

Course Syllabus

Syllabus subject to change.

Course No: 94-866

Course Name: Design Thinking

Section: A3

Day: Tuesdays and Thursdays

Time: 11:00AM - 12:20 PM

Location: Hamburg Hall - 2003

Professor

Kate McCall-Kiley (kmccalk@andrew.cmu.edu), Office Hours by appointment.

Course website

<https://canvas.cmu.edu/courses/>

About this course

Design Thinking presents a series of methods and tools through which we can work to better understand and serve our intended users and audience. In a public policy setting these "users" are often citizens and others impacted by government systems, processes and tools. So, a major component of this course is thinking about how government can provide more effective services and products that prioritize the needs of the user. It is also an exploration into how we can cultivate our own creativity and approach complex challenges with new insight and value.

In this course we'll learn and apply methods to challenges that are representative of real-world problems. We'll learn how to develop insights around those we need to serve, identifying and mapping out new ways to view the problem, and ways to test ideas

quickly through an iterative approach. We'll also work to investigate how our ideas can become more equitable and work for as many people as possible - making sure that we account for extremes in our dataset and those that otherwise might be overlooked by our own assumptions.

Once we've developed our insights, we'll go through processes to rapidly prototype and test our ideas until we can settle on a solution or two that we think will work. We'll continue to refine our best ideas and abandon those that don't appear to hold as much promise as we originally thought. As we continue through this process, we'll learn how to develop personas and begin engaging representative users so that we can test our ideas and see if what we think shows promise really meets the needs and expectations of real people.

Students will be expected to embrace a culture that expects and encourages self-reflection and creativity, rapid iteration, a willingness to fail early to learn faster, and a flat structure that provides students with an opportunity to work and explore amongst themselves and across different teams.

Note: Students interested in testing their new-found skillsets with real-world partners and challenges are encouraged to also enroll for the Policy Innovation Lab taught by Professor Chris Goranson, which follows this course. The Policy Innovation Lab further builds on the Design Thinking approach by connecting students with real-world policy challenges. The course also introduces an agile, design-driven framework to rapidly create solutions. Students will work to solve pressing challenges by redefining the problem in terms of understanding the affected users of systems, conducting user-centered research, designing solutions, testing those same solutions, and iteratively improving those outcomes. Students of the Design Thinking class will therefore get hands-on experience leading mini-workshop exercises and assisting fellow students in the lab with the approaches they learn through this class.

A note on COVID-19: This work is highly experiential, meaning that it often involves close-contact workshop settings for many of the activities we'll explore. However, we may not always be able to hold in-person workshops or exercises. This course is intended to be in-person only, but should a need arise, we may pivot to a remote-friendly environment. If we do this, you'll be even more prepared for future consultant and leadership roles by gaining experience through remote facilitation of activities and exercises. Mastering these skills for any environment and feeling comfortable using the tools we'll cover will serve you well down the road.

Prerequisites

This course is designed for graduate-level experience that have at a minimum basic computer proficiency skills. This means you should feel comfortable working with data in spreadsheets, an ability to write clearly and organize materials well, an interest in exploring new programs and present a willingness to learn something outside of your comfort zone.

This course also involves a lot of workshop activities. New students to Design Thinking, especially those who may be taking this course to fulfill a design requirement, may sometimes feel less confident running exercises, leading group work and soliciting feedback.

I will do a lot to make this course approachable, but you should be prepared to step outside of your comfort zone. This topic requires a lot of human interaction and communication, and it's a great sandbox for improving your own facilitation and communication skills. If you are taking this class as a required course to fulfill a design requirement and you're not really interested in Design Thinking, please come talk to me. This course is meant to equip you with specific tools you can use beyond the class so there's a very high likelihood that you'll have numerous opportunities to apply what you learn in the future, even if it's not immediately clear to you yet.

Learning outcomes

1. Understand how to apply Design Thinking methods to understand what your users need, and how to meet those needs.
2. Learn how to listen and solicit input from users in creative ways to generate new ideas quickly.
3. Learn how to test your ideas and develop rapid prototypes.
4. Apply methods to develop better public-facing tools and resources that result in better execution of public policy goals.

Learning Resources

These are the required texts you'll need for this course:

Lewrick, Michael, Patrick Link, and Larry J. Leifer. 2018. *The design thinking playbook: mindful digital transformation of teams, products, services, businesses and ecosystems*.

Lewrick, Michael, Patrick Link, and Larry J. Leifer. 2020. *The design thinking toolbox: a guide to mastering the most popular and valuable innovation methods*.

