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 community
concern. Emphasis on teamwork and client interaction. Course
Information: Previously listed as AD 411. Prerequisite(s): DES 319 or
DES 322. 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): CS 251 or consent of the instructor.

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): CS 251; or consent of the instructor.

DES 430. Interdisciplinary Product Development I. 4 hours.
Introduces cross-functional team-based work focusing on problem
identification and user-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-functional 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 Thinking and Leadership 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 Thinking and Leadership 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 452. Informational 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: Same as ART 452. 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. Informational Aesthetics II. 4 hours.
Intermediate course emphasizing the database as cultural form. Creative
projects and research in information aesthetics through data driven
two, three and four dimensional visualizations and custom computer
interfaces. Course Information: Same as ART 453. 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: Extensive computer use required. 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.

DES 500. Combined Studio. 4 hours.
Studio course comprised of first and second year graduate students. Topical projects and investigations are completed on an individual basis or in groups. Course Information: May be repeated to a maximum of 8 hours. Class Schedule Information: To be properly registered, students must enroll in one Lecture and one Laboratory.

DES 501. Research Seminar I. 4 hours.
Systematic investigation into current and historical materials relevant to design and drawn from a broad range of disciplines for the purpose of identifying a theme or topic worthy of a written master's research project. Class Schedule Information: To be properly registered, students must enroll in one Lecture and one Laboratory.

DES 502. Research Seminar II. 0-6 hours.
Detailed use of creative language as an inspirational and conceptual tool to craft a logical, well-reasoned, and compelling written master's research project. Class Schedule Information: To be properly registered, students must enroll in one Lecture and one Laboratory.

DES 510. Advanced Graphic Design I. 4 hours.
Exploration of graphic design basics at an advanced level. Introduction to typographic discipline and experimentation. Design process made tangible and visible. Class Schedule Information: To be properly registered, students must enroll in one Lecture and one Laboratory.

DES 511. Advanced Graphic Design II. 4 hours.
Topical creative projects and research in graphic design. Independent exploration. Course Information: Prerequisite(s): DES 501 and 510. Class Schedule Information: To be properly registered, students must enroll in one Lecture and one Laboratory.

DES 512. Documentation Studio. 4 hours.
Team-based publication design in a studio setting. Subject matter provided. Course Information: Prerequisite(s): DES 501 and DES 510. Class Schedule Information: To be properly registered, students must enroll in one Lecture and one Laboratory.

DES 520. Design Seminar. 4 hours.
Seminar on a current topic in the criticism, theory or history of design. Course Schedule Information: May be repeated up to a maximum of 8 hours. Prerequisite: DES 500. Class Schedule Information: To be properly registered, students must enroll in one Lecture and one Laboratory.

DES 531. Industrial Design Master's Research Project I. 4 hours.
Seminar focused on research basics, specifically "research for inspiration" used to locate and articulate the master's research project. Emphasis on secondary research, particularly from non-design sources. Class Schedule Information: To register properly, students must enroll in one Lecture and one Laboratory.

DES 532. Industrial Design Master's Research Project II. 4 hours.
Seminar focused on primary research methods, analysis, and synthesis. Emphasis on user-testing of prototypes that support the development of master's research projects. Class Schedule Information: To be properly registered, students must enroll in one Lecture and one Laboratory.

DES 540. Research Studio. 4 hours.
Master's research project paper, completed in the first year, is designed into publication form. Course Information: Prerequisite(s): DES 502 and DES 511. Class Schedule Information: To be properly registered, students must enroll in one Lecture and one Laboratory.

DES 541. Master's Research Project + Exhibition. 4 hours.
Supervised coursework toward graduation requirement of master's research project, public exhibition, and oral defense. Independent advisement as well as group discussion and critique. Course Information: Prerequisite(s): DES 502 and DES 511. Class Schedule Information: To be properly registered, students must enroll in one Lecture and one Laboratory.

DES 542. Master's Research Project Advising. 2 hours.
Independent progress on master's research project supervised by faculty advisor. Course Information: Prerequisite(s): DES 540.

DES 550. Industrial Design Master's Research Project Studio. 4 hours.
Supervised independent studio initiating in-depth design process from previously completed master's research project statement. Emphasis on ideation, prototype iteration, formal/technical development, model fabrication and user evaluation. Course Information: May be repeated to a maximum of 12 hours. Prerequisite(s): DES 501 and DES 531. Class Schedule Information: To be properly registered, students must enroll in one Lecture and one Laboratory.
DES 551. Master's Research Project Documentation + Exhibition. 4 hours.
Supervised work toward graduation requirements of master’s research project process and outcome documentation, public exhibition, and oral defense. Independent advisement as well as group discussion and critique. Course Information: Prerequisite(s): DES 502 and DES 550.
Class Schedule Information: To be properly registered, students must enroll in one Lecture and one Laboratory.

DES 560. Design Teaching Internship. 0-2 hours.
Practical and theoretical aspects of teaching lecture/lab, studio courses in Design. Course Information: May be repeated for credit. No graduation credit. Prerequisite(s): Consent of instructor. Class Schedule Information: To be properly registered, students must enroll in one Lecture and one Laboratory.

DES 597. Master's Project. 0-4 hours.
Independent research under faculty supervision in a specific area of interest. Course Information: May be repeated to a maximum of 16 hours.
Prerequisite(s): Consent of instructor.