



TAWHIDIC EPISTEMOLOGY
LEADING THE WAY

UMMATIC EXCELLENCE
LEADING THE WORLD



KULLIYAH OF
MEDICINE

Work Smarter, Not Harder



AI AUTOMATION WORKSHOP FOR ACADEMICIAN



SPEAKER

Asst. Prof. Dr. Wan Muhamad
Salahudin Wan Salleh

🕒 8:30 AM - 4:00 PM

📅 24th February 2026 (Tuesday)

📍 MULTIPURPOSE HALL
KULLIYAH OF MEDICINE, IIUM

★ CPD and CTD point will be awarded!

ORGANISER:
MEDICAL EDUCATION AND ACADEMIC QUALITY DEPARTMENT,
KULLIYAH OF MEDICINE

Disclaimer

 *Just a fellow academician figuring this out*

- Not an AI/ML expert or computer scientist
- Knowledge comes from **hands-on experience**, not theory
- Still building my publication journey with AI
- My real wins? **Automating workflows & building apps** with PowerApps

"I'm learning alongside you — just a few steps ahead on the path"



AI Through the Tawhidic Lens

Knowledge is a
trust (*amanah*)
— use it
responsibly

AI is a tool, not
a replacement
for human
intellect (*'aql*)

Innovation is
encouraged in
Islam — but
guided by
values

We are *khalifah*
