as CNC Routers, Laser Cutters, and 3D printers are used to fabricate bodies, necks, and custom components. This requires strong skills in SolidWorks to build the required 3D models. Prerequisite: INDD 310 with a semester grade of "C" or higher or permission of instructor.

INDD 384. Soft Goods Lab. 4 Credits.
In this studio, students learn industry methods and techniques in designing soft goods products. The soft goods categories include bags, products, fashion, wearables, activewear, and footwear. There is a focus on style, function, color, materials, and craftsmanship. Students will learn all phases of the design process including design research, mood boards, mockups, user testing, creating patterns and translating them to complex three-dimensional forms, CMF, understanding of materials and application, designing for functionality, order of operations, manufacturing processes, and creating technical packages for manufacturing. Prerequisite: INDD 310 with a semester grade of "C" or higher or permission of instructor.

INDD 410. Industrial Design Fourth-Year Studio I. 4 Credits.
This course is an intensive studio focused on the industrial design business environment. Students will be working on advanced concepts with two intensive research projects undertaken during the semester to prepare students for professional practice and learn project management skills. Techniques for research, prototyping, user testing, efficient ideation practices, pitching concepts persuasively, designing for a global market, and all skillsets required for pro-practice will be taught. Students will present process books to professional partners at the end of the studio. Prerequisite: INDD 325 or INDD 580 with a semester grade of "C" or higher or instructor permission.

INDD 425. Industrial Design Fourth-Year Studio II. 4 Credits.
A studio course focusing on a self-driven capstone project. Students implement all phases of the design process at a professional level from initial research through final design, manufacturing specifications, documentation of the project through a process book, and participating and sharing work in the Design Showcase at the end of the year.

Prerequisite: INDD 410 with a semester grade of "C" or higher or instructor permission.

INDD 430. Industrial Design Portfolio. 3 Credits.
Through readings, constructive feedback, and online collaborations, students will focus on the organization and presentation of a professional-quality portfolio that aligns with their individual career pursuits. Prerequisite: Junior standing in the Department of Design.

INDD 580. Senior Industrial Design Studio. 4 Credits.   AE61 CAP
Course requires the negotiation and accomplishment of a comprehensive body of work, comprising independent research, ideation, refinement, detail technical specifications, renderings, and a working and tested prototype of your final design. A final report of the project is required documenting your design process, the depth and complexity of which are commensurate with expectations for entry-level professionals. Faculty may consider national or international competitions as appropriate substitutions for student derived briefs, where applicable. The nature and scope of the work (1-2 projects maximum), as well as details of anticipated accomplishment must be outlined by the student and approved by the instructor prior to the beginning of the second week of classes. In exceptional circumstances, projects may extend into both semesters, via INDD 581--this requires permission/negotiation with faculty and is to be declared as an aspiration at start of INDD 580. Prerequisite: INDD 448 and INDD 555 with semester grades of "C" or higher.

INDD 710. Applying Human Factors & Ergonomics. 3 Credits.
Applied Human Factors and Ergonomics in Industrial Design involves the practical application of human factors and ergonomics principles to the design of industrial products, ensuring that the result is both visually appealing and well-suited to the needs and capabilities of the users. Designers may consider factors such as: User-Centered Design: Placing the needs and preferences of users at the forefront of the design process. Anthropometric Design: Tailoring products to the physical dimensions of the human body. Cognitive Ergonomics: Designing products that align with human cognitive processes to enhance ease of use. Prerequisite: Graduate standing.

INDD 712. Sketching for Industrial Design I. 4 Credits.
This sketching course will center on drawing as a communication tool through various exercises that explore observation and perception, form and proportion, dimensional illusion, and expressive characteristics using various materials and media. A significant emphasis will be placed on honing your skills in rapid drawing techniques, specifically focusing on orthographic and perspective drawing methods. Prerequisite: Graduate standing.

INDD 715. Industrial Design. 2-6 Credits.
Research-oriented advanced study in industrial design. Prerequisite: Graduate standing.

INDD 720. Parametric Modeling for Industrial Design. 4 Credits.
In this studio, students will learn the skills needed to build parametric Computer Aided Design (CAD) efficient models consistent with industrial design professional standards using leading industry 3D modeling software. Emphasis will be placed on how to translate 2-dimensional designs into 3-dimensional models, focusing on design for manufacturing, and understanding complex surfacing, and assemblies. Students will use rendering software to create photo-realistic graphics and animations for communication and marketing. Prerequisite: Graduate standing.

