Design Thinking

A Creative Approach to Problem Solving and Creating Impact

PADM-GP 2145.1 | Fall 2021

Instructor Information

- Professor Fanny Krivoy
- Email: fk306@nyu.edu
- Office Hours: by appointment. Our classes will be working sessions with ample time to meet and answer questions. I will also make myself be available an hour after class, each week.

Course Information

- Class Meeting Times: Thursdays, 6:45–8:25pm
- Class Location: TBD

Course Prerequisites

- None

Course Description

Syllabus is subject to change.

The word design has traditionally been used to describe the visual aesthetics of objects such as books, websites, products, interiors, architecture, and fashion. But increasingly, the discipline of design has expanded to include not only the shaping of things but also the ways that people interact with systems, services, and organizations. This expansion has allowed practitioners from across sectors to apply processes derived from design. Thus, bringing design thinking into the lexicon.

Design thinking is a problem-solving methodology that is best suited for wicked problems.* It is both reflective and action-oriented and aims to understand people's latent desires in order to determine next steps to address these needs. It is intentionally structured to be an iterative

model by incorporating ethnographic research, human insights, feedback loops, collaborative design, and prototypes though its form is largely based on context.

In this course, we will unpack each fundamental step of the design thinking process and become familiar with the design thinker's mindset and toolkit. As an introduction to design thinking, students will follow a practice-based model by applying their learnings to various in-class assignments and individual class projects to gain a deeper understanding of the methodology.

Your learning journey in this class will be supported through lectures, discussions, readings, in-class exercises, weekly assignments, and a series of formal and informal design reviews that encourage reflection on students' progress and their insights. Success will depend on the amount of time and degree of involvement of the student.

The structure of the class will consist of:
1) Lectures
2) In-class assignments and/or readings + videos
3) Class projects

NOTE: The range of topics and applications related to design thinking is vast. Therefore, this course will act as an introduction to key concepts, methods, and general uses of design thinking in the public and social sectors. It is directed at those who want to unlock their creativity and infuse it into their problem solving techniques. This course will require your openness to a seemingly abstract process in order for it to be a worthwhile investment of your time and efforts. In the same vein, this class also welcomes your critical thinking as you gain a deeper understanding of design thinking and its potential.

* Wicked problems is a term coined in 1973 by design theorists, Horst Rittel and Melvin Webber. Their intent was to draw attention to the complexities and challenges of addressing planning and social policy problems. Unlike the tame problems of mathematics, wicked problems lack clarity in both their aims and solutions. It avoids straightforward articulation and is impossible to solve in a way that is simple requiring a different type of problem-solving methodology. Example of a wicked problem is climate change. (Stony Brook University, 2019)

Course and Learning Objectives

Course Goals

- To understand *design thinking* as a process for innovation
- To use abductive reasoning to invent new solutions to complex problems
- To use experimental and iterative design to foster openness and test function
- To learn research methods for understanding people and identifying needs

Student Learning Objectives

- Students will become accustomed to cross-disciplinary thinking, creative
- thinking techniques, rapid ideation and collaboration
- Walk others through the fundamentals of design thinking
- Identify the necessary skill sets and mindset to practice design thinking
- Share case studies illustrating how the design thinking process was used in different sectors
- Have an action plan detailing how you will personally apply design thinking to your line of
  work, if desired

Learning Assessment Table

Objective	Assessment
Understand: Introduce you to a methodology—design thinking--that attempts to deeply understand and consider people directly impacted by whatever is being designed--product, service, policy--in addition to complex historical, social, and environmental contexts	Class participation, in-class assignments, and class project
Build: Strengthen your capabilities to identify underlying problems; to collect and analyze qualitative data to deeply understand needs and contexts; to design thoughtful co-creation processes with users and stakeholders; to develop ways to receive continuous feedback and to build an iterative model	Class participation, in-class assignments, class projects, learning groups, office hours
Experience: Provide you with opportunities to apply learnings to a real context and to gain a deeper understanding of the design thinking methodology	In-class assignments and class projects

Course Content

The course will cover these modules:

- Method: What is design thinking, and why does it matter?
- Designer's Mindset: How does a designer think, and how will that impact the way I approach complex problems?
- Design Research: People are complex; what does it mean to understand their latent needs?
- Design Principles: How can I develop an idea from my research?
- Ideation: How are ideas generated, and how is brainstorming different in the design thinking process?
- Prototype: What's the best way to test my idea?
- Power Structures: Things are not created in a vacuum; how do I consider other existing structures as I develop and test my concept?

