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 150	Critical Thinking and Communication (*)	3
ENGL 250	Written, Oral, Visual, and Electronic Composition (*)	3
LIB 160	Introduction to College Level Research	1
One of the following:		3
COMST 101	Introduction to Communication Studies	
COMST 211	Interpersonal Communication	
SP CM 110	Listening	
SP CM 212	Fundamentals of Public Speaking	
THTRE 251	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 credits
6 credits of course level 300-400 from program curriculum sheet:

complete 3 credits from department curriculum sheet.

College of Design Core: 13 credits

DSN S 102	Design Studio I	4
DSN S 115	Design Collaborative Seminar	1
or DSN S 110	Design Exchange Seminar I	
DSN S 131	Drawing I	4
DSN S 132	Digital Design Literacy	1
DSN S 183	Design in Context	3
Total Credits		**13**

History, Theory and Criticism: 15 credits

IND D 210	Fundamentals of Industrial Design	3
IND D 280	History of Industrial Design	3
IND D 380	History and Culture of Objects	3
Two courses from the approved course list; must include one 300 level or higher.		6
Total Credits		**15**

Industrial Design: 60 credits

IND D 201	Industrial Design Studio I	6
IND D 202	Industrial Design Studio II	6
IND D 220	Concepts of Sketching and Making I	3
IND D 250	Activity-Centered Industrial Design	3
IND D 260	Design engineering: From Thought to Thing	3
IND D 301	Industrial Design Studio III	6
IND D 320	Design Research Methods	3
IND D 330	Creative Thinking in Design	3
IND D 340	Digital Design Technologies	3
IND D 360	Materials and Processes for Industrial Design	3
IND D 370	STEM literacy: How Things Work	3
IND D 440	Portfolio and Professional Practice	3
IND D 499	Senior Project	6
Total Credits		51
Experiential Learning: 6 credits		6
IND D 302	Industrial Design Studio IV	
IND D 397	Industrial Design Internship	
IND D 401	Industrial Design Studio V: Commercial Practices	
IND D 402	Industrial Design Studio: Design for Social Impact	
IND D 495	Study Abroad Option	
IND D 507	Industrial Design Practicum	
IND D 590	Special Topics	
IND D 592	Special Projects	
IND D 593	Experiential Learning Special Projects	
IND D 595	Study Abroad Option	
IND D 597	Internship	
Total Credits		60

Electives: 11 credits
Electives should be assembled to support a focused area of study.

Suggested Departmental Electives:

IND D 240	Digital Tools For Industrial Design	3
IND D 350	Applied Human Factors Lab	1
IND D 435	Strategic Design: Project Management	3
IND D 460	Product Realization	3
IND D 520	Design Theory Methodology	3
IND D 530	Design Thinking	3
IND D 540	Design Communication	3
IND D 550	Human Factors: User Experience Design	3
IND D 560	Change by Design: Disruptive Innovation	3
IND D 570	Systems Thinking in Design	3
IND D 580	Material Culture and Values	3

Industrial Design, B.I.D.

First Year

Fall	Credits	Spring	Credits
DSN S 102 or 131	4	DSN S 102 or 131	4
DSN S 183 (or General Education)	3	DSN S 183 (or General Education)	3
ENGL 150 (or General Education)	3	DSN S 132	1
DSN S 110 or 115	1	ENGL 150 (or General Education)	3
General Education	3	General Education	3
General Education	3	General Education	3
		LIB 160	1
	17		**18**

Second Year

Fall	Credits	Spring	Credits
IND D 201	6	IND D 202	6
IND D 210	3	IND D 250	3
IND D 220	3	IND D 260	3
IND D 280	3	Departmental elective	3
	15		**15**

Third Year

Fall	Credits	Spring	Credits	Summer	Credits
IND D 301	6	Experiential Learning	6	Study Abroad	6
IND D 320	3	IND D 330	3	Elective	3
IND D 340	3	IND D 370	3		
IND D 360	3	IND D 380	3		
	15		**15**		**9**

Fourth Year

Fall	Credits	Spring	Credits
Experiential Learning	3-6	IND D 499	6
IND D 440	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.

IND D 501	Industrial Design Graduate Studio I	6
IND D 502	Industrial Design Graduate Studio II	6
IND D 520	Design Theory Methodology	3
IND D 530	Design Thinking	3
IND D 540	Design Communication	3
IND D 550	Human Factors: User Experience Design	3
IND D 570	Systems Thinking in Design	3
IND D 580	Material Culture and Values	3
IND D 599X	Creative Component	6
IND D 601	Industrial Design Graduate Studio III	6
IND D 699	MInD Graduate Thesis	6
IND D 640	Advanced Digital Technologies	3
Suggested Focused Electives 9-12 cr.		
IND D 435	Strategic Design: Project Management	3
IND D 440	Portfolio and Professional Practice	3

IND D 460	Product Realization	3
IND D 505	MInD Lab I	3
IND D 510	MInD Lab II	3
IND D 515	Graduate Colloquium	1
IND D 560	Change by Design: Disruptive Innovation	3
IND D 630	Critical Reflections for Thesis Preparation	3
Or Experiential Learning:		
IND D 592	Special Projects (3-6 credits)	arr †
IND D 593	Experiential Learning Special Projects (3-6 credits)	arr †
IND D 595	Study Abroad Option	6
IND D 597	Internship	6

† Arranged with instructor.

First Year

Fall	Credits	Spring	Credits
IND D 501	6	IND D 502 or DSN S 546	6
IND D 520	3	IND D 540	3
IND D 530	3	IND D 550	3
IND D 570	3	IND D 580	3
Departmental Elective	3	Departmental Elective	3
	18		**18**

Second Year

Fall	Credits	Spring	Credits
IND D 601	6	IND D 640	3
Focused Elective	3	IND D 599X or IND D 699	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.