



AI IN LEARNING SERIES

Study Strategies with AI

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<https://bit.ly/ai-4-study>

What We'll Cover Today



Welcome + Interactive Checks Why we're here — plus quiz questions sprinkled throughout, so stay sharp.

~2 min



Part I — AI Tools at MSU Licensed tools, data protections, and what you can — and can't — put in.

~6 min



Part II — Learning Strategies That Work Evidence-based study strategies — and the offloading trap that undoes them.

~8 min



Part III — Applying It in NotebookLM: tools + strategies in one study workflow.

~7 min



Do This Tonight A 15-minute first step to make it a habit.

~2 min

PART I

AI Tools at MSU

What's licensed, what's protected, and what never goes in.

AI Tools at MSU — Use the Licensed Versions

Copilot Free • MSU-licensed

Gemini Free • MSU-licensed

NotebookLM Free • MSU-licensed — today's focus

ChatGPT MSU licenses for faculty / paid

Why it matters: signing in with your MSU account adds enterprise data protection. Personal accounts don't have it.

AI DATA STANDARDS										
	AI Data Type	Public data	Internal data	Confidential data (including confidential research with permissions)	Regulated FERPA data	Regulated HIPAA data	Regulated PCI data	Regulated Controlled Unclassified Information (CUI) or other NIST 800-171 regulated data	Regulated Export Controlled Data	For assistance w/ other data types, log a service request in TDX and assign it to the DMA Data Stewardship team
MSU-LICENSED	Microsoft Copilot (enterprise data protection)	✓	✓	✓	✓	✗	✗	✗	✗	✗
	Microsoft 365 Copilot (enterprise data protection)	✓	✓	✓	✓	✗	✗	✗	✗	✗
	OpenAI ChatGPT (enterprise data protection)	✓	✓	✓	✓	✗	✗	✗	✗	✗
	Google Gemini (enterprise data protection)	✓	✓	✓	✓	✗	✗	✗	✗	✗
	Google NotebookLM (enterprise data protection)	✓	✓	✓	✓	✗	✗	✗	✗	✗
	Zoom AI Companion (enterprise data protection)	✓	✓	✓	✓	✗	✗	✗	✗	✗
PERSONAL	Microsoft Copilot (non-MSU)	✓	✗	✗	✗	✗	✗	✗	✗	✗
	Microsoft 365 Copilot (non-MSU)	✓	✗	✗	✗	✗	✗	✗	✗	✗
	OpenAI ChatGPT (non-MSU)	✓	✗	✗	✗	✗	✗	✗	✗	✗
	Google Gemini (non-MSU)	✓	✗	✗	✗	✗	✗	✗	✗	✗
	Google NotebookLM (non-MSU)	✓	✗	✗	✗	✗	✗	✗	✗	✗
	Other AI Tools (non-MSU)	✓	✗	✗	✗	✗	✗	✗	✗	✗

MSU AI data standards — which tools are approved for which data: tech.msu.edu/technology/ai/security

BEFORE YOU UPLOAD ANYTHING

Consider Data Privacy



Never upload

- Patient information of any kind — notes, images, labs, case logs, even “de-identified” cases
- Login credentials — anywhere, ever
- Sensitive data such as social security numbers



Safe to upload (in MSU AI)

- Lecture slides and course PDFs
- Your personal notes and summaries
- Published, open-access articles and guidelines
- Syllabi and learning objectives
- Any other content not restricted by the MSU AI guidelines (see previous slide for link)

Residents & clinical students: clinical documentation stays in clinical systems. No MSU AI tool is approved for HIPAA data — check the [MSU AI data standards](#) before uploading anything you're unsure about.

PART II

Learning Strategies That Work

What the learning science says — and how AI can strengthen or short-circuit your learning.

Four Strategies Worth Your Time



Active recall

Pull it from memory before you look it up. Testing yourself beats re-reading — every time.



Spaced repetition

Short reviews spread across days beat one long cram. Forgetting a little between sessions is part of the design.



Interleaving

Mix related topics within one session. It feels harder than blocking — that difficulty is why it sticks.



Metacognition

Plan, monitor, and continually check your own understanding. The skill of knowing what you don't know.

The Exoskeleton Effect

Watch: an exoskeleton assisting human movement.

Goal: walk a longer distance?

Turn the assist all the way up. The machine does most of the walking — your muscles barely fire, and little to no strength is built.

Goal: improve your health?

Turn the assist most of the way down. The machine supports just enough that your muscles do most of the work, building strength and health.



AI is a cognitive exoskeleton — consider the assistance carefully.

