INDUSTRIAL DESIGN (INDS)

INDS1000 INDUSTRIAL DESIGN STUDIO 1
Industrial Design Studio 1 develops a sensitivity and understanding of design principles through a series of three-dimensional projects. The design process emphasizes research, material preparation, iteration and verification of successful design outcomes against focused elements and principles for each project. Accurate craftsmanship and clear use of design nomenclature during critiques is stressed. *Corequisites: DSGN1000 and DSGN1200 (4 credits)*

INDS1500 INDUSTRIAL DESIGN STUDIO 2
Building upon the design foundations of Industrial Design Studio 1, Industrial Design Studio 2 advances an understanding of design principles through a thematic series of three-dimensional projects. The design process emphasizes research, material preparation, iteration and verification for each project, working toward a clear and meaningful design intent. Accurate craftsmanship and clear use of design nomenclature during critiques is stressed. This course reinforces nomenclature covered in INDS1000. *Prerequisite: INDS1000 or INTD1000 or ARCH1000 (4 credits) spring*

INDS1750 VISUAL COMMUNICATION
This studio based course introduces the principles of visual communication and the creative process of design. Assignments explore techniques in both analog and digital media. Topics include visual literacy, typography, visual hierarchy, composition, and other fundamental concepts of two-dimensional design. (4 credits) fall

INDS1850 VISUALIZATION 2: ADVANCED PERSPECTIVE
This course introduces students to perspective drawing and sketching used by industrial designers. One and two-point perspective, line value, lighting, surface value, shade, shadow, and techniques are covered. *Prerequisite: DSGN1000 or ARCH1200 (3 credits) spring*

INDS2000 INDUSTRIAL DESIGN STUDIO 3
This studio focuses on design methodology and problem solving techniques to develop and enhance creativity. Small-scale design problems in packaging, table, and desktop products are used to build individual skill development. *Prerequisite: INDS1500 (4 credits)*

INDS2300 3D REALIZATION I
This introductory course develops basic model-making skills and the safe use of shop tools (hand and machine). Students will begin to construct study models in support of studio courses utilizing various papers, wood, metal, and plastics. *Corequisite: INDS2500 (4 credits) spring*

INDS2350 VISUALIZATION 3: DRAW & THINK
This course introduces students to advanced freehand drawing and format conventions used by industrial designers to communicate design concepts visually. Professional presentation skills are stressed. *Prerequisite: INDS1850 (3 credits)*

INDS2500 INDUSTRIAL DESIGN STUDIO 4
This design studio challenges the student to integrate previous design lessons in order to tackle more complex design problems. Manufacturing, user interactions, and advanced product aesthetics are covered. *Prerequisite: INDS2000 (4 credits)*

INDS2600 CAD 1: SURFACE MODELING
This introductory/intermediate course develops the students' understanding of three-dimensional CAD utilizing NURBS based surface modeling techniques, and stresses a progression in constructional and visual problem solving skills. (3 credits) fall

INDS2800 3D REALIZATION 2
This course develops students' three-dimensional visualization skills as related to the industrial design profession. Students will also investigate the appropriate use of metals, wood, plastics, specialty materials, and fabrication technologies to assemble study models for studio courses. *Prerequisite: INDS2300; Corequisite: INDS3000 (4 credits) fall*

INDS2850 VISUALIZATION 4: PRESENTATION & ILLUSTRATION
This course advances the student's understanding of representing objects in three-dimensional freehand depictions and integrates the computer as a tool for refining and altering those depictions. *Prerequisite: INDS2350 (3 credits)*

INDS3000 INDUSTRIAL DESIGN STUDIO 5
This studio focuses on the comprehensive integration of small-scale design problems with issues of appearance, function, materials, and manufacturing processes. Please refer to the Design Studio Grade Requirement in the Academic Catalog regarding the final grade for this course. *Prerequisite: INDS2500 (4 credits)*

INDS3100 CAD 2: SOLID MODELING
This intermediate course develops the students' understanding of three-dimensional CAD utilizing an industry standard parametric feature based solid modeler. This course stresses both visual and technical problem-solving skills. (3 credits) fall

INDS3200 HUMAN FACTORS IN DESIGN
Studies in the relationship of humans with products and equipment are explored. Methodologies, information output, human output, control, environmental conditions, and human factors applications are introduced. (3 credits)

INDS3300 INFORMATION ARCHITECTURE 1
This studio-based design course develops each student's awareness and understanding of the visual language that designers use to graphically communicate information and meaning - visual storytelling. Students investigate the use of typography and image to communicate meaning in singular and sequential representations. *Prerequisite: INDS1750 (3 credits)*

INDS3500 INDUSTRIAL DESIGN STUDIO 6
This studio-based design course focuses on various professional design concentrations such as sustainability, biomedical products, and exhibit design. *Prerequisite: INDS3000 (4 credits)*

INDS3600 MANUFACTURING IN DESIGN
This course provides a basic knowledge of current manufacturing processes, materials, systems and production strategies commonly used in commercial product development. (3 credits)

INDS3650 ADVANCED RAPID PROTOTYPING
This course is an exploration of technologies currently available that provide the industrial designer with an advanced level workflow from 3D CAD modeling software through to rapid prototyping and tooling. Both additive and subtractive prototyping methods will be experienced utilizing laser cutting, 3D printing and CNC machining. *Prerequisites: Junior status; INDS2600 and INDS2800 (3 credits)*

INDS3800 SPECIAL TOPICS IN INDUSTRIAL DESIGN
Presents topics that are not covered by existing courses and are likely to change from semester to semester. Refer to the Class Schedule for a specific semester for details of offerings for the semester. (1 - 4 credits)

INDS4000 INDUSTRIAL DESIGN STUDIO 7
This studio-based course focuses various design themes such as consumer electronics, furniture, and footwear design. *Prerequisite: INDS3500 (4 credits)*

INDS4011 DESIGN PERSPECTIVES: TOPICS IN HISTORY
Students take an in-depth look at selected movements, individuals, companies and/or product lines that are significant in the history of industrial design. ***Prerequisite:*** *Junior status (4 credits)*

INDS4300 INFORMATION ARCHITECTURE 2
This studio-based design course builds on the visual concepts introduced in Information Architecture 1. Projects focus on the visual display of qualitative and quantitative information in static and dynamic media. ***Prerequisite:*** *INDS3300 (3 credits)*

INDS4500 BUSINESS IN DESIGN
This course examines the business of design practice by focusing on client/project management, marketing, professional communication and entrepreneurship. Professional standards and ethics in design are discussed. (3 credits)

INDS4511 PROFESSIONAL PRACTICE
The course examines business and legal aspects of Industrial Design practice by focusing on financial and project management, marketing, and personnel issues. Professional standards and ethics in design are discussed. (4 credits)

INDS4750 SENIOR SEMINAR
This class focuses on current design philosophies and professional trends in visual communication. Students debate and discuss the impact of such and speculate on the impact to the profession and the community at large. (3 credits)

INDS5000 RESEARCH: SENIOR STUDIES
In this course, students propose an area of study to faculty, who then define projects within areas of proposed study for students to choose from and develop a research document. This document becomes the basis for the student's senior design project. (3 credits)

INDS5500 SENIOR STUDIES
This course is an independent capstone design studio focusing on an individual's ability to process design research, develop compelling design ideas, and manifest those ideas for presentation in a professional manner. ***Prerequisite:*** *INDS4000 (4 credits)*