Digital Design (DES)

Courses

**DES 1100. Intro to Digital Design. 3 Hours.**
Introduces software and principles related to digital design and visual communications, and the creation and reproduction of art. Teaches how to create and modify digital images, illustration, and page layout using current design software and printing techniques. **COURSE LEARNING OUTCOMES (CLOs)** At the successful conclusion of this course, students will be able to: 1. Define graphic communications. 2. Define printing and identify products produced by printing. 3. Explain basic printing technologies. 4. Understand the design process. 5. Define the principles and elements of design. 6. Identify typeface classifications. 7. Understand point size, leading and alignment. 8. Understand software types and related applications. 9. List file types, file formats, and image types. 10. Create a PDF. 11. Create a page layout. 12. Students will be able to understand and demonstrate digital image editing. 13. Define pixels and resolution. 14. Understand the advantages & disadvantages of raster images. 15. Acquire a raster image. 16. Edit a raster image. 17. List the advantages & disadvantages of vector images. 18. Select and modify a vector image. 19. Create a vector image. Course fee required. FA, SP.

**DES 1300. Design I. 3 Hours.**
Explores the elements of design from which advertising, computer graphics, and graphic arts are structured by building awareness and skill in creating designs, using the concepts of composition, proportion, alignment, contrasts, white space, typography, eye movement, and element control, emphasizing the value of these concepts to communicate ideas. Course fee required. FA, SP.

**DES 1610. Screen Printing. 3 Hours.**
For students interested in the screen printing industry on the commercial level. Includes hands-on experiences for printing on various substrates using photographically/mechanically generated stencils, reproducing images with computers for positive reproduction, and multi-color screen printing on fabric. Instruction includes the use of vector image editing software. Offered based upon sufficient student need.

**DES 2100. Design Thinking. 3 Hours.**
An introduction to design thinking, an empathy-based, human-centered, and rapid prototype-driven methodology for innovation. Students will explore challenges such as the creation of new products, technological innovation, services, business models, experiences, processes and/or systems through the design thinking process. **COURSE LEARNING OUTCOMES (CLOs)** At the successful conclusion of this course, students will be able to: 1. Understand what is design thinking. 2. Understand the differences between design thinking and conventional problem solving. 3. Learn the design thinking process and the various tools, techniques and templates used in design thinking. 4. Apply the tools taught onto real life environment and situations. 5. Uncover unmet needs, unarticulated needs and undreamt needs. 6. Students will be able to examine critical theories of design, systems thinking, and design methodologies. 7. Students will be able to demonstrate sound thinking, creative inquiry, and diverse modes of reasoning-visual, perceptual, conceptual, inductive, deductive, analytical, logical, critical, organizational, and creative-through discussion and writing. 8. Students will be able to solve problems and address social concerns with innovative approaches to design and exploratory methodologies. Course fee required. FA, SP.

**DES 2300. Design II. 3 Hours.**
An intermediate level course that expands the skills and knowledge acquired in Design I. The course emphasizes practical assignments that examine applied problem solving and professional solutions for graphic designers. Specific themes/topics for the course include visual grouping and hierarchy, visual identity development and application of Gestalt theory. **COURSE LEARNING OUTCOMES (CLOs)** At the successful conclusion of this course, students will be able to: 1. Think creatively from the expression of an idea to the completion of a design. 2. Apply design fundamentals successfully. 3. Demonstrate an awareness of the history and context of design in relation to contemporary topics and social, political and cultural issues. 4. Communicate and apply technical proficiency in areas appropriate as a designer to produce a cohesive body of work. Course fee required. Prerequisites: DES 1100 (Grade C or higher) OR WEB 1400 (Grade C or higher); AND DES 1300 (Grade C or higher) OR ART 1120 (Grade C or higher). FA, SP.

**DES 2710. Typography I. 3 Hours.**
Study of basic layout, lettering, type design, identification of styles, and typographic history. Students learn how to use type as a basic element of graphic communication, how the use of different typefaces visually communicate a desired effect, and fundamental terminology of type specification. Consists of lectures, quizzes, and ongoing typographically-related projects intended to be of portfolio-quality. **COURSE LEARNING OUTCOMES (CLOs)** At the successful conclusion of this course, students will be able to: 1. Follow direction and meet deadlines. 2. Apply design fundamentals successfully. 3. Demonstrate an understanding of the value of these concepts to communicate ideas. Course fee required. FA, SP.

**Prerequisites:**
- DES 1100 OR DES 1300 (Grade C or higher) OR ART 1120 (Grade C or higher)
**DES 3000. Design III. 3 Hours.**
Advanced application of design theory and processes, conceptual thinking and expansive form-making. Students will continue to develop their unique design voice and process, through further exploration of typography, imagery, and visual continuity to create complex portfolio-ready work. **COURSE LEARNING OUTCOMES (CLOs)** At the successful conclusion of this course, students will be able to: 1. Demonstrate conceptual understanding of typography and its application in design. 2. Develop and present portfolio work that exhibits a clear understanding of design principles. 3. Effectively collaborate on projects while working in teams. Course fee required. Prerequisites: ART 1110 (Grade C or higher); AND DES 2300 (Grade C or higher); AND DES 2710 (Grade C or higher); AND ART 2060 (Grade C or higher). SP.

