

# INDUSTRIAL DESIGN (IND)

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## **IND-201 Design Studio I - (3 Credits)**

Design studio I is a part of the two-part course that is developed to incorporate all aspects of "making". Through a series of simple exercises, individual and group projects, students will develop a basic understanding of the design process through research, ideation, iterative sketch modeling, prototyping and presentation. Through analysis and hands-on experience, students begin to understand the complex process of designing while learning fabrication techniques.

## **IND-202 Design Studio II - (3 Credits)**

Design Studio II is a second part of two-part course that re-iterates the process of design and making. Assignments of a more complex nature allow students to build up on skills learned in Design Studio I, applying these skills to research, ideation, iterative sketch modeling, prototyping and presentation. Through a series of individual and group projects students develop further their understanding of the design process. Using analysis and hands-on experience, students actively demonstrate an awareness of designing, while applying fabrication techniques learned in the previous semester.

## **IND-211 3D Representation I - (3 Credits)**

This course explores the study of the structure of three-dimensional visual relationship and develops student skills in assessing the aesthetic, functional and conceptual aspects of form and space. A three-dimensional sensitivity is developed through a series of exercises, projects, and lectures allowing for the cognition, organization and articulation of the 3-D elements of line, plane, volume, space, tonal value, texture, color, and the synthesis of the 3-D principles of proportion, scale, balance, movement, grouping, hierarchy, structure and spatial tension. Manual and digital tools will be utilized in students' projects and exercises.

## **IND-212 3D Representation II - (3 Credits)**

The course is devoted to exploring and increasing students' sensitivity to form and space methodology with the visual organization of surface relationships, surface juxtapositions, and configuration with an organic form. Manual and digital tools will be utilized in students' projects and exercises. Parameters and rules for any set of exercises will encourage students to look for finer details or aspects as they execute successively more complex problems.

## **IND-245 2D Representation I - (3 Credits)**

This two-semester required course introduces and develops a range of 2D communication skills essential for the practice of industrial design. Starting with the basics of ideational sketching the course progresses to cover alternate techniques, digital methodologies, and broader issues of graphics, symbolic representation, and presentation. Subject matter is restricted to small-scale objects.

## **IND-246 2D Representation II - (3 Credits)**

Part two of the two-semester course introduces and develops a range of 2D communication skills essential for the practice of industrial design. Building on the basic skills learned in IND-245. Student's draw large-scale objects including furniture, interiors and exhibit spaces. Students also learn to convey subtleties of form, use, attitude and style in persuasive drawings and renderings. The course provides a closer connection to Design Studio projects, with a greater emphasis on digital methodologies, elements of graphic design, narrative and overall visual communication.

## **IND-301 Design Studio III - (3 Credits)**

Design Studio III exposes students to scenarios and users in depth. The course incorporates the use of technology, materials and manufacturing processes in the development of the projects. In development of creative proposals students are expected to perform at a high level of visual aesthetics and functionality.

## **IND-302 Design Studio IV - (3 Credits)**

Design Studio IV exposes students to scenarios and users in depth. At the same time the course incorporates the use of technology, materials and manufacturing processes. Learned by students in the previous Design Studio classes. Products and systems of increased complexity are offered as studio topics. Students get exposure to industry-sponsored projects, working with manufacturing companies and cultural and social agencies.

## **IND-311 Complex Form and Space Methodology - (3 Credits)**

Continuing complex study of form and space methodology, this class is a process of visually organizing infinite varieties of elements, relationships, and spatial positions. It is a process of visual experience that invests objects with significance and meaning connecting the methodology to the design process. The incorporation of color studies and digital tools will be integrated into the exercises.

## **IND-312 3D Representation IV - (3 Credits)**

The course develops student skills in assessing the esthetic, functional and conceptual aspects of form and space. Complex principles and elements of form and space methodology are applied toward a pragmatic design. Advanced visual sensitivity, incorporating color theory, graphic design, and digital tools, will expand aesthetic understanding.