Note: You can access **The Design Thinking Toolbox** electronically through the library here:

https://cmu.primo.exlibrisgroup.com/permalink/01CMU_INST/6lpsnm/alma991020105842104436

[Links to an external site.](#)

Other reference materials include:

- Readings and videos provided on Canvas
- Slides used in lectures for note-taking on Canvas
- Data or other materials provided on Canvas or through external links

Towards the end of this course, you'll also be running your own Design Thinking workshop! Depending on how you set your workshop up, the following materials may be helpful. I wouldn't worry about purchasing any of these right now - you can revisit this list as you begin your planning process:

- Dry-erase markers
- Fine point markers of various colors
- Super-sticky Post-it notes of various colors
- Large Post-It sheets (super-sticky easel pad)
- Sticky dots for dot voting

A nice list of other items to think about [can be found here](#)

[Links to an external site.](#)

Both of the books are also available on the Course Reserves shelf behind the circulation desk in Hunt Library.

Calendar

(Dates provided here are subject to change. Please monitor Canvas for official assignments and deadlines.)

Week Zero (before the first day of class)

- Week Zero: Getting set up, Intro and Journal! Due Tuesday, January 16.

Week one: First class begins on Tuesday, January 16.

Assignments:

- **Workshop: "Intro to Design Thinking"**
- Week one graded journal entry due Monday, January 22.
- Group project: Design Brief and Problem Statement due Tuesday, January 23.

Assigned readings and other reference materials are on Canvas.

Week two: January 23 and 25

- **Workshop: "Conducting user research"**
- Group project: Conducting user research due Monday, February 5, 11:59 PM
- Group peer evaluation (individual work) due Monday, February 5, 11:59 PM

Assigned readings and other reference materials are on Canvas.

Week three: January 30 and February 1

Assignments:

- Tuesday: Shortened lecture, time to complete user interviews
- **Workshop: "How Might We"** on Thursday, February 1
- Defining the problem we're trying to solve

Assigned readings and other reference materials are on Canvas.

Week four: February 6 and 8

Assignments:

- **Workshop: "Prototyping"** on Thursday, February 6
- Understanding all the pieces that make up an experience.
- Assignment / graded discussion due Monday, February 12, 11:59 PM

Assigned readings and other reference materials are on Canvas.

Week five: February 13 and 15

Assignments:

- **Continue working on prototype development**
- Understanding all the pieces that make up an experience.

Week six: February 20 and 22

Assignments:

- **Workshop: "Validating, then refining the prototype"** on Tuesday, February 20
- 15 min in-class testing exercises Tuesday and Thursday
- Checking to see if your ideas address real user needs.
- Assignment / graded discussion due Monday, February 26, 11:59 PM
- Group peer evaluation (individual work) due Monday, February 26, 11:59 PM

Assigned readings and other reference materials are on Canvas.

Week seven: Final Delivery, February 27 and 29

Assignments:

- **Deadline for individual Design Thinking Workshop is Tuesday, February 27, 11:59 PM**
- **Final Individual Workshop Lightning Talks will be held Tuesday and Thursday**

Assigned readings and other reference materials are on Canvas.

Assessments

The final course grade will be calculated using the following categories:

Assessment	Percentage of Final Grade
Assignments, incl. graded discussion board	50%
Design Thinking Final Workshop	30%
Workshop / class participation	20%

Assignments, including discussion board - 50%

Assignments will be posted on Canvas. In some weeks there may be assignments that also include a discussion component. Both will include directions on how to complete the assignments and / or the graded discussion board.

Design Thinking Final Project - 30%

The Design Thinking Final Project is where you'll be taking what you learned and applying it to a real challenge by facilitating your own design thinking workshop. You will need to find and develop your own opportunity to facilitate the design thinking workshop, so it's best to start thinking about opportunities to do so as early as possible.

During the last week you'll present your method and approach to the class as well as any lessons learned that can be used by you and others to improve future outcomes.

Workshop / class participation - 20%

The workshops will be our opportunity to set the stage for managing projects throughout the duration of the course. During these workshops we'll cover a number of topic areas that will be relevant, including defining the need, customer journey maps, user research, sketching and prototyping, and delivery. This grade will also include your individual assignments - things like peer evaluations, individual discussion board assignments, etc.

You will be expected to fully participate in the workshop to develop resources and approaches that you'll apply throughout the duration of the course. Some of the resources you develop may constitute assets you'll later turn in as part of an assignment related to introductory workshops. Therefore, timely class participation and attendance for this course is important.