INDD 722. Sketching for Industrial Design II. 4 Credits.
A sketching course empowering product designers to rapidly generate ideas, avoiding resource commitment to any single concept. Throughout this course, the continued emphasis on sketching and drawing as a communication tool persists. Diverse exercises persistently delve into and

enhance aspects such as form and proportion, composition, dimensional illusion, and expressive attributes. Prerequisite: INDD 712.

INDD 730. Product Design Methods. 4 Credits.
This studio delves into contemporary materials, design methodologies, manufacturing processes, effective communication with manufacturers, and construction techniques relevant to the realm of industrial design. Participants will acquire a solid understanding of sustainable design principles, gaining the skills to evaluate and enhance existing design approaches and materials. The curriculum also covers staying abreast of emerging trends and futuristic materials, emphasizing how these elements can fuel innovation. Through case studies, students will analyze various materials and processes, with additional enrichment provided by guest speakers. Prerequisite: Graduate standing.

INDD 740. Industrial Design Studio. 4 Credits.
This intensive studio focuses on the industrial design business environment. Students will be working on advanced concepts with two intensive research projects undertaken during the semester to prepare students for professional practice and learn project management skills. Techniques for research, prototyping, user testing, efficient ideation practices, pitching concepts persuasively, designing for a global market, and all skillsets required for pro-practice will be taught. Students will present process books to professional partners at the end of the studio. Prerequisite: INDD 712.

INDD 747. History of Industrial Design. 3 Credits.
In this course, participants cultivate a forward-thinking and critical comprehension of the history of product and industrial design, exploring various perspectives such as socio-technological innovation, economics, business dynamics, ethics, gender, scale of production, efficiency, labor, human-centered design, systems thinking, ecological impact, engineering, science, and cultural expression. Through curated readings and engaging lectures, students are exposed to diverse viewpoints, fostering an environment that encourages them to question historical assumptions and develop a nuanced understanding of the multidimensional aspects shaping the evolution of design. This course may not be taken for credit by those who have already taken ADS 750 or ADS 755. Prerequisite: Graduate standing.

INDD 780. Portfolio Development. 4 Credits.
This course is directed toward maximizing the quality and effectiveness of the individual student's professional portfolio and resume. Students learn how to prepare, refine, update, and present their portfolio and resume to a variety of stakeholders. Prerequisite: 20 hours completed in the program, or instructor approval.

Design Courses

IXD 101. Introduction to Digital Design. 4 Credits.
In this studio students will learn the basics of designing for web and digital product, including industry standard practices and the essential programs. It will help demystify the concept of UX and explain the differences between experience and interface design. In addition to increasing UI skills, students will learn how understanding of type, color and other design basics can be applied in a digital format. Prerequisite: Admission to a major and/or minor offered by the Department of Design or instructor permission and have successfully completed BDS 101 and BDS 103. Students must be concurrently enrolled in VISC 101.

IXD 302. Fundamentals in UI/UX Design. 3 Credits.
This course practices the fundamental principles and materials that underpin the intricate interactions between individuals, artifacts, and systems. The course immerses students in the realm of user research, imparting the ability to unearth valuable insights into user behaviors, needs, and motivations through a diverse array of research methods such as surveys, interviews, and ethnographic studies. The course delves into the realm of usability testing, evaluation of user interfaces through hands-on testing, the formulation of effective test scenarios, and the interpretation of usability data to drive actionable design enhancements. Students begin to master the art of prototyping, enabling them to create interactive prototypes that refine user interactions, utilizing a versatile toolkit of tools and techniques. This holistic course empowers aspiring designers to craft impactful and user-centric digital experiences. Prerequisite: Students must be admitted to a major or minor offered by the Department of Design in order to enroll in this course.

