Design (DES)

DES 110. Design Colloquium. 1 hour.
Introduces students to the breadth and the depth of design theory of practice. Broadens students' view of design. Course Information: Extensive computer use required. Field trips required at a nominal fee.

DES 120. 2D Form Studio. 4 hours.
Introduction to fundamentals of graphic composition (symbols, images, and letterforms) with emphasis on observation, process, hierarchy and abstraction. Course Information: Previously listed as AD 110. Extensive computer use required. Class Schedule Information: To be properly registered, students must enroll in one Lecture and one Laboratory.

DES 130. 3D Form Studio. 4 hours.
Introduction to the fundamentals of three-dimensional form-making, design thinking and design process. Emphasis on conceptual visualization and physical and digital fabrication. Course Information: Previously listed as AD 120. Extensive computer use required. Class Schedule Information: To be properly registered, students must enroll in one Lecture and one Laboratory.

DES 140. Design Drawing. 4 hours.
Introduction to the fundamentals of drawing in the context of design studies. One, two, and three-point perspective for objects and environments as well as application of light and shadow. Course Information: Extensive computer use required. Class Schedule Information: To be properly registered, students must enroll in one Lecture and one Laboratory.

DES 150. Digital Media Design I. 4 hours.
Introduction to the fundamentals of design theory and process in digital media. Utilizes current technologies to explore basics of motion graphics and interaction design. Course Information: Previously listed as AD 205. Extensive computer use required. Class Schedule Information: To be properly registered, students must enroll in one Lecture and one Laboratory.

DES 160. Design Photography. 4 hours.
Introduction to photography used in the context of design studies. Familiarity with the camera, studio, digital techniques and software programs in the contacts of observation, composition, and meaning. Course Information: Extensive computer use required. Class Schedule Information: To be properly registered, students must enroll in one Lecture and one Laboratory.

DES 170. Color Theory. 4 hours.
Introduction to color theory, aesthetics, and systems with emphasis on the definition, replication, and interaction of color in design applications across various media. Course Information: Extensive computer use required. Class Schedule Information: To be properly registered, students must enroll in one Lecture and one Laboratory.

DES 208. Typography I: Form. 4 hours.
Introduction to the aesthetics and mechanics of typographic form and usage. Study of typographic measurement system; recognition and classification; alignment, hierarchy and legibility. Course Information: Previously listed as AD 219. Extensive computer use required. Prerequisite(s): Completion of the design foundation program. Class Schedule Information: To be properly registered, students must enroll in one Lecture and one Laboratory.

DES 209. Typography II: Systems. 4 hours.
The connections beteween material and immaterial space in typographic systems. Introduction to micro and macro typographic patterns with emphasis on theory and practice of grids, proportions, formats, and part to whole. Course Information: Previously listed as AD 314. Prerequisite(s): DES 208. Class Schedule Information: To be properly registered, students must enroll in one Lecture and one Laboratory.

DES 220. Form and Image Studio. 4 hours.
Principles of creation, comparison and sequencing of symbols, letterforms, and images. Study of materials and processes in visual communication and image-making for theoretical and practical application. Course Information: Previously listed as AD 210. Extensive computer use required.Class Schedule Information: To be properly registered, students must enroll in one Lecture and one Laboratory.

DES 222. Human Experience in Design. 4 hours.
Introduction to the relationship design has to people, both in terms of process and execution. Structured around understanding the five human factors: social, cognitive, emotional, physical, and cultural. Course Information: Extensive computer use required. Class Schedule Information: To be properly registered, students must enroll in one Lecture and one Laboratory.

DES 230. Industrial Design II. 4 hours.
Furthers knowledge of design process through focused exercises emphasizing formal aspects of design and product semantics. Understanding design through making and specific fabrication materials and methods. Course Information: Previously listed as AD 220. Extensive computer use required. Prerequisite(s): Sophomore standing or above and completion of the design foundation program. Class Schedule Information: To be properly registered, students must enroll in one Lecture and one Laboratory.

DES 231. Industrial Design III. 4 hours.
Emphasis on connecting skills learned in previous ID courses through the design of small, simple objects. Iterative work with digital and physical tools within constrained criteria. Course Information: Previously listed as AD 221. Extensive computer use required. Field trips required at a nominal fee. Prerequisite(s): DES 230 and sophomore standing or above; or consent of instructor. Class Schedule Information: To be properly registered, students must enroll in one Lecture and one Laboratory.

DES 235. History of Design I: 1760-1925. 3 hours.
Survey of industrial and graphic design from the Industrial Revolution to 1925. Course Information: Same as AH 235. Prerequisite(s): 3 hours of Art History at the 100-level or consent of the instructor. Class Schedule Information: To be properly registered, students must enroll in one Lecture and one Discussion.