Assignments and Grades

Readings

There will be a combination of required and recommended readings throughout the course. Readings will be emailed prior to each session and will typically be paired with a short reflection or skill building exercise.

Class Projects

Class projects will allow students to apply classroom learnings to real-life settings. These projects are done individually; however, students will be assigned to a learning group for support and thought partnership throughout the semester.

There will be three projects; each with their own deadline. The purpose of these is to allow students to gain a deeper understanding of the fundamental components of the design thinking process as they are reviewed. Details to follow.

Grades

Students will be graded on their weekly assignments, class participation, general attendance, and class projects.Grading is based on NYU's universal criteria with a focus on these four qualities most relevant to design thinking:
Problem-solving — Troubleshooting and ability to overcome the challenges of the work
Understanding — Depth and breadth of what's covered in class
Origination — Experimentation and innovation grounded in research
Sophistication — Complex, critical output

The grading breakdown is as follows:
>10% Class participation and attendance
>>Weekly readings
>>Class discussions
>>Attendance
>10% Learning groups
>>Meetings + Report backs
>20% Project 01: Topic + Design Challenge
>30% Project 02: Research + Findings
>30% Project 03: Idea + Reflections

Letter Grades

Letter grades for the entire course will be assigned as follows:

Letter Grade	Points
A	4.0 points

A-	3.7 points
B+	3.3 points
B	3.0 points
B-	2.7 points
C+	2.3 points
C	2.0 points
C-	1.7 points
F	0.0 points

Student grades will be assigned according to the following criteria:

- (A) Excellent: Exceptional work for a graduate student. Work at this level is unusually thorough, well-reasoned, creative, methodologically sophisticated, and well written. Work is of exceptional, professional quality.
- (A-) Very good: Very strong work for a graduate student. Work at this level shows signs of creativity, is thorough and well-reasoned, indicates strong understanding of appropriate methodological or analytical approaches, and meets professional standards.
- (B+) Good: Sound work for a graduate student; well-reasoned and thorough, methodologically sound. This is the graduate student grade that indicates the student has fully accomplished the basic objectives of the course.
- (B) Adequate: Competent work for a graduate student even though some weaknesses are evident. Demonstrates competency in the key course objectives but shows some indication that understanding of some important issues is less than complete. Methodological or analytical approaches used are adequate but student has not been thorough or has shown other weaknesses or limitations.
- (B-) Borderline: Weak work for a graduate student; meets the minimal expectations for a graduate student in the course. Understanding of salient issues is somewhat incomplete. Methodological or analytical work performed in the course is minimally adequate. Overall performance, if consistent in graduate courses, would not suffice to sustain graduate status in "good standing."
- (C/-/+) Deficient: Inadequate work for a graduate student; does not meet the minimal expectations for a graduate student in the course. Work is inadequately developed or flawed by numerous errors and misunderstanding of important issues. Methodological or analytical work performed is weak and fails to demonstrate knowledge or technical competence expected of graduate students.
- (F) Fail: Work fails to meet even minimal expectations for course credit for a graduate student. Performance has been consistently weak in methodology and understanding, with serious limits in many areas. Weaknesses or limits are pervasive.