IXD 402. Interaction Design 2. 4 Credits.
This course immerses students in the realm of UI/UX design, further deepening their comprehension of contemporary digital trends and methodologies for crafting distinctive websites and applications. The course places a spotlight on advanced design principles and techniques, hones UX research abilities, explores the evolution of interface design, delves into the history of app development, and equips students with strategies to ensure the longevity and relevance of digital products. Students will delve deeper into advanced concepts, focusing on refining their skills with tools (like Sketch, Adobe XD, Figma) and create projects based on best UX practices. This course will also explore designing responsive websites and explore the world of mobile, preparing students for a dynamic career in the digital design industry. Prerequisite: IXD 302. Corequisite: IXD 404 or instructor permission.

IXD 404. Dataviz and Digital Storytelling. 4 Credits.
This studio focuses on creating editorial content, infographics, and dataviz systems that effectively communicate complex information in an engaging and visually appealing way. Students will learn how to use data visualization tools and techniques to create interactive stories and reports that can be published online and in other media. Prerequisite: IXD 302 with semester grades of "C" or higher or instructor permission. Corequisite: IXD 402.

IXD 412. Interaction Design 3. 4 Credits.
In this studio, students will delve into the art of crafting user interfaces and enhancing user experiences for an array of connected devices. The focus is on designing for devices that harness the power of interconnectedness, where physical objects seamlessly gather and share data. Students will be tasked with the challenge of creating user experiences that not only function flawlessly but also captivate users' attention. This endeavor could include accommodating distinctive demands like compact displays, restricted processing capabilities, and frequently limited battery resources. Prerequisite: IXD 402 with a semester grade of "C" or higher or instructor permission. Corequisite: IXD 414.

IXD 414. Design Systems. 4 Credits.
In this design systems studio, students will learn the principles and best practices for creating, implementing, and maintaining a design system to streamline the workflow of a team working on websites or digital products. The course will cover various aspects of design systems, from designing key screens and structuring design files to creating master components and documenting the system for efficient collaboration. Prerequisite: IXD 402 and IXD 404 with semester grades of "C" or higher or instructor permission. Corequisite IXD 412.

IXD 415. Emerging Technologies 1. 4 Credits.
In this studio, students will explore cutting-edge technologies that are shaping the future of the digital design industry, such as the transition from web2 to web3 and the growing impact of AI. The course will focus on understanding and building products with these technologies while emphasizing a responsible and ethical approach to design. Prerequisite: Admission to a major and/or minor offered by the Department of Design or instructor permission.

IXD 425. Emerging Technologies 2. 4 Credits.
This experiential interaction design studio navigates the uncharted territory of cutting-edge advancements in interaction design. In today's rapidly evolving digital landscape, emerging technologies such as Augmented Reality (AR), Virtual Reality (VR), voice interfaces, and AI-driven interactions are reshaping the way we interact with digital systems. This course equips students with the knowledge and skills needed to design captivating and immersive user experiences for these transformative technologies. Prerequisite: Admission to a major and/or minor offered by the Department of Design or instructor permission.

IXD 430. Interaction Design Portfolio. 3 Credits.
Instruction in the organization and presentation of a professional quality visual portfolio. Readings, feedback and online collaborations will focus on the development of a focused portfolio consistent with the individual student's pursuits. Prerequisite: IXD 402 and IXD 404 with semester grades of "C" or higher or instructor permission.

IXD 432. Interaction Design 4. 4 Credits.
This experiential interaction design studio is tailored for expansive screens, vast environments, and grand-scale user interactions, students will embark on the journey of creating immersive user interfaces and elevating user experiences. Students will be challenged to not only ensure the seamless functionality of designs but also to captivate users within these monumental contexts while optimizing designs for expansive displays, ensuring that user interactions flourish in vast spaces, and orchestrating experiences on an epic scale. Prerequisite: IXD 412 and IXD 414 with semester grades of "C" or higher or instructor permission. Corequisite: IXD 415.

IXD 442. Interaction Design 5. 4 Credits.
Capstone studio experience often entails collaborating with industry partners or clients. Students are tasked with independent research, ideation, refinement, and the development and testing of a functional prototype for their final design with a level of depth and complexity expected of entry-level professionals. Prerequisite: IXD 432 and IXD 415 with semester grades of "C" or higher or instructor permission.

Design Courses

VISC 101. Introduction to Visual Communication Design. 4 Credits.

This introductory design studio immerses students in the world of form making for visual communication design, guiding them through the process of translating verbal ideas into effective visual concepts. Additionally, the course delves into fundamental theories of visual perception and communication, enabling students to decode visual messages and construct meaning through the manipulation of visual elements and typography. Prerequisite: BDS 101 and BDS 103 with semester grades of "C+" or higher or instructor permission. Corequisite: IXD 101.