DES 236. History of Design II: 1925 to the Present. 3 hours.
Survey of industrial and graphic design from 1925 to the present. Course Information: Same as AH 236. Prerequisite(s): 3 hours of Art History at the 100-level or consent of the instructor. Recommended background: AH 235 or DES 235. Class Schedule Information: To be properly registered, students must enroll in one Lecture and one Discussion.

DES 240. Visualization I. 4 hours.
Freehand sketch intensive studio with focus on rapid conceptional visualization. Course Information: Previously listed as AD 223. Extensive computer use required. Prerequisite(s): Sophomore standing or above. Class Schedule Information: To be properly registered, students must enroll in one Lecture and one Laboratory.

DES 241. Visualization II. 4 hours.
Introduction to digital design tools building expertise and comfort with prominent digital illustration software programs and hardware platforms. Course Information: Previously listed as AD 425. Extensive computer use required. Prerequisite(s): DES 240 and sophomore standing or above. Class Schedule Information: To be properly registered, students must enroll in one Lecture and one Laboratory.

DES 250. Digital Media Design II. 4 hours.
Expands basic principles of interaction design and motion graphics with emphasis on motion literacy. Introduction to user-interface design and web-based publishing. Course Information: Previously listed as AD 211. Extensive computer use required. Class Schedule Information: To be properly registered, students must enroll in one Lecture and one Laboratory.

DES 251. Digital Media Design III: Motion Design. 4 hours.
Advanced narrative and storytelling through motion. Expands motion literacy into narrative sequence planning, animation design process, and multi-media technologies. Course Information: Previously listed as AD 317. Extensive computer use required. Prerequisite(s): DES 250. Class Schedule Information: To be properly registered, students must enroll in one Lecture and one Laboratory.

DES 255. Integrative Design Studio I. 4 hours.
Introduction to design process: ideation and iteration. Emphasis on understanding design through physical investigations utilizing specific fabrication materials and methods for prototype and critique. Course Information: Extensive computer use required. Prerequisite(s): Sophomore standing or above and completion of the design foundation program or concurrent registration in DES 208 and CS 211. Corequisites: Requires concurrent registration in DES 208.

DES 256. Integrative Design Studio II. 4 hours.
Introduction to interactions and systems in design. Emphasis on understanding design through digital investigations utilizing specific software tools for creative and analytic discovery. Course Information: Extensive computer use required. Prerequisite(s): Sophomore standing or above and completion of the design foundation program or concurrent registration in DES 209 and CS 251. Corequisites: Requires concurrent registration in DES 209. Class Schedule Information: To be properly registered, students must enroll in one Lecture and one Laboratory.

DES 308. Typography III: Expression. 4 hours.
Textual investigations of typographic form of expression with an emphasis on composition (contrast, rhythm, tension), non-linearity, visual argumentation, dimensions, and the interplay between digital and analog operations. Course Information: Previously listed as DES 318. Extensive computer use required. Prerequisite(s): DES 209. Class Schedule Information: To be properly registered, students must enroll in one Lecture and one Laboratory.

DES 309. Typography IV: Advanced Topics. 4 hours.
Advanced studio addressing current topics in typography. Content varies per course offering. Topic descriptions are publicized during registration period and may include dimensional typography, environmental graphics, type design, information design. Course Information: May be repeated for credit. Students may register for more than one section per term. Previously listed as DES 319. Extensive computer use required. Prerequisite(s): DES 308. Class Schedule Information: To be properly registered, students must enroll in one Lecture and one Laboratory.

DES 322. Design Research Methods. 4 hours.
Overview of the role of research in design process and development with emphasis on research support in identifying new opportunities, concept definition, realization, and refinement. Course Information: Extensive computer use required. Prerequisite(s): DES 222 and junior standing or above. Class Schedule Information: To be properly registered, students must enroll in one Lecture and one Laboratory.

DES 326. Materials and Methods. 4 hours.
Introduction to the vocabulary and processes involved in mass production with emphasis on major materials and manufacturing methods, design control drawings and basic principles of sustainable design. Course Information: Previously listed as AD 326. Extensive computer use required. Field trips required at a nominal fee. Prerequisite(s): DES 330 and junior standing or above, or consent of the instructor. Class Schedule Information: To be properly registered, students must enroll in one Lecture and one Laboratory.

DES 330. Industrial Design IV. 4 hours.
Introduction to specialty areas of concentration, including visual brand language, service design, and design for sustainability and social responsibility. Builds upon foundational skills through projects. Course Information: Previously listed as AD 320. Extensive computer use required. Field trips required at a nominal fee. Prerequisite(s): DES 231 and junior standing or above, or consent of the instructor. Class Schedule Information: To be properly registered, students must enroll in one Lecture and one Laboratory.