on earth —
technology
must serve
humanity

**AI for this
workshop**



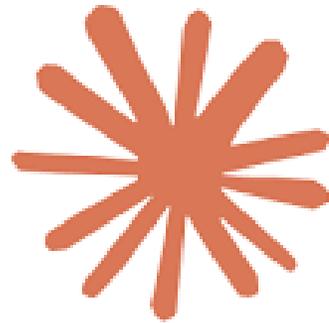
ChatGPT



Gemini

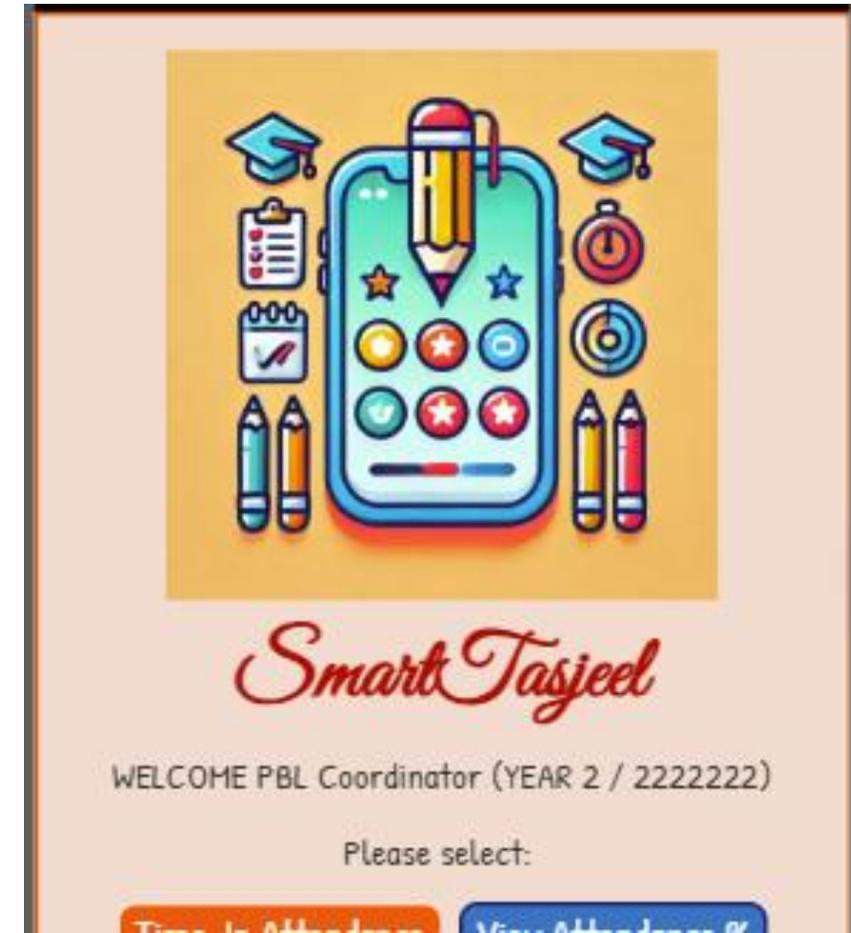
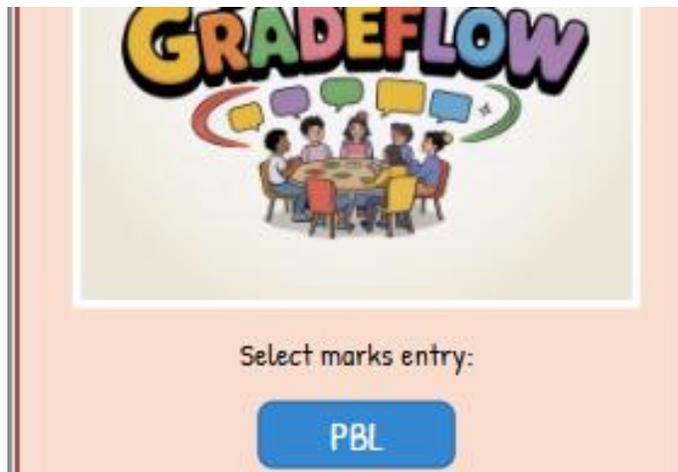
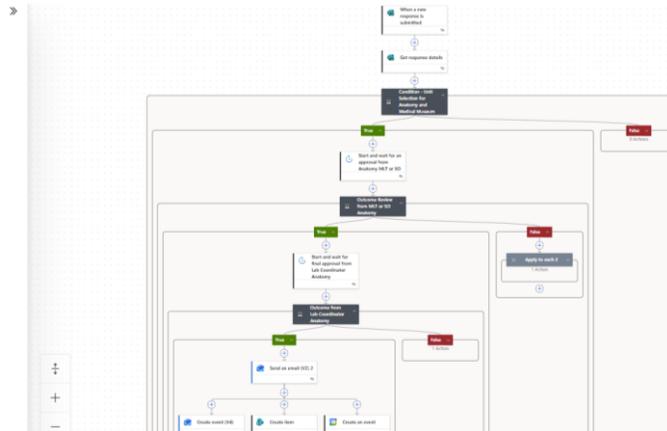
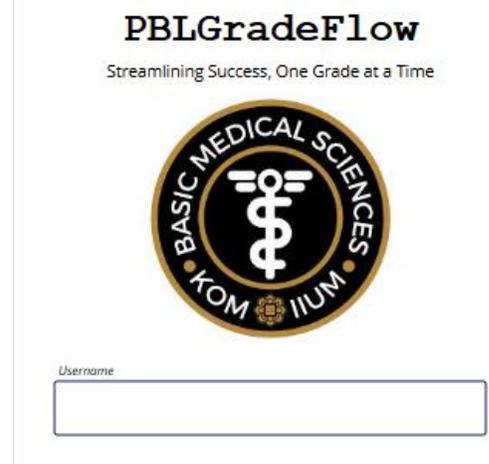


NotebookLM



Claude

My AI journey



What Do We Need to Know About AI?



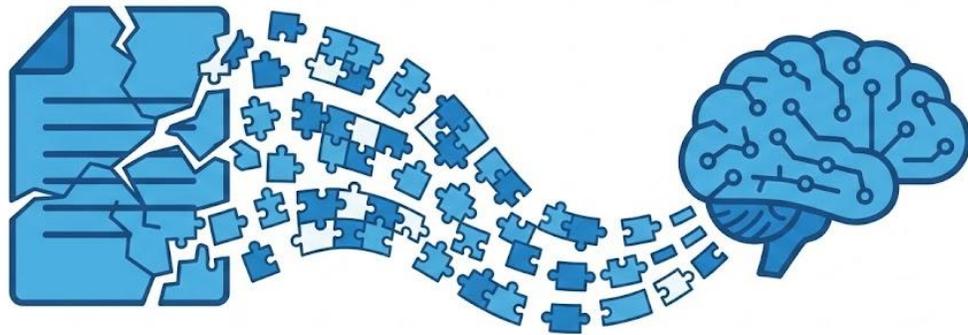
AI Tools Comparison

All three are powerful — the best tool depends on your task

	Gemini + NotebookLM	ChatGPT	Claude
By	Google	OpenAI	Anthropic
Best For	Research synthesis & study notes	General tasks & coding	Long documents & academic writing
Free Plan	✓ Generous	✓ Limited	✓ Limited
Internet Access	✓ Yes	✓ Yes	✓ Yes
Upload Documents	✓ Yes (NotebookLM)	✓ Yes	✓ Yes
Long Context	★ ★ ★	★ ★ ★	★ ★ ★ ★ ★
Academic Writing	★ ★ ★	★ ★ ★ ★	★ ★ ★ ★ ★
Hallucination Risk	Medium	Medium	Lower
Malaysian Language	✓ Good	✓ Good	⚠ Moderate

Understanding Tokens

Think of tokens as the "currency" of AI



What is a token?

