Instructors
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Overview
This course is the third in the PDI studio series. It introduces students to industrial design as a community of design practice as well as a set of methodologies for attending broadly to matters of aesthetics, usability, and manufacturability. As with all PDI studios, assignments require students to synthesize social, technical, cultural, and formal concerns in the design of innovative objects, environments, and communications media.

As a studio course, class time is used for self-guided design investigations as well as structured group activities. Students are to participate in individual and group research; discussions with potential users, researchers, and practitioners; project reviews; and formal presentations. The course includes time for hands-on exploration of design ideas.

This course requires weekly reading from the course texts and articles to be available online. All readings must be completed before the course period for which they are assigned. Please bring your readings and your reading notes with you to class.

Major Assignments
Project 1: Presentation board final reviews 14 Sept 10%
Project 2: Studio project final reviews 23 & 26 Oct 20%
Project 3: Open-ended final reviews 4 & 7 Dec 30%
Analysis Papers throughout semester 15%
Design Book & Portfolio scheduled final exam time 15%
Class Participation throughout semester 10%

Grading Scale

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<tr>
<th>Grade</th>
<th>A+ 100</th>
<th>A 93-99</th>
<th>A- 90-92</th>
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<tr>
<td></td>
<td>B+ 87-89</td>
<td>B 83-86</td>
<td>B- 80-82</td>
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<td>C+ 77-79</td>
<td>C 73-76</td>
<td>C- 70-72</td>
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<td></td>
<td>D+ 67-69</td>
<td>D 60-66</td>
<td>F 59 and below</td>
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Project grades will be determined based on interim reviews, final presentations, and the content of individual design books. Assessment criteria include integration of course themes into design work, creativity, thoroughness, and attention to detail. Analysis papers are short papers covering readings as well as themes discussed in class. Design books should document as much of your design process as possible, including sketches, notes, descriptions of design methodology, journal entries, and whatever else helps you capture your activities. Handouts will provide detailed instructions for each assignment.

Grading Notes
• participation
The class participation portion of your grade is based on active participation in classroom discussions and reviews, attentiveness, active engagement in group exercises, and your individual contribution to other classroom activities. Attendance ≠ participation.

• attendance
Students are expected always to be present during studio time. Excellence in submitted work will not make up for delinquency in attendance. More than one unexcused absence will result in a lowering of your overall grade. If you must miss a class, assignments are due before the class period begins. Excusable absences include illness, family emergencies, and scheduled sports games in which your team is away from Rensselaer.
This course requires students procure the first two texts below and recommends the third:


Industrial Design

Industrial design encompasses the interests and needs of all those impacted by designed artifacts. The emphasis of this course will be on product aesthetics and usability from the perspective of users; however, issues of fabrication and manufacturability, and design impacts on groups extending beyond a given product’s immediate users will also be considered. According to the Industrial Designers’ Society of America,

The industrial designer’s unique contribution places emphasis on those aspects of the product or system that relate most directly to human characteristics, needs and interests. This contribution requires specialized understanding of visual, tactile, safety and convenience criteria, with concern for the user. Education and experience in anticipating psychological, physiological and sociological factors that influence and are perceived by the user are essential industrial design resources. (www.idsa.org; 10Aug06)

Thus, industrial design can be understood as a disciplined approach—and accompanying methodologies—used to align product characteristics with human characteristics.

In addition to being a disciplined approach to design, industrial design is a community of practitioners. It has its own professional associations, codes of practice, membership rules, priorities, and ways of understanding what “design” entails. As PDI students, you are not expected to become industrial designers (though some of you may well do so). However, you are expected to understand their basic approach to design as well as how this community defines itself and how it is defined by outsiders. In other words, you must become competent in industrial design practice and conversant in its discourse.

Learning Outcomes

Upon completion of this course, you should have three broad sets of skills:

1) You should be able to participate effectively in industrial design critique. Critique can be broken down into description, analysis, and evaluation of key design characteristics.
2) You should be able to design products that embody industrial design principles and to describe the specific ways your products do this. Meta-level industrial design characteristics include aesthetics, usability, and (w/ less emphasis) manufacturability.
3) You should be able to analyze and describe industrial design as a community of practice and understand the community’s key questions and fundamental assumptions.

