

Design and Innovation: past, present, and future approaches to breakthrough product design

Instructor

Jim Arnold, Assistant Professor
Department of Industrial, Interior, and Visual Communication Design, The Ohio State University
20 Hayes Hall
(614) 292-1766 (office)
Office hours: _____

Class Format

Seminar: Each class meeting, the instructor will present a mini lecture and will be followed by a group discussion based on assigned readings. The exception to this format will be on days when the design project and research paper are due.

Room and building # _____

Time _____

Credits 1

Pre-requisites

Freshman (seminar) standing

Course Objectives and Goals

- Learn how innovative products are designed
- Learn, discuss, and critically analyze standard design processes and methods that promote product innovation now and in the past
- Gain understanding of effective design process that promote innovation at design firms and companies

Course Content Summary

This course explores how new and innovative products are conceived and designed. Within product design firms and companies multiple disciplines collaborate to produce products (e.g. consumer electronics, household goods, and vehicles) that change the way we live by delivering new experiences that help us to work and play in more efficient, effective, and enjoyable ways.

The methods used and relationships between different disciplines such as: engineering, industrial design, visual communication, anthropology, marketing, and business, will be investigated. The designer; a key figure in the research, concept generation, and product design; will be of particular interest during the course. Collaborative work among these and other disciplines is a foundation principle when creating innovative products. These disciplines must operate within the context (or culture) of the firm or company that employs them; therefore collaborative processes within firms and companies will also be studied and discussed.

Each class session will focus some or all of the following topics:

- principles of innovation
- design research methods
- design methods
- design processes
- multi-disciplinary team dynamics
- pitfalls and challenges
- impact on brand and public perception
- best practice case studies

Required Texts

Cagan, J., & Vogel, C. M. (2002). *Creating Breakthrough Products*. New Jersey: Prentice Hall.

Suggested Texts

Kelly, T. (2001). *The Art of Innovation*. New York: Doubleday.

Dresselhaus, B. (2000). *ROI: Return on Innovation*. Portland: Dresselhaus Design Group, Inc.

Assignments

- Thought writings (200 words or less, based on readings, due prior to group discussion. The readings will be approximately 5-10 pages per week).
- Design research plan (briefly describe, in 1000 words or less, how you will conduct research and design for your design project. Present and discuss)
- Design project (design an innovative product concept based on unmet user needs. Present and discuss)

Grading

<i>Summary</i>	Points
Thought writings	20
Design research plan	20
Design project	20
Participation	40
Total for class	100

Scale

A	95-100%
A-	90-94%
B+	87-89%
B	83-86%
B-	80-82%
C+	77-79%
C	73-76%
C-	70-79%
D+	69-67%
D	63-66%
D-	60-62%
F	59% and below

Late Assignments

As a rule, assignments are due on the date and time specified. Late assignments will not be accepted or graded. It may be possible to gain an exception to this rule if unforeseen circumstances arise which prevent compliance such as hospitalization, death in immediate family, etc. Documentation (such as a doctor's note) may be required.

Attendance and Participation

Consistent attendance and participation impacts the success of the class and individual growth. Therefore, all class meetings are mandatory and poor attendance can negatively impact your grade. More than 2 unexcused absences will result in a reduction of your final grade by one full letter. It is possible to fail this course due to excessive unexcused absences. Participation during class discussions is expected.

Students with Disabilities

It is the responsibility of students with disabilities to make their needs known to the course instructor at the beginning of the course to discuss specific needs. Request for available

assistance must be taken care of at the earliest date through provided university organizations and is the responsibility of the student. This source is: Office of Disability Services (<http://www.ods.ohio-state.edu>).

Academic Dishonesty

Any case of cheating and/or plagiarism will be reported to the proper authority: University Committee on Academic Misconduct (<http://acs.ohio-state.edu/offices/oa/procedures/1/0.html>). Please note that any time you use ideas or statements of someone else, you must acknowledge that source in a citation. This includes material that you found on the World Wide Web. The University provides guidelines for research on the WWW at (<http://gateway.lib.ohio-state.edu/tutor>).

Notice

This course is subject to change without notice. It is the student's responsibility to read and retain this syllabus and other course handouts. All student work is the property of the student but may be kept by the instructor for grading, and may be used for promotional and/or documentation purposes by the department of Design or College of the Arts.

Course Schedule

Week 0	Date	Introduce course, lecture, introductions
Week 1	Date	Principles of innovation. Thought writing #1 due
Week 2	Date	Principles of innovation. Thought writing #2 due
Week 3	Date	Design research methods Thought writing #3 due
Week 4	Date	Design methods. Thought writing #4 due
Week 5	Date	Design Processes. Thought writing #5 due
Week 6	Date	Design research plan due, present and discuss.
Week 7	Date	Multi-disciplinary team dynamics. Thought writing #6 due
Week 8	Date	Pitfalls and challenges. Thought writing #7 due
Week 9	Date	Impact on brand and public perception. Thought writing #8 due
Week 10	Date	Design project due. Present and discuss research paper
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Exam Week		