The more it does your thinking, the less your learning benefits. In studying, the effort is the point.



VIDEO

Exoskeleton-assisted walking

(insert clip here)

Avoid Illusions of Knowing

When AI makes you think you know more than you do.



The illusion

- Reading fluent AI explanations feel like understanding.
- Recognizing an answer ≠ being able to produce it.
- Confidence rises while comprehension stays shallow.

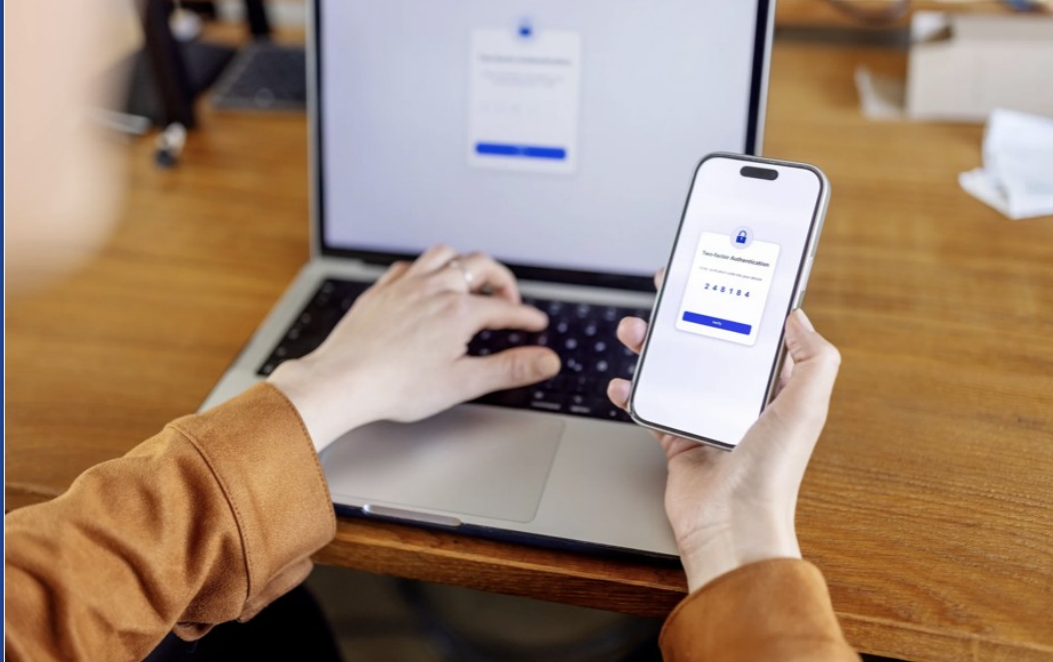


The trap

Leaning on AI for answers or content creation — without active engagement — bypasses the cognitive effort that retention is built from.

You saved time, but lost the learning.

The counter-move: critique AI outputs, question them, and treat them as a starting point for active engagement and investigation — never a final answer or destination. Always engage and verify.



Smart Studying & Data Ethi...

10 questions

[Change Kahoot](#)

ⓘ Change to Slide Show View to play this kahoot.

Kahoot! One

PART III

Learning Strategies with AI in NotebookLM

- One tool that puts the strategies to work — grounded in your own course materials.
- Self-quizzing, teach-back, and gap-finding — with citations you can verify in one click.
- Free with your MSU Google account — open notebooklm.google.com, login with your MSU NetID and follow along.

WATCH — A MED STUDENT'S WORKFLOW

See It in Action



How I'd use NotebookLM to study ANY subject

We'll watch: a full study workflow in 6 minutes.



How to use NotebookLM better than 99% of people

For later: a deeper 19-minute feature walkthrough.

The takeaway — straight from a Stanford med student (Konsker)

Memorization alone is limited — facts fade fast. Deep understanding of mechanisms and connections is what transfers to exams and wards. Use these tools to interrogate your materials until you can explain them, not to memorize AI summaries. His full free toolkit is at the link.

Why NotebookLM for Studying?



Source-grounded

It answers only from what you upload — your lectures, notes, and readings — not the open internet.



Cited by default

Every response links back to the exact passage in your sources, so verification is one click.



Free with your MSU account

MSU-licensed, with enterprise data protection — sign in with your MSU Google account.