Academic Integrity

Student-teacher relationships require trust. For example, students must trust that teachers have made appropriate decisions about the structure and content of the courses they teach, and teachers must trust that the assignments students turn in are their own. Acts that violate this trust undermine the educational process. The Rensselaer Handbook of Student Rights and Responsibilities defines various forms of academic dishonesty and you should make yourself familiar with these.

In this class, all assignments turned in for a grade must represent the student’s own work. In cases where help was received or teamwork was allowed, a notation on the assignment should indicate your collaboration. Submission of any assignment that is in violation of this policy will result in a grade of F for the assignment. If you have any questions concerning this policy, please ask for clarification before submitting your assignment.

Grade Appeals

Grade appeals must be made in writing and presented to the professor within one week of assignment/course grade posting. If you are not satisfied with the professor’s decision regarding a grade appeal, Institute policy determines the next steps to be taken.
Notes
**Schedule**

Key lecture topics, assignment milestones, and the reading schedule are provided below. Additional readings may also be assigned. “Open studio” means you will have at least one hour to work on your projects. You must be present during open studio time unless you have explicit permission to leave.

<table>
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<tr>
<th>Week</th>
<th>Tuesday</th>
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| wk1  | **28 Aug** – *What is design? What is good design?*  
Introduction to course, instructor, students  
Distributed: Design book and portfolio assignment | **31 Aug** – PDI-3 design methodology  
Distributed: Project 1 assignment  
Reading: *Design Paradigms*, Chs 1 & 14 |
| wk2  | **4 Sept** – Design research I  
Reading: *In the Bubble*, Intro & “Lightness” | **7 Sept**  
Reading: *Design Paradigms*, Chs 2-4  
Open studio |
| wk3  | **11 Sept**  
Reading: *In the Bubble*, “Speed”  
Open studio | **14 Sept**  
*Project 1 REVIEWS* |
| wk4  | **18 Sept** – Design research II  
Distributed: Project 2 assignment  
Reading: *In the Bubble*, “Mobility” | **21 Sept**  
Due: Analysis paper 1: Aesthetics/beauty  
Reading: *Design Paradigms*, Chs 5-6 |
| wk5  | **25 Sept** – Consumer trends/markets  
Reading: *In the Bubble*, “Locality” | **28 Sept**  
Reading: *Design Paradigms*, Chs 7-8 |
| wk6  | **2 Oct** – Social values  
Reading: *In the Bubble*, “Situation” | **5 Oct**  
Due: Analysis paper 2: Ecological footprint  
Reading: *Design Paradigms*, Ch 9-10 |
| wk7  | **9 Oct**  
No studio  
(follow Monday class schedule) | **12 Oct** – Instructors out of town  
Reading: *Design Paradigms*, Chs 11-12  
Open studio |
| wk8  | **16 Oct**  
Due: Analysis paper 3: Product need  
Reading: *In the Bubble*, “Conviviality” | **19 Oct**  
Reading: *Design Paradigms*, Ch 13  
Open studio |
| wk9  | **23 Oct**  
*Project 2 REVIEWS* | **26 Oct**  
*Project 2 REVIEWS* |
| wk10 | **30 Oct** – PDI-3 design methodology review  
Distributed: Project 3 assignment  
Reading: *In the Bubble*, “Learning” | **2 Nov**  
Reading: *Design Paradigms*, Reread ch 14  
Open studio |
| wk11 | **6 Nov**  
Due: Analysis paper 5: User identification  
Reading: *In the Bubble*, “Literacy” | **9 Nov**  
Open studio |
| wk12 | **13 Nov**  
Due: Analysis paper 6: Visualization process  
Reading: *In the Bubble*, “Smartness” | **16 Nov**  
Due: Initial drafts of portfolio components  
Open studio |
| wk13 | **20 Nov**  
*Project 3 interim review of design concepts* | **23 Nov**  
No classes |
| wk14 | **27 Nov**  
Reading: *In the Bubble*, “Flow”  
Open studio | **30 Nov**  
Open studio |
| wk15 | **4 Dec**  
*Project 3 REVIEWS* | **7 Dec**  
*Project 3 REVIEWS* |
| finals | **Scheduled final exam date and time—To be determined by Institute**  
Design book and portfolio assignment due in the instructor’s office, Sage 5405. There is no final exam. |