DES 331. Industrial Design V. 4 hours.
Design thinking and mastery of design process with opportunity for collaborative work in small teams focused on client-based project. Course Information: Previously listed as AD 321. Extensive computer use required. Prerequisite(s): DES 330 and junior standing or above, or consent of the instructor. Class Schedule Information: To be properly registered, students must enroll in one Lecture and one Laboratory.

DES 350. Digital Media Design IV: Advanced Topics. 4 hours.
Advanced topics in design and the interplay between digital and analog operations. Course Information: Extensive computer use required. Prerequisite(s): DES 251. Class Schedule Information: To be properly registered, students must enroll in one Lecture and one Laboratory.

DES 355. Design Seminar. 3 hours.
Seminar on current topics in contemporary design theory and practice. Course Information: Field trip required at a nominal fee. Prerequisite(s): Junior standing or above and completion of the design foundation program or concurrent registration in DES 357 and CS 261. Corequisites: Requires concurrent registration in DES 357.

DES 357. Integrative Design Studio III. 4 hours.
Orients toward increasing complexity and deeper understanding of design making and thinking. Subjects of investigation respond to current, emerging trends in design practice. Collaborative team-based projects combine multiple tools and technologies. Course Information: Extensive computer use required. Prerequisite(s): Junior standing or above and completion of the design foundation program or concurrent registration in DES 355 and CS 261. Corequisites: Requires concurrent registration in DES 355. Class Schedule Information: To be properly registered, students must enroll in one Lecture and one Laboratory.

DES 358. Integrative Studio Project. 4 hours.
Exploration, deduction and design of student-selected research topic. Accumulated knowledge and skills are utilized to develop a year-long capstone project. Course Information: Extensive computer use required. Prerequisite(s): DES 357. Class Schedule Information: To be properly registered, students must enroll in one Lecture and one Laboratory.

DES 400. Independent Study in Graphic Design. 1-5 hours.
Supervised independent study in graphic design. Course Information: May be repeated for a maximum of 8 hours for undergraduate students or 10 hours for graduate students. Previously listed as AD 418. Extensive computer use required. Prerequisite(s): Senior standing or above and consent of instructor. Taken by faculty invitation only.

DES 410. Senior Design Colloquium I. 1 hour.
Advanced overview of design practice. Includes lectures representing current and emerging forms of commercial and social practice. Course Information: Previously listed as AD 415. Prerequisite(s): DES 319 or DES 322, and senior standing or above, and consent of instructor.

DES 411. Senior Design Colloquium II. 1 hour.
This course is a continuation of DES 410 which introduces students to the breadth and depth of design theory and practice. The course focuses on the student's individual skills, interests and possibilities for professional engagement. Course Information: Prerequisite(s): DES 410.

DES 420. Professional Practice Project I. 0-5 hours.
Year-long course sequence option allowing students to engage in an interdisciplinary professional project with a commercial or communit concern. Emphasis on teamwork and client interaction. Course Information: Previously listed as AD 411. Prerequisite(s): Senior standing or above and completion of the design foundation program. Class Schedule Information: To be properly, registered students must enroll in one Lecture and one Laboratory.

DES 421. Professional Practice Project II. 4 hours.
Year-long course sequence option allowing students to engage in an interdisciplinary professional project with a commercial or community concern. Emphasis on teamwork and client interaction. Course Information: Extensive computer use required. Prerequisite(s): DES 420. Class Schedule Information: To be properly registered, student must enroll in one Lecture and one Laboratory.

DES 426. Video Game Design and Development. 3 or 4 hours.
Theory and practice of video game design and programming. Students will form interdisciplinary teams, to design, build and demonstrate video games or related interactive simulation environments. Course Information: Same as CS 426. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Grade of C or better in CS 251.

DES 427. Creative Coding. 3 or 4 hours.
Creative Coding investigates how contemporary computational techniques can inspire novel forms of art making, providing students with the skills to make use of technology for expressive purposes. Course Information: Same as CS 427. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Grade of C or better in CS 251.

DES 430. Interdisciplinary Product Development I. 4 hours.
Introduces cross-functional team-based work focusing on problem identification and use-centered research methods in the fuzzy front end of new product development. Course Information: Previously listed as AD 420. Prerequisite(s): DES 319 or DES 322 and senior standing or above. Class Schedule Information: To be properly registered, students must enroll in one Lecture and one Laboratory.

