

# INDUSTRIAL DESIGN (INDD)

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## **INDD 500: Skills & Methods for Ind Dsgn**

An intensive summer workshop for graduate students matriculating without an industrial design background. This course replicates much of the skills-based content covered in undergraduate Design I, and goes on to cover shop and prototyping issues otherwise found in Materials and Process: Shop Techniques, as well as basic materials and process selection for manufacturing. Projects are designed, but this class focuses on techniques and skills rather than the objects designed. Note: This course meets from 9-5, the last week (one week only) of the SM4W semester. Student must register for course by 1st day of the SM4W term.

**Credits:** 3

**College:** School of Design & Engineering

**Schedule Type:** Lecture

## **INDD 501: Design 1 for Industrial Design**

**Credits:** 4

**College:** School of Design & Engineering

**Schedule Type:** Studio

## **INDD 503: Vis for Industrial Design I**

**Credits:** 3

**College:** School of Design & Engineering

**Schedule Type:** Lecture, Lecture/Studio Combination, On-Line, Studio

## **INDD 504: Materials & Process Fab**

**Credits:** 3

**College:** School of Design & Engineering

**Schedule Type:** Lecture, Lecture/Studio Combination, Studio

## **INDD 505: Vis for Industrial Design II**

**Credits:** 3

**College:** School of Design & Engineering

**Schedule Type:** Lecture, Lecture/Studio Combination, Studio

## **INDD 506: CAD I for Industrial Design**

**Credits:** 3

**College:** School of Design & Engineering

**Schedule Type:** Lecture, Lecture/Lab, On-Line

## **INDD 507: Mats & Proc: Manufacturing**

**Credits:** 3

**College:** School of Design & Engineering

**Schedule Type:** Lecture, Lecture/Studio Combination, On-Line, Studio

## **INDD 510: Ergonomic Studies**

**Credits:** 3

**College:** School of Design & Engineering

**Schedule Type:** Lab, Lecture, Lecture/Lab

## **INDD 600A: Intercultur Innovatn/Stdy Abr**

During a short experience in a foreign country, students will observe and document cultural and demographic difference between countries through formal lectures, and field observations and team exercises. The work in this class is informed by the use of user-based observational research techniques, which students will adapt and propose.

Documentation is brought back to the US for use in the MSID-600B Intercultural Innovation: Interdisciplinary Project Component class.

Students should plan on taking BOTH classes.

**Credits:** 1

**College:** School of Design & Engineering

**Schedule Type:** Lecture

## **INDD 600B: Intercultur Innovatn/Stdy Abr**

This is the second in a two-course interdisciplinary course sequence.

This class builds on work done in the MSID-600A Intercultural Innovation: Study Abroad Component course. Students should plan on taking BOTH classes. In MSID-600B, students bring research by interdisciplinary teams outside the US into well-documented opportunities for new products, business platforms or systems. In a series of team meetings and design critiques, they then turn them into cohesive proposals including both design and business elements.

**Credits:** 2

**College:** School of Design & Engineering

**Prerequisites:** INDD 600A [Min Grade: C]

**Schedule Type:** Lecture

## **INDD 700: Research & Desn Process Meths**

This course gives students the tools they need to find and frame opportunities, to construct successful design briefs and to evaluate design in progress, and to explore and document new generative and evaluative research techniques and defining basics of professional practice. class projects will support studio work, as well as contributing to ongoing research initiatives.

**Credits:** 3

**College:** School of Design & Engineering

**Schedule Type:** Lecture, Lecture/Studio Combination, Studio

## **INDD 701: Design Bus & Entrepreneurship**

This course addresses specialized topics in professional practice relevant to graduate industrial design students. These include current approaches to intellectual property, professional ethics, contracts, management practices, and structures of practice and employment in the field. In addition, students research fields within industrial design to identify potential career paths, plan and execute individual strategies for networking and interviewing, and prepare portfolio deliverables and other self-promotion materials in consultation with faculty and guest critics.