Weekly Course Breakdown

Subject to change

Week	Date	Topic
		Introduction, Tools & Team Building

Week 1	Thursday, September 02	**Intro to Design Thinking** Overview of the design thinking process, class content, and course structure. Team building
Week 2	Thursday, September 09	**Design Research 101** Learning Groups & Design Challenge How design thinkers approach complex issues and the type of mindset they aim to foster *Learning Groups announced*
		Inspiration & Observation
Week 3	Thursday, September 16	**Refine Research Plans** How design things understand complex social issues and human behavior
Week 4	Thursday, September 23	**Rapid Synthesis & Opportunity Finding** How design things understand complex social issues and human behavior
		Synthesis & Opportunity Finding
Week 5	Thursday, September 30	**Insights & Synthesis** How design thinkers analyze complex qualitative data sets to gain insight into factors that may be influencing experiences
Week 6	Thursday, October 07	**Insights Presentation Prep** How design thinkers distill their qualitative research and share their insights back to their communities
Week 7	Thursday, October 14	**Insights presentation** How design thinkers make the most of their insights and findings to benefit different communities
		Brainstorming, Concepting & Prototyping
Week 8	Thursday, October 21	**Brainstorm & How Might Wes** The guest speaker will provide an overview of several design research projects and how s/he moved forward
Week 9	Thursday, October 28	**Concepting**
Week 10	Thursday, November 02	**Rapid Prototyping** How design thinkers use rapid prototyping to test, modify, and refine ideas
Week 11	Thursday, November 09	**Iterating Prorotype** How design thinkers use rapid prototyping to test, modify, and refine ideas
		Presentation
Week 12	Thursday, November 16	**Final Presentation Prep**
Week 13	Thursday, November 23	**Final Presentation Rehearsal**
	Thursday, November 30	*No class*

Week 14	Thursday, December 02	**Final Presentations**
Week 15	Thursday, December 09	**Padding Class** Left intentionally blank to use it throughout the semester as needed for site visits, special guests, or additional exercises.

Policies

Henry and Lucy Moses Center for Students with Disabilities at NYU

Academic accommodations are available for students with disabilities. Please visit the Moses Center for Students with Disabilities (CSD) website and click on the Reasonable Accommodations and How to Register tab or call or email CSD at (212-998-4980 or mosescsd@nyu.edu) for information. Students who are requesting academic accommodations are strongly advised to reach out to the Moses Center as early as possible in the semester for assistance.

Academic Integrity

Academic integrity is a vital component of Wagner and NYU. All students enrolled in this class are required to read and abide by Wagner's Academic Code. All Wagner students have already read and signed the Wagner Academic Oath. Plagiarism of any form will not be tolerated and students in this class are expected to report violations to me. If any student in this class is unsure about what is expected of you and how to abide by the academic code, you should consult with me.

Attendance

Students are expected to attend all sessions unless noted. Five unexcused absences will result in a failing grade. An excused absence (religious holidays, medical issue, family emergency, natural disaster) will not put you at risk of failure. If you need an excused absence, email Professor Kang at ek121@nyu.edu.

Technology Policy

Laptops are permitted if used for the Design Thinking class purposes only. Other uses will not be permitted unless discussed with professor prior to use.

Cell phone use is not permitted in class unless in an emergency situation. If student uses their cell phone in class, then professor will deduct points from their attendance and participation grade without notice.

NYU's Calendar Policy on Religious Holidays

[NYU's Calendar Policy on Religious Holidays](#) states that members of any religious group may, without penalty, absent themselves from classes when required in compliance with their religious obligations. Please notify me in advance of religious holidays that might coincide with exams to schedule mutually acceptable alternatives.

Title IX Accommodation

New York University, including its Schools and other units, Global Network University sites, and all University Affiliates (together, "NYU") seeks to maintain a safe learning, living, and working environment. To that end, this policy prohibits Sexual Misconduct, which includes Sexual or Gender-Based Harassment, Sexual Assault, and Sexual Exploitation. If you have encountered sexual harassment/misconduct/assault, we encourage you to report this. Disclosures made to faculty must be reported to the Title IX Coordinator, Mary Signor, 212-998-6807 + mary.signor@nyu.edu.