DES 431. Interdisciplinary Product Development II. 4 hours.
Continues cross-functiuonal team-based work focused on problem identification and user-centered research methods in the fuzzy front end of new product development. Course Information: Previously listed as AD 421. Prerequisite(s): DES 430 and senior standing or above. Class Schedule Information: To be properly registered, students must enroll in one Lecture and one Laboratory.

DES 432. Interaction Design. 4 hours.
Design thinking and mastery of design process with opportunity for collaborative work in small teams focused on client-based project. Course Information: Previously listed as AD 413. Prerequisite(s): Junior standing or above. Class Schedule Information: To be properly registered, students must enroll in one Lecture and one Laboratory.

DES 440. Design and Identity I. 4 hours.
Year-long course sequence option allowing students to engage in an interdisciplinary professional project involving design research and civic or social engagement. Emphasis on teamwork, advocacy and presentation. Course Information: Extensive computer use required. Prerequisite(s): DES 319 or DES 322. Class Schedule Information: To be properly registered, students must enroll in one Lecture and one Laboratory.

DES 441. Design and Identity II. 4 hours.
Year-long course sequence option allowing students to engage in an interdisciplinary professional project involving design research and civic or social engagement. Emphasis on teamwork, advocacy and presentation. Course Information: Extensive computer use required. Prerequisite(s): DES 440. Class Schedule Information: To be properly registered, students must enroll in one Lecture and one Laboratory.

DES 450. Advanced Topics in Design. 4 hours.
Advanced special topics in design theory and practice. Course Information: May be repeated. Students may register in more than one section per term. Extensive computer use required. Prerequisite(s): Open only to advanced undergraduate and graduate students in the School of Design. Class Schedule Information: To be properly registered, students must enroll in one Lecture and one Laboratory.

DES 452. Information Aesthetics I. 4 hours.
Introduction to information visualization and programming in the context of art and design. Project oriented course using computer code and custom software for information analysis, representation and creative expression. Course Information: 4 hours. May be repeated to a maximum of 8 hours. Previously listed as AD 452. Extensive computer use required. Prerequisite(s): DES 319 or DES 322 and sophomore standing or above; or consent of the instructor. Class Schedule Information: To be properly registered, students must enroll in one Lecture and one Laboratory.

DES 453. Information Aesthetics II. 4 hours.
Intermediate course emphasizing the database as cultural form. Creative projects and research in information aesthetics through date driven two, three and four dimensional visualizations and custom computer interfaces. Course Information: 4 hours. May be repeated for a maximum of 8 hours. Previously listed as AD 453. Extensive computer use required. Prerequisite(s): DES 452 or ART 452 and junior standing or above; or consent of instructor. Class Schedule Information: To be properly registered, students must enroll in one Lecture and one Laboratory.

DES 470. Industrial Design Thesis I. 4 hours.
Research and design of student-selected topic. Accumulated knowledge and skills are utilized to develop a year-long capstone project providing opportunity to develop a specific focus within design. Course Information: Previously listed as AD 423. Prerequisite(s): DES 236 and DES 331 and senior standing or above. Class Schedule Information: To be properly registered, students must enroll in one Lecture and one Laboratory.

DES 471. Industrial Design Thesis II. 4 hours.
Research and design of student-selected topic. Accumulated knowledge and skills are utilized to develop a year-long capstone project providing opportunity to develop a specific focus within design. Course Information: Extensive computer use required. Prerequisite(s): DES 470 and senior standing or above. Class Schedule Information: To be properly registered, students must enroll in one Lecture and one Laboratory.

DES 480. Graphic Design Thesis I. 4 hours.
Exploration, deduction and design of student-selected research topic. Accumulated knowledge and skills are utilized to develop a year-long capstone project. Course Information: Previously listed as AD 412. Prerequisite(s): DES 236 and DES 319. Class Schedule Information: To be properly registered, students must enroll in one Lecture and one Laboratory.

DES 481. Graphic Design Thesis II. 4 hours.
Exploration, deduction and design of student-selected research topic. Accumulated knowledge and skills are utilized to develop a year-long capstone project. Course Information: Extensive computer use required. Prerequisite(s): DES 480. Class Schedule Information: To be properly registered, students must enroll in one Lecture and one Laboratory.

DES 499. Design Internship. 1 hour.
Academic learning is coupled with professional experience in an off-campus design studio or department. Co-operative education placement is arranged by the student. Course Information: May be repeated for a maximum of 3 hours. Previously listed as AD 499. Requirements of organization offering internship: understanding/agreement that a student intern is a design professional in training (not a volunteer, not a freelancer), positions are paid (at or above federal minimum wage), student is seeking professional experience (not a portfolio piece), setting is a design department or student environment (the student is not the only designer on site), 15 hours per week expected, 20 hours per week maximum. Prerequisite(s): Approval of the Department.