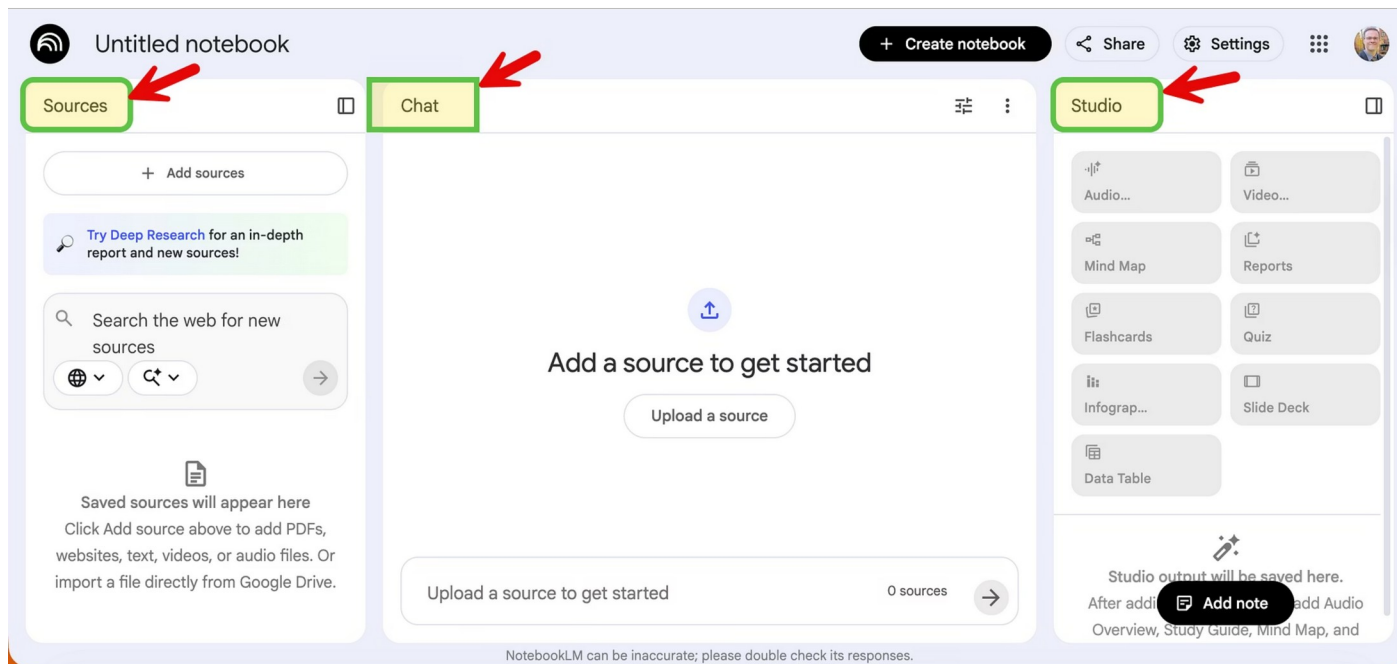
From your sources, it can generate:

- Study guides and summaries
- Quizzes and flashcards
- Mind maps of concept relationships
- Audio Overviews — podcast-style reviews
- FAQs, briefing docs, and answers to your questions — with citations

Grounding reduces hallucinations — it doesn't eliminate them. Principle: don't trust, verify. It supports [spaced repetition](#) and [interleaving](#) workflows — links explain both.

ORIENTATION

One Screen, Three Panels



Sources: Upload PDFs, slides, notes, websites, YouTube links, audio.

Chat: Ask questions; every answer cites your sources.

Studio: Generate guides, quizzes, flashcards, mind maps, audio.



Step 2 — Hear It

PUTTING IT TOGETHER

A Complete Exam-Prep Workflow

Example: two weeks out from your renal exam.

- 1 Create one notebook per course block** e.g., “Renal — Spring 2026.” Keep scope tight; quality of sources drives quality of output.
- 2 Upload lectures, notes, and objectives** Lecture PDFs, notes, and the learning objectives from the syllabus.
- 3 Generate a study guide — then audit it** Check it against the objectives. Gaps you find may be gaps in your sources.
- 4 Quiz yourself before you re-read** Open-ended questions first, feedback on your answers — retrieval before review.
- 5 Reinforce on the go** Audio Overview for the commute; export key facts into Anki for spaced repetition.

Do This Tonight — 15 Minutes

- 1 Go to notebooklm.google.com and sign in with your MSU Google account
- 2 Create one notebook for a current course *One course. Resist the mega-notebook.*
- 3 Upload this week's lecture PDFs and your notes
- 4 Ask three open-ended questions and answer them from memory **first** *Then check the cited answers.*
- 5 Generate a short quiz — whatever you miss is tomorrow's study list

If you do only one thing: quiz yourself before you re-read. Everything else is optimization.

THANK YOU

Questions?

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