VISC 202. Typography I. 4 Credits.
Typography is more than just the selection of fonts; it is a powerful tool for communication. This studio empowers students to grasp typeface classifications, facilitating informed design decisions while delving into principles like hierarchy, alignment, contrast, and consistency, crucial for effective visual communication. Prerequisite: VISC 101 and IXD 101 with semester grades of "C" or higher or instructor permission. Corequisite VISC 204.

VISC 204. Visual Communication Second-Year Studio I. 4 Credits.

This studio further explores the translation of ideas into visual concepts. This course gives students more practice in the process of gathering information, defining problems and formulating clear, powerful, and persuasive visual statements. Methods of research, idea generation, and image making will be applied to a wider variety of formats and contexts giving students the opportunity to explore the affordances of both static and dynamic media in both two and three-dimensions. Prerequisite: VISC 101 and IXD 101 with semester grades of "C" or higher or instructor permission. Corequisite: VISC 202.

VISC 301. Principles of Graphic Design. 4 Credits.
This studio course presents the principles of graphic design and introduces the discipline of typography within the context of visual communication. The course explores various theories of visual perception and visual communication with an emphasis on reading visual images for meaning and making meaning through the construction of visual images and typography. Not open to students with credit in VISC 101. Prerequisite: Admission to a major and/or minor offered by the Department of Design or instructor permission.

VISC 302. Typography II. 4 Credits.
This studio delves deeper into typographic form, offering a comprehensive exploration of typographic systems and the intricate manipulation of variables that shape content. It emphasizes the pivotal role of typographic composition within the expansive realm of visual communication design. Through hands-on projects, students will not only investigate advanced aspects such as typographic spatial arrangements, the synergy between text and imagery, and the meticulous refinement of typographic details and aesthetics, but they will also gain a profound understanding of how typographic systems function and evolve to communicate messages effectively across diverse media and contexts. Prerequisite: VISC 202 and VISC 204 with semester grades of "C" or higher or instructor permission. Corequisite: VISC 304.

VISC 304. Visual Communication Second-Year Studio II. 4 Credits.

This studio explores the relationships among people, places, and the visual artifacts and information they use. Attention is placed on the different roles of the designer as observer, empathizer, communicator, experience builder and visual instigator. Students will be introduced to information design methodologies and structuring data into useful and persuasive information tools and experiences. Course work includes exploring visual communication design as an educational and advocacy tool. Various methodologies will be explored for visualizing information for clarity, resonance, and editorial voice with special attention to the relationships among audience and context in the creation of meaning. Prerequisite: VISC 202 and VISC 204 with semester grades of "C" or higher or permission of instructor. Corequisite VISC 302 and IXD 302.

VISC 310. Letterpress. 4 Credits.
This studio introduces students to traditional methods of hand typesetting, using the Department of Design's collection of lead and wood type. Learn how to use a pica rule, composing stick, leading, spacing material, the California Job Case, mix ink and operate a Vandercook proof press. Be inspired by visits to Special Collections. Emphasis will be placed on the acquisition of skills and the creative use of type and images. Prerequisite: BDS 101 with a semester grade of "C+" or higher or instructor permission.

VISC 360. The Photobook. 3 Credits.
This class introduces students to the possibilities of visual communication through photobook design, from the traditional monograph to the narrative or lyrical and experimental. Considerations of sequencing, context, text, materiality, meaning, and production methods will be explored through book examples, readings, discussions, and in-class exercises. Visual Communication students will partner with a photographer in the class to design and produce a hand-made or on-demand book. Prerequisite: VISC 304 with a semester grade of "C" or higher or declaration of the Undergraduate Certificate in Book Arts or instructor permission.

VISC 402. Visual Communication Third-Year Studio II. 4 Credits.
Design as Author. Building from the structures and approaches of earlier studios, this studio is a research-based examination of traditional, non-traditional and expressive uses of the typographic medium. Projects emphasize the student as both content generator as well as designer and include development of text + image narrative, word as image and typographic "voice" while further refining technical proficiency. Prerequisite: VISC 405 with semester grades of "C" or higher, and must be concurrently enrolled in VISC 430.