**DES 3300. Intro to Digital Video Editing. 3 Hours.**
For students pursuing a degree in Computer and Information Technology. Introduces essentials of editing video and audio with computers, including TV/video production applications, multimedia authoring, and/or Internet video streaming. Also includes digitizing video and audio from analogue or digital sources, selecting footage from source clips, constructing transitions, titling, creating and using alpha channel or other matte techniques, plus other special effects. Course fee required. Prerequisites: DES 2300 (Grade C- or higher); AND DES 3710 (Grade C or higher). SP.

**DES 3400. Information Design. 3 Hours.**
Introduction to the field of information design, data visualization, infographics and instructional materials. Students will explore information design problems in both stand-alone and system applications; digital (interaction) media, print, and environmental communication. **COURSE LEARNING OUTCOMES (CLOs)** At the successful conclusion of this course, students will be able to: 1. Develop a deep understanding of visual organization and information design. 2. Develop skills to analyze and design effective data visualizations and communication. 3. Learn to develop a visual narrative through the design process. 4. Understand the implications that information design skills hold for design management in the distillation of multivariate data. Demonstrate ability to create impactful and relevant data visualizations and information graphics. Course fee required. Prerequisites: DES 2710 (Grade C or higher). SP.

**DES 3500. Interface Design. 3 Hours.**
Students will learn a user-centered approach and process to design interfaces for web, mobile and software applications successfully. Exploration of grid structures, layouts, signs and symbols, branding, and typography as they relate to interface design. **COURSE LEARNING OUTCOMES (CLOs)** At the successful conclusion of this course, students will be able to: 1. Demonstrate an understanding of the design process as it relates to User Interface design through iterative, user-centered design practices and implementations. 2. Demonstrate proficiency in the evaluation, presentation, design, and delivery of a successful User Interface. 3. Demonstrate use of appropriate layout, typography, color and visual hierarchy for User Interface design. 4. Demonstrate the ability to analyze, synthesize, and develop probable solutions. 5. Combine excellent craft skills with strong conceptual abilities. 6. Effectively collaborate on projects while working in teams. Course fee required. Prerequisites: WEB 1400 (Grade C or higher); AND DES 2300 (Grade C or higher); AND DES 2710 (Grade C or higher). SP.

**DES 3600. 3-D Visualization. 3 Hours.**
Introduces three-dimensional modeling and rendering techniques on the computer, including various modeling processes, defining and applying textures, assembling scenes, and rendering images, which are applicable to realistic package and product designs, motion picture effects, video game assets, as well as graphics for desktop or Internet publishing projects. Course fee required. Prerequisites: DES 2300 (Grade C or higher); AND ART 1110 (Grade C or higher). FA.

**DES 3650. 3-D Animation. 3 Hours.**
For students pursuing a degree in Computer and Information Technology. Companion course to DES 3600, covers aspects of 3D animation design, storyboarding, character development, and animation rendering of 3D models suitable for broadcast or composite video use. Maya 3D software will be used to create multiple short animation projects individually and in teams. Includes rigid/soft body animation solvers, dynamic particles, deformation and effects fields, IK/FK rigging, and multi-frame rendering output, use of key frames, ease in/ease out controls, the timeline, realistic modeling techniques, set lighting, shadows, multi-layer surfacing, photorealistic rendering, and video formats for final output. Dual listed with ART 3650 (students may only take one course for credit). Prerequisites: DES 3600 or ART 3610 (Grade C- or higher). SP.

**DES 3710. Typography II. 3 Hours.**
Covers typography as a functional and experimental medium and typeface design. Students develop typographic solutions that explore verbal/visual messages in designs for publication through design problem-solving for a diverse range of specifications, including audience, client needs, and budget constraints, using traditional and digital tools. Course fee required. Prerequisite: DES 2300 (Grade C or higher); AND DES 2710 (Grade C or higher). FA.

**DES 3780. Prepress & Print Production. 3 Hours.**
Overview of desktop publishing and digital imaging on the prepress industry. Topics include input and output, correct creation of digital files, data storage, proofing methods, and relevant terminology/communication with prepress and printing professionals. Also acquaints students with the variety of jobs offered in the field, file evaluation, and much more. Field trips to printers and other prepress service providers reinforce lectures/projects. Course fee required. Dual listed with ART 3780 (students may take only one course for credit). Prerequisite: DES 2300 (Grade C- or higher) and DES 2600 (Grade C or higher). SP.