**Credits:** 3

**College:** School of Design & Engineering

**Schedule Type:** Lecture

## **INDD 703: User Centered Design**

This course is the first in the MSID studio sequence. This studio concentrates on user-centered design techniques, including observational/ethnographic research methods and methods incorporating users and other stakeholders into the design process. Each studio will be expected to do extensive generative research and to publicize/archive its research and conclusions.

**Credits:** 4

**College:** School of Design & Engineering

**Schedule Type:** Lecture

## **INDD 704: Wkshop: Interactive Prototypn**

This course addresses the need by industrial design professionals to create interactive, intelligent systems comprising both hardware and software components, and to test, iterate, assess and defend these solutions based on principles of cognitive and physical human factors. Through quick, iterative prototyping and testing of interfaces based on simple microcontrollers, this class teaches basic programming, integration of electronic sensors and outputs into tangible interfaces, and principles of testing and cognitive ergonomics for use in assessment of interactive interfaces.

**Credits:** 3

**College:** School of Design & Engineering

**Schedule Type:** Lecture

**INDD 705: Collaborative Innovatn Studio**

This course is the second in the MSID studio sequence. This studio provokes interdisciplinary activity through a project centered on designed systems, which requires industrial design but requires inputs from other disciplines. Types of projects might include: - ID + corporate brand experience, - ID + materials science product development, - Products of service/business, platform design, - Entrepreneurial design (design + business plan), - Software/hardware systems

**Credits:** 5**College:** School of Design & Engineering**Prerequisites:** INDD 703 [Min Grade: C]**Schedule Type:** Lecture, Studio**INDD 707: Current Issues in Ind Dsg**

In this class, students map and discuss the major influences on industrial design today, as well as modeling the lifetime learning and assessment of theory that are necessary for effective professional design and critique. The class is a seminar and is thematic rather than historical in focus. The reading list is expected to include blogs and periodicals, as well as books, and will change frequently.

**Credits:** 3**College:** School of Design & Engineering**Schedule Type:** Lecture**INDD 791: Internship**

This course allows students to pursue direct experience in a company or organization that is actively engaged in design-related work. Students augment and enrich their overall education at the University by learning through direct work experience on design projects. Permission required, see program director or Career Services office for details.

**Credits:** 3**College:** School of Design & Engineering**Prerequisites:** INDD 705 [Min Grade: C]**Schedule Type:** Internship 3 Credits**INDD 798: Independent Study**

This course will allow students to pursue individual areas of interest while working jointly with a faculty member. Enrollment is subject to the availability and approval of both the program director and faculty member. The student must have 18 or more graduate-level credits, and a prospectus of the proposed independent study must be approved at least one month prior to registration. See appropriate form available online at Registrar's website, [www.philau.edu/registrar/](http://www.philau.edu/registrar/).

**Credits:** 3**College:** School of Design & Engineering**Prerequisites:** INDD 705 [Min Grade: C]**Schedule Type:** Independent Study**INDD 803: Master's Proj I:Implementation**

The 2-semester capstone project sequence stresses the importance of iterative prototyping and evaluation in current design practice by devoting two semesters to the ID Capstone project. In this first capstone project semester, students begin work with a team of collaborators within and outside the University. Students have weekly progress critiques with studio faculty and other students, as well as regular meetings with outside project stakeholders. The semester concludes in a progress presentation with outside critics.

**Credits:** 4**College:** School of Design & Engineering**Prerequisites:** INDD 705 [Min Grade: C]**Schedule Type:** By Appointment - 1 student, Lecture**INDD 804: Master's Proj II: Dev & Eval**

The MSID master's project sequence includes two courses. In this second semester, students work with collaborators and critics/clients within and outside the University to develop, detail and revise designs to a professional level, and to test their performance in the real world. Activities include weekly critiques with studio faculty and other students, as well as meetings with outside project stakeholders. The semester concludes with in-person defense of the work and a display at the CDEC Spring Design Show.

**Credits:** 5**College:** School of Design & Engineering**Prerequisites:** INDD 803 [Min Grade: C]**Schedule Type:** By Appointment - 1 student, Lecture