

INDUSTRIAL DESIGN

Overview

<http://www.design.iastate.edu/industrialdesign/index.php> (<http://www.design.iastate.edu/industrialdesign/>)

The vision of the Department of Industrial Design is to empower the next generation of designers to identify and solve small to large scale problems in order to devise systemic, forward-thinking solutions, mindful of societal needs and ecological repercussions, fostering health and well-being for people and the environment.

We do this by providing students with the necessary tools and experiences, spanning across the product development timeline from the front-end of problem finding through design research and synthesis, to discovery of meaningful design solutions that can range from products to services and systems. The industrial design program offers opportunities to collaborate with diverse disciplines on campus and beyond to tackle a wide variety of local and global design challenges.

Degree offerings include the Bachelor of Industrial Design (B.I.D.) and the Master of Industrial Design (M.I.D.).

Undergraduate Program Structure

Students in this program take a carefully defined sequence of courses developed to give them exposure and practice in the areas of theory and skill required by industrial design. These include design sketching and visualization, form development, history, creative thinking, engineering principles, research, design methodology, human factors, computer-aided design, manufacturing techniques, commercial factors, management, strategic design development, service design, and user experience design. In their third year, students select electives within and outside of the department, defining current issues in the profession. The upper-level studio classes are reserved for study abroad programs connecting students to the global design community, internships, and industry-sponsored projects with students from other departments and colleges. The curriculum aims to develop the ability to cope with diverse problem areas in industrial design, without restricting them to specific fields in design.

An industrial design degree from Iowa State prepares students for creative careers in private and corporate practice, with design consulting companies, in-house design departments, and product manufacturers.

Career choices with an industrial design degree include (but are not limited to):

Product designer, design researcher, automotive designer, footwear & accessory designer, construction & agricultural equipment designer, furniture & lighting designer, interaction designer, service designer, exhibit

designer, packaging designer, advertising & experience designer, UX designer and researcher.

Student Learning Outcomes

Upon completion of the industrial design program students will be able to:

1. Analyze and address critically the needs of ALL stakeholders involved in the design process and avoid biases, through emphasizing critical thinking, empathy, compassion, and reflective practices. (*DIVERSITY, EQUITY & INCLUSION*)
2. Navigate and apply varying design methods and techniques commonly used to identify and solve small to large scale problems creatively and methodically. (*CREATIVE DESIGN PROCESS*)
3. Develop comprehensive products, services and systems solutions through situation and circumstance appropriate touchpoints and platforms. (*PRODUCTS, SERVICES & SYSTEMS*)
4. Understand and evaluate ethical, societal, environmental, and cultural short and long-term consequences of design solutions for all people and the planet. (*SUSTAINABILITY & ETHICAL DESIGN - aka the designers' dilemma of unintended consequences*)
5. Communicate professionally and effectively with all stakeholders of the design process from peers and co-workers to clients and end users in both forms verbally and visually. (*COLLABORATION, COMMUNICATION & PROFESSIONALISM*)

Degree Requirements

The curriculum in Industrial Design leads to a 133-credit undergraduate Bachelor of Industrial Design including the first year Core Design Program.

Admission into the professional program depends upon available departmental resources. Updated information on admission criteria is announced yearly on the College of Design website.

Transfer students with studio credits from other programs, colleges, and universities must present a portfolio of work done in those courses, for departmental review, in order to have the credits apply toward studio. Students are required to present this portfolio upon admission and prior to registration for classes. Arrangements for this process must be made with department advisors.

A 60-credit post-professional graduate program is also offered leading to the terminal degree Master of Industrial Design.

Total Degree Requirements: 133 credits

Only 65 credits from a two-year institution may apply, which may include up to 16 technical credits; 9 P-NP credits of free electives; 2.00 minimum GPA.

International Perspective: 3 credits**U.S. Diversity: 3 credits****Communications: 10 credits**

ENGL 1500	Critical Thinking and Communication (*)	3
ENGL 2500	Written, Oral, Visual, and Electronic Composition (*)	3
LIB 1600	Introduction to College Level Research	1
One of the following:		3
COMST 1010	Introduction to Communication Studies	
COMST 2110	Interpersonal Communication	
SPCM 1100	Listening	
SPCM 2120	Fundamentals of Public Speaking	
THRE 2510	Acting Foundations	
Total Credits		10

* With a C or better

Humanities: 6 credits

6 credits from program curriculum sheet

Social Sciences: 6 credits

6 credits from program curriculum sheet

Math/Physics/Biol.Sciences: 6 credits

6 credits from program curriculum sheet

General Education Courses: 9 credits6 credits of course level 3000-4000 from program curriculum sheet:
complete 3 credits from department curriculum sheet.**College of Design Core: 13 credits**