## **IND-320 Design Engineering I - (3 Credits)**

The first of a two-semester sequence, this combination lecture/lab course focuses on materials, manufacturing methods and the application of this knowledge to the practice of industrial Design. The course will introduce commonly specified materials, their properties, costs, and impacts on sustainability and commerce. The course will also study the relationship of specific manufacturing methods on formal and aesthetic compositions as well as their relationship of these choices to markets, users and overall product feasibility.

## **IND-321 Design Engineering II - (3 Credits)**

The second of a two-semester sequence, this combination lecture/lab course focuses on methods of manufacturing and engineering, and the application of this knowledge to the practice of Industrial Design. The course will introduce commonly specified production processes and fundamental principles of design engineering. The course will also study the relationship between specific manufacturing methods and formal, and experiential properties of products as well as their relationship to markets and users.

## **IND-401 Design Studio V - (3 Credits)**

Senior Design Studio builds on skills and methodologies introduced and developed in previous semesters. These studios offer students the opportunity for significant personal expression while introducing professional level standards to design process, presentation and deliverables. Topics are varied, and incorporate opportunities for outreach and interaction with groups and individuals beyond the wall of Pratt.

## **IND-402 Capstone Design Studio - (3 Credits)**

The capstone studio incorporates every element of the preceding curriculum to realize individual projects that are of professional quality and scope. All students are required to present their projects to an external professional audience for critique and defense. The project's subject should be predominately of the students' choosing.

**IND-405 Special Projects - (3 Credits)**

Interdisciplinary study concerning an approved industrial design project with research, design and presentation completed under supervision of faculty is involved. This is offered as a studio elective in the junior and senior years with chairperson and faculty approval.

**IND-406 Special Projects - (3 Credits)**

Interdisciplinary study concerning an approved industrial design project with research, design and presentation completed under supervision of faculty is involved. This is offered as a studio elective in the junior and senior years with chairperson and faculty approval.

**IND-409 3D Space Representation I - (3 Credits)**

This course is directed toward the understanding of the concept of negative volume (space) in relation to interior and exterior environmental situations. The first semester is devoted to a series of abstract visual experiences designed to develop awareness of space and of the relationship of forms to a particular negative volume. In the second semester, the student applies theory to a project (shop, restaurant, outdoor theater, exhibition space, or some other area of our environment) and brings it to finished model form.

**IND-410 3D Space Representation II - (3 Credits)**

This course is directed toward the understanding of the concept of negative volume (space) in relation to interior and exterior environmental situations. The first semester is devoted to a series of abstract visual experiences designed to develop awareness of space and of the relationship of forms to a particular negative volume. In the second semester, the student applies theory to a project (shop, restaurant, outdoor theater, exhibition space, or some other area of our environment) and brings it to finished model form.

**IND-417 Toy Design - (3 Credits)**

This course deals with design techniques related to toy design, encompassing building, color, graphics, simple mechanics, and drafting. These will be applied through use of plastic, wood, foam, wire, paint, pencils, markers and vacuum forming. Special consideration is given to the understanding of the child. The safety concerns as well as the educational and fun value of the toy will be considered. Children will judge the student's toy at the end of the semester.

**IND-441 Professional Practice - (3 Credits)**

The mission of this course is to prepare graduating industrial design students for their transition from Pratt, to a career within the Industrial Design Profession. It will cover and expect presentation technique and delivery, along with verbal and written thoroughness. This class is an opportunity to develop a competitive edge in one's visual materials, and the ability to target, seek and realize professional appointment.

**IND-443 Digital Ideation - (3 Credits)**

Digital Ideation provides students with theoretical principles and practical examples of a wide variety of digital technology, tools, software and methods which designers are likely to encounter in current practice. These include solid and surface modeling, 3-D rendering, animation, and output for rapid prototyping. This course will afford students the ability to make the best use of digital tools and methods suited to a particular project. Emphasis is placed on ideation skill in the digital environment, bringing initial concepts to sophisticated realization.

**IND-450 Design Theory and Research - (3 Credits)**

This class provides the framework for students to develop critical thinking and writing methods, to participate in a current and meaningful discourse on design theory and to articulate a written proposal for their major capstone project to be executed in their final semester.