Workshops can't be easily made up since they are done in a group setting and build on group activities. If you know of a significant conflict coming up that is unavoidable, let me know at least a week in advance of you missing the class and we'll try to work out an accommodation where possible. Otherwise, if you miss a class during which a workshop activity took place you won't unfortunately have an opportunity to make up the participation in the activity.

Grading Policies

Late-work policy: Late work for this course will not be accepted after the due date unless previously arranged with the professor to do extraordinary circumstances (for example, illness, family emergency, out of town). It is important to stay up-to-date on assignments since much of the work builds on previous assignments and will impact your ability to be effective in providing solutions for projects.

Re-grade policy: If you think there has been a technical error in the grading of your assignment, you should e-mail the grader within one week of receiving the grading assignment, otherwise the assignment will not be regraded. You must provide justification for the re-grade in writing along with your request.

Course Policies

Academic Integrity & Collaboration

This course will follow Heinz College policies on ethics and discipline as stated in student handbooks. Specific policies of this course are outlined below:

Homework assignments: This course will involve both individual and group-work since you will be working together in teams to complete assignments. In the case of individual work, do not copy or modify homework solutions for your homework solutions. You may consult each other on clarification, technical and conceptual issues, but you must do individual problem solving and derive your own solutions, including your own computer work. You are not permitted to be in possession of any assignments from another student or other source either from the current semester or from past semesters whether they are electronic or paper. Possession of or sharing such files constitutes an infraction of the academic integrity policies of this course.

Working with AI tools like ChatGPT, DALL-E, etc: Working with AI tools is an emerging skill and as such I want you to get exposure to using it to problem-solve and how it can be helpful in other situations. Therefore, in some instances you'll be welcome to use generative AI programs (ChatGPT, DALL-E, etc.) in this class.

However, your responsibilities as a student remain the same. **You must follow the academic integrity guidelines of the university and of this class.** So, if you use one of these generative AI tools to develop content for an assignment, you are required to cite the tool's contribution to your work. So, while you can use generative AI tools to do things like brainstorm and / or work to develop a better understanding of a problem (much like you would using a search engine), cutting and pasting content from any source without citation would be considered plagiarism. Likewise, paraphrasing content from a generative AI without citation is plagiarism. Similarly, using any generative AI tool without appropriate acknowledgement will be treated as plagiarism. The [university's policy on plagiarism](#) applies to all un-cited or improperly cited use of work, whether that work is created by human beings alone or in collaboration with a generative AI.

Examples of how you might use AI tools for this class include:

- Brainstorm approaches to hard-to-solve policy questions by fusing ideas and information together
- Develop example outlines or approaches to your work
- Research topics, or generate different ways to talk about a problem

Examples of unacceptable use of AI tools in this class include, but are not limited to:

- Generate content that you cut and paste into an assignment with a written component without quotations and a citation
- Generate content that is not adequately paraphrased without a citation
- Generate bibliographies for topics that you haven't researched yourself
- Generate other content (images, video, others) unless expressly permitted and following provided guidance
- Otherwise use or present generative AI content that you pass off as your own work, when really it is not

If you have any questions about what's acceptable and what's not, you should talk to me before using these tools - not afterwards when my options for helping you will be much more limited.

It is also important that you recognize that large language models frequently provide users with incorrect information, create professional-looking citations that are not real, generate contradictory statements, incorporate copyrighted material without appropriate attribution, and can sometimes integrate biased concepts. Code generation models may produce inaccurate outputs. Image generation models may create misleading or offensive content.

Finally, it is important to note that you understand **you are ultimately responsible for the content that you submit**. Work that is inaccurate, biased, unethical, offensive, plagiarized, or incorrect will be penalized.

Accommodations for students with disabilities: If you have a disability and have an accommodations letter from the Disability Resources office, I encourage you to discuss your accommodations and needs with me as early in the semester as possible. I will work with you to ensure that accommodations are provided as appropriate. If you suspect that you may have a disability and would benefit from accommodations but are not yet registered with the Office of Disability Resources, I encourage you to contact them at access@andrew.cmu.edu.

Statement on student wellness: As a student, you may experience a range of challenges that can interfere with learning, such as strained relationships, increased anxiety, substance use, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may diminish your academic performance and/or reduce your ability to participate in daily activities. CMU services are available, and treatment does work. You can learn more about confidential mental health services available on campus at: <http://www.cmu.edu/counseling/>. Support is always available (24/7) from Counseling and Psychological Services: 412-268-2922.

Laptops Mobile Devices: In general this is a course that uses a lot of technology, so it's expected that on most days you'll have your laptop and phone with you. With that said, it's your responsibility to be respectful when using these devices. Keep your phone on silent, don't talk on the phone while in class, don't distract others by viewing content on your laptop not relevant to the course, and no technical devices are allowed for any quizzes or tests administered through this course unless explicitly stated by the professor.