DSNS 1020	Design Studio I	4
DSNS 1150	Design Collaborative Seminar	1
	or DSNS 1100 Design Exchange Seminar I	
DSNS 1310	Drawing I	4
DSNS 1320	Digital Design Literacy	1
DSNS 1830	Design in Context	3
Total Credits		13

History, Theory and Criticism: 15 credits

INDD 2100	Fundamentals of Industrial Design	3
INDD 2800	History of Industrial Design	3
INDD 3800	History and Culture of Objects	3
Two courses from the approved course list; must include one 3000 level or higher.		6
Total Credits		15

Industrial Design: 60 credits

INDD 2010	Industrial Design Studio I	6
INDD 2020	Industrial Design Studio II	6

INDD 2200	Concepts of Sketching and Making I	3
INDD 2500	Activity-Centered Industrial Design	3
INDD 2600	Design Engineering: From Thought to Thing	3
INDD 3010	Industrial Design Studio III	6
INDD 3200	Design Research Methods	3
INDD 3300	Creative Thinking in Design	3
INDD 3400	Digital Design Technologies	3
INDD 3600	Materials and Processes for Industrial Design	3
INDD 3700	STEM literacy: How Things Work	3
INDD 4400	Portfolio and Professional Practice	3
INDD 4990	Senior Project	6
Total Credits		51

Experiential Learning: 6 credits		6
INDD 3020	Industrial Design Studio IV	
INDD 3970	Industrial Design Internship	
INDD 4010	Industrial Design Studio V: Commercial Practices	
INDD 4020	Industrial Design Studio: Design for Social Impact	
INDD 4950	Study Abroad Option	
INDD 5070	Industrial Design Practicum	
INDD 5900	Special Topics	
INDD 5920	Special Projects	
INDD 5930	Experiential Learning Special Projects	
INDD 5950	Study Abroad Option	
INDD 5970	Internship	
Total Credits		60

Electives: 11 credits

Electives should be assembled to support a focused area of study.

Suggested Departmental Electives:

INDD 2400	Digital Tools For Industrial Design	3
INDD 3500	Applied Human Factors Lab	1
INDD 4350	Strategic Design: Project Management	3
INDD 4600	Product Realization	3
INDD 5200	Design Theory Methodology	3
INDD 5300	Design Thinking	3
INDD 5400	Design Communication	3
INDD 5500	Human Factors: User Experience Design	3
INDD 5600	Change by Design: Disruptive Innovation	3
INDD 5700	Systems Thinking in Design	3
INDD 5800	Material Culture and Values	3

Industrial Design, B.I.D.

First Year

Fall	Credits	Spring	Credits
DSNS 1020 or 1310	4	DSNS 1020 or 1310	4
DSNS 1830 (or General Education)	3	DSNS 1830 (or General Education)	3
ENGL 1500 (or General Education)	3	DSNS 1320	1
DSNS 1100 or 1150	1	ENGL 1500 (or General Education)	3
General Education	3	General Education	3
General Education	3	General Education	3
		LIB 1600	1
17		18	

Second Year

Fall	Credits	Spring	Credits
INDD 2010	6	INDD 2020	6
INDD 2100	3	INDD 2500	3
INDD 2200	3	INDD 2600	3
INDD 2800	3	Departmental elective	3
15		15	

Third Year

Fall	Credits	Spring	Credits	Summer	Credits
INDD 3010	6	Experiential Learning	6	Study Abroad	6
INDD 3200	3	INDD 3300	3	Elective	3
INDD 3400	3	INDD 3700	3		
INDD 3600	3	INDD 3800	3		
15		15		9	

Fourth Year

Fall	Credits	Spring	Credits
Experiential Learning	3-6	INDD 4990	6
INDD 4400	3	Departmental Elective	3
Departmental elective	3	Departmental Elective	2-3

Gen Ed or Elective	3 Gen Ed or Elective	3
	12-15	14-15

Graduate Program**Master of Industrial Design | MID****60 credit study | distributed across two consecutive years**

What will (Industrial) Design look like in the future? Where is the field going? What new methods and methodologies will be needed to tackle current and emergent global issues? What will it mean to be human in the age of Artificial Intelligence? How will design disciplines answer to these new futures, new typologies of users, and constantly evolving technologies, and increasing environmental challenges?

These are just some of the questions we are concerned with in the MID program. Designing successfully during these times of uncertainty will require open minded designers, who, as connectors, are flexible, critical, empathetic and creative risk takers. Designers who are capable of working and collaborating in different contexts, under ever changing circumstances, across domains and most importantly in different roles.