**IND-451 Prototypes I - (3 Credits)**

This course is offered to seniors who wish to pursue their own special talents or inventive faculties. The resulting forms must be designed and built as complete, full-size, and useful prototypes - that is, the first of a series. The only restrictions on form are simple and logical: to be able to execute the project with available materials, tools and personal finance. Furniture, mass production ceramics, lighting, portable structures, and textiles are potential projects.

**IND-452 Prototypes II - (3 Credits)**

This course is offered to seniors who wish to pursue their own special talents or inventive faculties. The resulting forms must be designed and built as complete, full-size, and useful prototypes - that is, the first of a series. The only restrictions on form are simple and logical: to be able to execute the project with available materials, tools and personal finance. Furniture, mass production ceramics, lighting, portable structures, and textiles are potential projects.

**IND-487 Sustainability and Production - (3 Credits)**

This course explores issues of sustainability and social responsibility in product design with an emphasis on materials and supply chain flows. The importance of the designer's role in understanding the environmental and social consequences of creating and producing products will be emphasized. Intended for the advanced undergraduate, studies on the impacts of production and consumption will be covered through readings, class discussions, and lecture materials. Students will be introduced to tools to assess the environmental impacts of products and services to create baseline models; their findings will be used to develop alternative concepts that reduce environmental impacts of products.

**IND-541 CAID: Solid Works - (2 Credits)**

A thorough overview of Computer-Aided Industrial Design (CAID), from simple software programs for PC-type hardware to high-end, state-of-the-art workstations. Field trips and guest lecturers provide in-depth presentations about this newly developing area of industrial design. CAID is evaluated in relation to traditional industrial design methodologies. Students are introduced to desktop CAID with PC-type hardware and a product-drafting program.

**IND-9400 UG IND Internship Internship Course - (0 Credits)**

The internship is a learning experiences at a discipline-related professional site. It provides students with an opportunity to apply academic knowledge and skills in a practical setting, while obtaining new knowledge and skills in preparation for professional work or graduate school. Students experience the application of coursework lessons into a real-life context, thus enriching their education. They deepen their knowledge about important applied aspects of their discipline, enhance their professional skills in a real-world context, build their professional network, and inform their career choices. Additional faculty-supervised activities provide the opportunity for an in-depth reflection on the internship experience.

**IND-9401 =UG IND Internship Photography Internship - (1 Credit)**

The internship is a learning experiences at a discipline-related professional site. It provides students with an opportunity to apply academic knowledge and skills in a practical setting, while obtaining new knowledge and skills in preparation for professional work or graduate school. Students experience the application of coursework lessons into a real-life context, thus enriching their education. They deepen their knowledge about important applied aspects of their discipline, enhance their professional skills in a real-world context, build their professional network, and inform their career choices. Additional faculty-supervised activities provide the opportunity for an in-depth reflection on the internship experience.

**IND-9402 Ug Ind Internship (2cr) - (2 Credits)**

The internship is a learning experiences at a discipline-related professional site. It provides students with an opportunity to apply academic knowledge and skills in a practical setting, while obtaining new knowledge and skills in preparation for professional work or graduate school. Students experience the application of coursework lessons into a real-life context, thus enriching their education. They deepen their knowledge about important applied aspects of their discipline, enhance their professional skills in a real-world context, build their professional network, and inform their career choices. Additional faculty-supervised activities provide the opportunity for an in-depth reflection on the internship experience.

**IND-9403 Ug Industrial Design Internship (3cr) - (3 Credits)**

The internship is a learning experiences at a discipline-related professional site. It provides students with an opportunity to apply academic knowledge and skills in a practical setting, while obtaining new knowledge and skills in preparation for professional work or graduate school. Students experience the application of coursework lessons into a real-life context, thus enriching their education. They deepen their knowledge about important applied aspects of their discipline, enhance their professional skills in a real-world context, build their professional network, and inform their career choices. Additional faculty-supervised activities provide the opportunity for an in-depth reflection on the internship experience.