**DES 3800. Branding. 3 Hours.**
Explores the history, psychology and purpose of corporate identity programs and the role of communication design in the current corporate environment by analyzing, investigating, and reporting on current company corporate objectives and target markets and then designing a sound multifaceted identity program. Course fee required. Prerequisite: DES 2300 (Grade C or higher); AND DES 2710 (Grade C or higher). FA.
DES 3850. Graphic Design Problems. 3 Hours.
For students pursuing a Graphic Design degree or an emphasis in Digital Design; also open to other interested students. Students will develop critical thinking, research, and practical skills related to the graphic design industry. Students solve design problems by designing for commercial media, self-promotion. Includes practical exercises in project management and other real-world applications. Course content changes by semester to reflect current trends and issues in the design industry. Course fee required. Prerequisites: DES 2100 (Grade C or higher); AND DES 2300 (Grade C or higher); AND DES 2710 (Grade C or higher). FA.

DES 4100. Interaction Design. 3 Hours.
Exploration of advanced User Interface and User Experience design. Students will learn how to use words, visual representations, objects or space, time and behavior to create successful interaction between a user and a product which enables the user to achieve their objective(s) in the best way possible. **COURSE LEARNING OUTCOMES (CLOs) At the successful conclusion of this course, students will be able to: 1. Demonstrate the ability to analyze, synthesize, and develop probable solutions. 2. Learn the process of interaction design, including crafting user flows, site mapping, sketching, wireframing, prototyping, and creating mock-ups. 3. Perform user research, develop user stories, and implement user testing. 4. Create and evaluate interactive prototypes and/or high-fidelity prototypes. 5. Combine excellent craft skills with strong conceptual abilities. Course fee required. Prerequisites: DES 2100 (Grade C or higher); AND DES 3500 (Grade C or higher). SP.

DES 4200. Tangible Interaction. 3 Hours.
This course explores the use of tangible interaction in relationship to emerging technologies. Students will explore the how humans interact with technology while creating tangible objects that affect how we work, play, communicate and learn. **COURSE LEARNING OUTCOMES (CLOs) At the successful conclusion of this course, students will be able to: 1. Demonstrate the ability to analyze, synthesize, and develop probable solutions. 2. Understand the process of planning and executing tangible interactive work. 3. Combine excellent craft skills with strong conceptual abilities. 4. Effectively collaborate on projects while working in teams. 5. Criticize and discuss tangible artifacts through low and high resolution prototypes. 6. Design, implement and communicate tangible interaction concepts. 7. Demonstrate practical and conceptual ways of utilizing tangible interaction. Course fee required. Prerequisites: CS 1400 (Grade C or higher); AND DES 2100 (Grade C or higher). FA.

DES 4600. Senior Project. 3 Hours.
For students pursuing a degree in Computer and Information Technology. Emphasizes application of skills to commercial projects through design of or contribution to various private sector or university internet projects, print, and multimedia projects. Includes portfolio development. Course fee required. Prerequisite: Senior standing. SP.

DES 4650. Publication Design. 3 Hours.
For students pursuing a degree in Computer and Information Technology. Explores creative, functional, and aesthetic aspects of editorial design with emphasis on page layout. Students will focus on the significance of consistency and thematic continuity, developing aesthetic awareness, and integrating design principles. Students will refine and further develop visual judgment in the arrangement of type and images to effectively convey visual messages. Dual listed with ART 4650. Students may only take one course for credit. Course fee required. Prerequisites: DES 2600 AND DES 2800 (Grade C- or higher) AND DES 2710 OR ART 2710 (Grade C- or higher). SP.

DES 4750. Package Design. 3 Hours.
The course explores the various facets and theories of package design while applying design principles to create effective packaging solutions for a variety of products. Students will take design projects from concept phase to three-dimensional working prototypes. Course fee required. Prerequisites: ART 1130 (Grade C or higher); AND DES 2300 (Grade C or higher); AND DES 2710 (Grade C or higher). SP.

DES 4900R. Independent Research. 1-3 Hours.
For students pursuing a degree in Design with advanced standing who wish to pursue a specific focus of study related to their degree emphasis and/or research interest not otherwise available in the current Design curriculum. Students are closely supervised by appropriate faculty in the design and successful completion of the course. The course is dependent upon a formal contractual arrangement with the faculty member that is submitted at the beginning of the semester in which coursework is undertaken, and is contingent upon the department chair’s approval. Students meet with the faculty mentor each week and provide progress reports for feedback. Students are required to meet the university requirement of 45 hours of work per credit. Variable credit 1.0 - 3.0. Repeatable up to 3 credits subject to graduation restrictions. Offered by arrangement. Course fee required.

DES 4920. Internship. 3 Hours.
Designed to integrate Design students into working environments that increase aptitude, skills, and networking. The internship setting will nurture a mentor learning relationship with the student, and assist them in preparation for after graduation. Course fee required. Prerequisite: DES 2300 (Grade C or higher); AND Instructor Permission. FA, SP, SU.

DES 4990. Seminar in Design. 3 Hours.
For students wishing instruction that is not available through other regularly scheduled courses in this discipline. Occasionally, either students need some type of non-traditional instruction, or an unanticipated opportunity for instruction presents itself. This course may include standard lectures, travel and field trips, guest speakers, laboratory exercises, or other nontraditional instruction methods. Repeatable for credit as topics vary, up to 6 credits. Course fee required. Prerequisite: Advanced standing. Offered by arrangement.