Description of the degree

The Master of Industrial Design (MID) program at the College of Design, Iowa State University, emphasizes a creative problem-solving based curriculum rooted in design thinking methodologies, that allows students to explore their interests in the broad and expanding field.

Industrial Design is a human-centered discipline that questions existing boundaries and makes connections among diverse domains. Therefore, the program challenges students to develop the ability to recognize and define problems in new ways, and then find opportunities others might have missed or undervalued. Through a strategic and creative problem-solving process, Industrial Design tries to reimagine how we should go about developing innovative, sustainable and durable solutions for people and society at large that genuinely lead to better quality of life and better futures. The MID program actively connects with other knowledge domains and disciplines, to research how things are with the drive to propose how they ought to be. This is achieved through the challenging balance between critical and creative ways of thinking [and working] when devising novel, useful and meaningful artifacts, services, experiences, and environments. Ultimately, the program integrates the design triad of people, business, and technology, in innovative ways, and is based on insightful research to create new value and competitive advantage in a variety of societal, economic, and environmental contexts.

Details about the degree

The MID program is centralized on the creation and application of new knowledge through in-depth investigations of existing 'gaps' culminating in a graduation project, which includes a creative component

(project based) or a written thesis (research focused). At the same time, students expand their design practice skills using different methodologies, collaboratively, throughout the entire design process. They explore, generate, transfer, and implement interdisciplinary insights into foundational knowledge for the discipline of Industrial Design.

The MID is accredited and recognized as a terminal degree in Industrial Design. This graduate program is designed to offer significant mix of skills and experiences, including students from different disciplinary backgrounds, faculty-directed research programs, internships, international study abroad, industry-sponsored coursework, and also teaching experience.

The MID program is positioned in one of the most comprehensive design colleges in the country, facilitating the integration of methodologies and skill sets from multiple disciplines. Additionally, the program has established curricular connections to the nationally ranked College of Engineering and its Human Computer Interaction Graduate Program, the Ivy College of Business, as well as to numerous industry collaborators and practitioners.

Degree requirements includes a completion of a 2-year, 60-credit program, including a required core (45 credits), focused electives (9-12 credits) and experiential learning credits (3-6 electives). The final MID Graduate Project includes one of the following: a) creative component with a design process report (6 credits) or b) research-focused written thesis (6 credits). Students and their supervisory team work collaboratively on the in-depth graduate project, adding to the body of knowledge of [industrial] design through investigating, exploring and solution finding of a complex [industrial] design problem.

Curriculum Outline

Required Core Courses: 45 cr.

INDD 5010	Industrial Design Graduate Studio I	6
INDD 5020	Industrial Design Graduate Studio II	6
INDD 5200	Design Theory Methodology	3
INDD 5300	Design Thinking	3
INDD 5400	Design Communication	3
INDD 5500	Human Factors: User Experience Design	3
INDD 5700	Systems Thinking in Design	3
INDD 5800	Material Culture and Values	3
INDD 5990X	Creative Component	1-6
INDD 6010	Industrial Design Graduate Studio III	6
INDD 6990	MInD Graduate Thesis	6
INDD 6400	Advanced Digital Technologies	3
Suggested Focused Electives 9-12 cr.		
INDD 4350	Strategic Design: Project Management	3
INDD 4400	Portfolio and Professional Practice	3

INDD 4600	Product Realization	3
INDD 5050	MInD Lab I	3
INDD 5100	MInD Lab II	3
INDD 5150	Graduate Colloquium	1
INDD 5600	Change by Design: Disruptive Innovation	3
INDD 6300	Critical Reflections for Thesis Preparation	3
Or Experiential Learning:		
INDD 5920	Special Projects (3-6 credits)	1-30
INDD 5930	Experiential Learning Special Projects (3-6 credits)	1-30
INDD 5950	Study Abroad Option	6
INDD 5970	Internship	6

First Year

Fall	Credits Spring	Credits
INDD 5010	6 INDD 5020 or DSNS 5460	6
INDD 5200	3 INDD 5400	3
INDD 5300	3 INDD 5500	3
INDD 5700	3 INDD 5800	3
Departmental Elective	3 Departmental Elective	3
18		18

Second Year

Fall	Credits Spring	Credits
INDD 6010	6 INDD 6400	3
Focused Elective	3 INDD 5990X or INDD 6990	6
ISU or College Elective	3 ISU or College elective	3
ISU or College Elective	3 ISU or College Elective	3
15		15

Admission to the MID program is by application to the department and to the Graduate College. Information about our programs and how to apply can be obtained from the department's web page at: <https://www.design.iastate.edu/industrial-design/degrees/master-of-industrial-design/> or send an email directly to the Director of Graduate Studies.