

Teacher Guide

Course Goals

This is not an AI course. It is a design-thinking practicum that uses AI as a tool. Do not let AI steal the main thread.

Understand

State what each of the six design-thinking stages solves.

Explain why students start from a real person instead of an app idea.

Describe AI as a collaboration tool, not a decision-maker.

Do

Run a real interview and record exact words.

Write a focused problem statement with user and root cause.

Define an MVP and build a demoable first version.

Test with real people and complete at least one iteration.

Tell the project through Problem -> Evidence -> Solution -> Demo -> Reflection.

Carry Forward

When facing a vague problem, observe and ask before guessing.

When using AI, check facts, disclose usage, and keep judgment.

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Recommended Session Schedule

The standard version runs 6-8 sessions. You can compress, but do not cut the test stage.

| Session | Stage | Students Leave With |
|---------|----------------------|--|
| 1 | Opening + AI chapter | Flow understood, AI ground rules agreed, teams formed. |
| 2 | Empathize | One specific user and 2-3 interview records. |
| 3 | Define | One problem statement. |
| 4 | Ideate | Idea list and must-have features. |
| 5-6 | Prototype | A demoable first version. |
| 7 | Test | A test log and one iteration. |
| 8 | Showcase | A storyline and formal showcase. |

Compression Notes

If short on time, combine Opening + Empathize.

Prototype can compress to one session if scope is tight.

Even in a sprint, protect testing time.

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Session Flow and Outputs

Lecture time should be shorter than hands-on time. Students learn by doing, not by listening.

| Part | Time | Teacher Move |
|--------------|--------|---|
| Warm-up | 5 min | Open with a real story or question. |
| Mini-lecture | 10 min | Teach only this stage's key concepts with examples. |
| Hands-on | 25 min | Students work in the worksheet booklet; teacher circulates. |
| Wrap-up | 5 min | Each team reports one output; preview next stage. |

Before the Bell

Empathize: at least 2 interview sheets with quotes.

Define: one problem statement with no solution.

Ideate: brainstorm page plus must-have vs later table.

Prototype: a first version that can be tapped, seen, or demoed.

Test: test log plus one written thing to change.

Showcase: storyline skeleton.

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Facilitation Prompts

Do not hand over answers. Use questions to push the thinking back to students.

Empathize / Define

Can you name one specific person for this user?

Is this your guess, or did someone really say it?

Is this a problem one person has, or one you assume everyone has?

Did the problem statement sneak in a solution?

Ideate / Prototype

What step does this feature save the user?

If you could keep only one feature, which would it be?

What is the one thing the user can complete in v1?

This part came from AI; can you explain what it is doing?

Test / Showcase

Did you just give in and explain again?

Where did they get stuck? Did you write it down?

If you cannot say we made an app, how would you open?

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Common Stuck Points and Remedies

When students get stuck, pull them back to real users, main flow, and evidence.

| Stuck Point | Symptom | How to Rescue |
|-----------------------|---------------------------------------|---|
| Skipping interviews | Jumping straight to solution/building | Pause; require 2 quotes before proceeding. |
| Problem too broad | Help students study more efficiently | Point to one person and one specific thing. |
| Solution in problem | Students need a reminder app | Cross out the solution; keep who, cause, struggle. |
| Too many features | Six must-haves | Ask whether the core action still works without it. |
| Explaining in testing | Coaching the user the whole time | Zip it and observe; let users fumble. |
| Outsourcing judgment | AI said this is best | Ask: what do you think, and why? |
| Perfectionism | Trying to build the full version | Return to the main flow; make a testable v1. |

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Grouping and Age Adjustments

Give everyone a job and tune the difficulty to age and experience.

Grouping Advice

Teams of 4-5 work best; rotate roles by stage.

For mixed-school groups, begin with a 10-minute empathy icebreaker.

For uneven ability, make stronger students question-askers, not doers.

Use one shared project summary and have everyone restate it.

| Dimension | Younger | Older |
|------------|-----------------------------------|---|
| Scope | Narrow to 1 user, 1 scene. | Allow more complex users and scenes. |
| Interviews | 2 people is fine; give templates. | 3+ people; encourage self-written follow-ups. |
| Prototype | Encourage paper / low fidelity. | Challenge build-it or AI-demo types. |
| Iteration | One fix is enough. | Require two rounds and explain trade-offs. |
| AI | Teacher demonstrates how to ask. | Students design prompts and compare outputs. |

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Running the Compressed Hackathon

Your main job is floor control, time boxing, and protecting the test stage.

Facilitation Moves

At the start of each stage, announce the time box clearly.

Reserve 30-45 minutes for testing, even in a tight sprint.

Use circulation prompts for quick nudges; avoid extended lecturing.

Repeat: cutting features is not failure; rough and tested beats complete and untested.

| Time | Stage | Goal |
|-----------|--------------------|--|
| 0:00-1:00 | Empathize + Define | Quick interviews; set problem statement. |
| 1:00-1:30 | Ideate | Brainstorm, then cut to must-haves. |
| 1:30-4:00 | Prototype | Build v1, main flow only. |
| 4:00-4:45 | Test | Test and fix the biggest blocker. |
| 4:45-6:00 | Showcase | Storyline, rehearsal, present. |

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AI Usage Boundaries

In assessment, watch whether students can separate what AI helped with from what they decided themselves.

Allowed

AI may help ask questions, organize notes, rewrite text, diverge ideas, make tables, and support reflection.

Not Allowed

Uploading private info or classmates' photos.

Letting AI fabricate interviews or user evidence.

Using AI facts without checking.

Handing final decisions to AI.

Required

Disclose AI use in the showcase.

Important choices are made by the team.

In session 1, demo good prompt vs weak prompt live.

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Assessment Rubric

Share this with students in advance for self- and peer-assessment. It is both a scoring tool and a picture of a strong project.

| Dimension | 1 Point | 2 Points | 3 Points |
|---------------------|----------------------------|--------------------|---|
| Real user | Very vague group | Fairly specific | One specific person |
| Evidence | No interviews | Interviewed 1 | Interviewed 2+ with quotes |
| Problem clarity | Too big/broad | Roughly clear | Specific, focused, with root cause |
| Solution fit | Does not match | Roughly matches | Tightly tied to user and problem |
| MVP | Too much / not built | Can demo part | Minimum viable and demos main flow |
| Test & iterate | Did not test | Tested, no change | Tested and improved at least one thing |
| AI transparency | No disclosure / outsourced | Partial disclosure | Clearly states AI help and own decisions |
| Showcase reflection | Reads features | Explains project | Complete story with shortcomings and next steps |

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Tell Whether Students Truly Get It

A filled table is not understanding. Use these quick checks to verify thinking.

Fast Checks

Oral restatement: without the handbook, say whom you help and what trouble.

Press on why: why this problem, not another?

Trace the quote: which interview quote supports this finding?

AI attribution: is this part yours or AI's?

Change one variable: if the user became younger, how would the solution change?