VISC 404. Designing for Social Interactions. 4 Credits.
Introduces the discipline of designing for dynamic media (i.e., internet, on screen, multi-media.) Emphasis will be placed on concept development and on the fundamental principles of information hierarchy, user experience, navigation strategies, site development and site architecture. Projects, lectures and tutorials will provide a working knowledge of current tools and techniques, while exploring the issues of narrative structure, rhythm, space, animation, sound, and video. Prerequisite: VISC 302 and VISC 304 with semester grades of "C" or higher.

VISC 405. Visual Communication Third-Year Studio I. 4 Credits.
Designing Brand Identity. A brand's visual identity expresses an organization's big idea of what it is, how it lives in the world, who is serves and why. Simply put, it identifies, explains and persuades. A visual brand identity needs to engage and communicate to specific audiences while differentiating the brand from its competition. This class will explore the creation of brand identity elements such as logos, icons and symbols, as well as how these can be organized into a "system of parts" that can communicate across multiple applications. Additionally, logo, symbol and iconography workflow and methods of brand identity ideation and conceptualization will also be explored. Prerequisite: Successful completion of VISC 302 and VISC 304 with semester grades of "C+" or higher and successful completion of the Second Year Full Review or instructor permission.

VISC 410. Digital Letterpress. 4 Credits.
In this studio students explore the possibilities that digital technologies offer to the letterpress printer, including laser cutting and polymer platemaking. Students will learn how to prepare digital files to make negatives, and to process and print polymer plates. Emphasis will be placed on creativity and craft. Starting with the simplest of techniques, projects will grow in increasing technical and aesthetic complexity. No previous letterpress experience is required. Knowledge of Adobe InDesign and Illustrator is essential. Prerequisite: Admission to a major and/or minor offered by the Department of Design or instructor permission

VISC 414. Publication and Editorial. 4 Credits.
This advanced studio explores the topics of editorial concepts, format organization, production, and publication. Projects stress the integration of text and image through the development of complex and variable structures. Emphasis is placed on the research of content and audience as well as a strong understanding of production/ execution techniques to develop engaging visual products. Prerequisite: VISC 302 and VISC 304 with semester grades of "C" or higher or instructor permission.

VISC 415. Motion Design. 4 Credits.
This studio provides an introduction to the fundamental elements, principles, and historical evolution of motion design. It places a strong emphasis on the conceptualization, planning, and storyboarding of time-based media, all with a clear focus on achieving specific aesthetic and communicative objectives. Students will gain insight into the techniques for seamlessly integrating static and dynamic visuals, typography, and audio within the context of motion graphics, enabling them to craft compelling narratives and visuals in motion. Prerequisite: VISC 202 and VISC 204 with semester grades of "C" or higher or instructor permission.

VISC 425. Environmental Graphics. 4 Credits.
This course will examine core principles and practices of environmental graphic design. Many of these concepts will be concerned with the visual aspects of wayfinding, communicating identity and information, and shaping the idea of place. Some of the topics discussed will include: signage, exhibit design, identity graphics, pictogram design, mapping, civic design and themed environments. Prerequisite: VISC 302 and VISC 304 with semester grades of "C" or higher or instructor permission.

VISC 426. Experiential Design. 4 Credits.
In this experiential design studio, uniquely tailored for large screens, expansive environments, and grand-scale interactions, students will explore the foundational principles and practices of environmental graphic design. They will dive into the creation of immersive user experiences, facing the challenge of not only ensuring the functionality of designs but also captivating users within monumental contexts. The course focuses on optimizing designs for expansive displays, ensuring seamless user interactions in vast spaces, and orchestrating experiences on an epic scale. Key concepts will revolve around visual aspects of wayfinding, conveying identity and information, and shaping the sense of place. Prerequisite: VISC 302 and VISC 304 with semester grades of "C" or higher or instructor permission.

VISC 430. Visual Communication Portfolio. 3 Credits.
Students will gain essential skills in preparing, refining, updating, and presenting their portfolios and resumes. Through readings, constructive feedback, and online collaborations, students will focus on developing a targeted portfolio that aligns with their individual career pursuits. The course aims to empower students with the knowledge and tools necessary to showcase their achievements and capabilities in a compelling and impactful manner within their chosen professional field. Prerequisite: Must be concurrently enrolled in VISC 402.