Diversity, Equity and Inclusion

We must treat every individual with respect. We are diverse in many ways, and this diversity is fundamental to building and maintaining an equitable and inclusive campus community. Diversity can refer to multiple ways that we identify ourselves, including but not limited to race, color, national origin, language, sex, disability, age, sexual orientation, gender identity, religion, creed, ancestry, belief, veteran status, or genetic information. Each of these diverse identities, along with many others not mentioned here, shape the perspectives our students, faculty, and staff bring to our campus.

Each of us is responsible for creating a safer, more inclusive environment. Unfortunately, incidents of bias or discrimination do occur, whether intentional or unintentional. They contribute to creating an unwelcoming environment for individuals and groups at the university. If you experience or observe unfair or hostile treatment, you can take advantage of the following resources:

- **Center for Student Diversity and Inclusion:** csdi@andrew.cmu.edu, (412) 268-2150
- **Report-It**
- [\(Links to an external site.\)](#)
- **online anonymous reporting platform:** reportit.net
- [\(Links to an external site.\)](#)
- username: *tartans* password: *plaid*

All reports will be documented and deliberated to determine if there should be any following actions.

Additional Support

The [Student Academic Success Center \(SASC\)](#) provides a number of resources to help students learn better. You can find the center's [free workshops here](#). Below are some additional resources that may be helpful to students in this course (descriptions below are from SASC):

- [Academic Coaching](#)--This program provides holistic, one-on-one peer support and group workshops to help undergraduate and graduate students implement habits for success. Academic Coaching assists students with time management, productive learning and study habits, organization, stress management, and other skills. Request an initial consultation [here](#)
- [Links to an external site.](#)
- .
- [Communication Support](#)--Communication Support offers free one-on-one communication consulting as well as group workshops to support strong written, oral, and visual communication in texts including IMRaD and thesis-driven essays, data-driven reports, oral presentations, posters and visual design, advanced research, application materials, grant proposals, business and public policy documents, data visualisation, and team projects. Appointments are available to undergraduate and graduate students from any discipline at CMU. Schedule an [appointment](#) (in-person or video), attend a [workshop](#), or consult [handouts or videos](#) to strengthen communication skills. Specific [resources](#)
- [Links to an external site.](#)
- for multilingual students are also available.
- [Language and Cross-Cultural Support](#)--This program supports students seeking help with language and cross-cultural skills for academic and professional success through individual and group sessions. Students can get assistance with writing academic emails, learning expectations and strategies for clear academic writing, pronunciation, grammar, fluency, and more. [Make an](#)
- [Links to an external site.](#)
- [appointment](#)
- [Links to an external site.](#)
- with a Language Development Specialist to get individualized coaching.

Class Recordings

This class may be recorded for asynchronous access and / or remote viewing of course lectures and activities. Recordings of course sessions are provided solely for educational use by students enrolled in the course and may not be distributed to any other person or posted on the internet without the express written permission of the course instructor. No student may record any classroom activity without express written consent from the instructor. If you have (or think you may have) a disability such that you need to record or tape classroom activities, you should contact the Office of Disability Resources to request an appropriate accommodation.

Course Recordings for Synchronous Classes*

** Note: This section generally only applies if the course is being taught remotely. If the course is being taught in-person, lectures may not be recorded or posted to Canvas. For this reason it's important to attend all in-person lectures.*

Unless otherwise stated, synchronous classes taught remotely will be recorded via Zoom so that students in this course (and only students in this course) can watch or re-watch past class sessions. Please note that breakout rooms will not be recorded. I will make the recordings available on Canvas as soon as possible after each class session (usually within 3 hours of the class meeting). Recordings will live in our Canvas website. Please note that you are not allowed to share or repost these recordings. This is to protect your FERPA rights and those of your fellow students.

COVID-19 Considerations

Please see the [university's minimum requirements](#) for policies and guidance related to displaying COVID-19 symptoms. If you display symptoms or have been diagnosed, the current guidance is that you must stay home. You can contact me at your earliest convenience to make alternate arrangements.

Other things you are welcome to do to help protect yourself and others include:

- entering and exiting the classroom while maintaining appropriate physical distancing,
- wearing a facial covering throughout class,
- sitting in the seats with appropriate spacing (and not moving furniture),

- following good social distancing practices at all times,
- using the sanitizing wipes available in the classroom to wipe surfaces (e.g., your desk, tablet arm) upon entry and exit.