VISC 435. Book Arts. 4 Credits.
Producing books in editions is a complex undertaking. Students work in teams to create or compile content of their choosing, then edit, design, and bind their own books in a small edition. The class combines both traditional letterpress technology and digital interface for the creation of text and image. Each student receives two copies of the team's final book, one copy is archived in Special Collections at the Spencer Research Library. Prerequisite: BDS 101 with a semester grade of "C+" or instructor permission.

VISC 440. Bookmaking. 4 Credits.
In this studio students will learn to make a variety of book structures and enclosures, from historical to contemporary. Prototypes and models, and comprehensive notes and instructions will give the student a library of bindings for future reference. Prerequisite: BDS 101 with a semester grade of "C+" or higher or instructor permission.

VISC 450. Typographic Universe. 4 Credits.
The primary goal of this studio is to give the Design student an introduction to the world of Type Design. Type Design looks at the sequence of black-and-white forms, requires equal attention to the form of the characters and the spaces around them. We will practice designing type systematically, focusing on looking at, defining, and refining the interrelationships between forms. Particular attention will be paid to the techniques and best practices for creating, drawing, and spacing type. The course uses Glyphs 3, a MAC only software program. Prerequisite: VISC 302 and VISC 304 with semester grades of "C" or higher or instructor permission.

VISC 465. Fourth-Year Studio I. 4 Credits.
Designing for Change. This studio explores branding, service and interaction design opportunities that respond to real-life complexity: audiences, systems and contexts. Introduces business and design

thinking strategies associated with brand development and how design plays a vital role in our local, national, and global society and well-being. Emphasis on the methods of thinking and research which precede the making of design as well as the importance of writing and verbal presentation to the visual communication design profession. Prerequisite: VISC 402 with semester grades of "C" or higher or instructor permission.

VISC 470. Visual Communication Capstone. 4 Credits.
With emphasis on research analysis, and synthesis of complex visual problems, this studio focuses on goal-oriented graphic design problem-solving. The course provides in-depth study of professional design issues and topics and a forum for multi-disciplinary collaboration with related professional disciplines. Prerequisite: VISC 402 with semester grades of "C" or higher or instructor permission.

VISC 520. Designing for Change. 4 Credits.   AE61 CAP
Exploration of branding, service and interaction design opportunities that respond to real-life complexity: audiences, systems and contexts. Introduces business and design thinking strategies associated with brand development and the idea that design plays a vital role in our local, national, and global society and well-being. Emphasis on the methods of thinking and research which precede the making of design as well as the importance of writing and verbal presentation to the visual communication design profession. Prerequisite: VISC 404 or VISC 414 or ADS 560 or IXD 402 or VISC 310 or 440 and VISC 405 with semester grades of "C" or higher or instructor permission.

VISC 710. Letterpress. 3 Credits.
This introductory course in letterpress will instruct the student in methods for printing from moveable type and other type-high surfaces. The discipline will be explored from a historic as well as artistic perspective. Emphasis will be placed on the acquisition of skills and vocabulary, and the creative use of type and techniques. Prerequisite: Graduate student status and instructor permission.

VISC 712. Digital Lettepress. 3 Credits.
In this course students will explore the possibilities that digital technologies offer to the letterpress printer, including laser cutting and polymer platemaking. Students will learn how to prepare digital files to make negatives, and to process and print polymer plates on the Vandercook press. Emphasis will be placed on creativity and craft. Starting with the simplest of techniques, projects will grow in increasing technical and aesthetic complexity. No previous letterpress experience is required. Open to all majors. Prerequisite: Permission of the instructor.

VISC 735. Book Arts. 3 Credits.
Combines wide range of traditional letterpress and digital processes for type and image for individually determined student book projects. Projects will culminate in a small printed and bound edition. Prerequisite: Graduate student status and instructor permission.

VISC 740. Bookmaking. 3 Credits.
This course will seek to acquaint the student with the origins of the book, paper, and pre-paper writing surfaces. Prototypes and models, as well as comprehensive notes and instructions will provide the student with a library of structures and variations for future reference. Students will document paper that is made in class and create a record for themselves, other students, and the School of Architecture & Design. Prerequisite: Graduate student status and instructor permission.