A chunk of text — roughly 1 word \approx 1–2 tokens



Input tokens

What YOU send to the AI



Output tokens

What the AI sends BACK



Why it matters

Longer prompts = more tokens = higher cost



Context window

How much the AI can "remember" in one session

The Art of Prompting

"The quality of your output depends on the quality of your input"

Element	Example
 Role	"Act as an experienced medical educator..."
 Task	"Write a 300-word introduction for my manuscript..."
 Context	"My audience is final year medical students..."
 Format	"Reply in bullet points / table / paragraph..."
 Iterate	"Make it shorter / more formal / add references..."

The Art of Prompting: Golden Rules

Be specific — vague prompts give vague answers

Give context — AI has no idea who you are

Iterate — treat it like a conversation, not a Google search

"Prompting is a skill — the more you practice, the better your results"

For Research & Writing

- *"Act as an experienced medical researcher. Help me write an introduction for a manuscript about [topic] targeting [journal name]. My study involved [brief methodology]. Write in formal academic English, approximately 300 words."*
- *"Act as a systematic review expert. I have these 5 key findings from my study: [paste findings]. Help me write a discussion section that connects them to existing literature on [topic]."*
- *"Act as a journal reviewer. Review this abstract and suggest improvements for clarity, structure and impact: [paste abstract]."*

For Teaching & Assessment

- *"Act as a medical education expert. Create 5 multiple true-false questions for final year medical students on the topic of [e.g. renal physiology]. Include an answer key with brief explanations."*
- *"Act as a curriculum designer. I need to create a 1-hour lecture plan on [topic] for Year 3 MBBS students. Include learning objectives, key points and suggested activities."*

For Administration

- *"Act as an academic administrator. Help me write a formal email to my Head of Department requesting approval for [purpose]. Keep it concise and professional."*
- *"Act as a minute writer. I will paste my meeting notes below. Convert them into formal meeting minutes with action items clearly listed: [paste notes]."*

For Clinical & Radiology Context

- *"Act as a medical educator specializing in radiology. Help me create a case-based learning scenario for medical students involving a chest X-ray finding of [finding]. Include clinical history, questions and teaching points."*

The "Lazy but Smart" Prompt 😊

- *"I am a medical lecturer at a Malaysian public university. I need to [task]. My target audience is [audience]. Please help me with this in [format]. Keep it concise and professional."*

AI Hallucination: The Hidden Risk





The Hidden Risk

What is AI Hallucination?

When AI generates information that sounds completely convincing — but is factually wrong, made up, or doesn't exist.

Common Types of Hallucination



Fake References

Cites journals & papers that don't exist



Wrong Statistics

Incorrect numbers, dates or drug dosages



Broken Links

URLs and DOIs that lead nowhere



Outdated Info

Old guidelines presented as current

WHY IT HAPPENS

1

AI predicts the most likely next word — not the most truthful

2

No real understanding, only patterns from training data

3

Confident tone does not mean accurate content

⚠️ AI Hallucination — Real Examples & Protection

What can go wrong — and how to stay safe

📌 Real-World Examples in Academic Context

Manuscript Writing

AI said:

"AI cites: "Smith et al. (2021), Lancet, Vol. 398" — paper does not exist"

⚡ Retraction & reputation damage

Drug Information

AI said:

"AI states incorrect dosage for a medication with high confidence"

⚡ Patient safety risk

Statistics

AI said:

"AI quotes "global prevalence of 34%" — fabricated figure, no source"

⚡ Research misconduct if published

🛡️ How to Protect Yourself



Verify every reference manually before citing



Check statistics against original published sources



Use AI output as a draft — not a final answer



Cross-check clinical info with official guidelines



Disclose AI use to journals — follow their policy



Golden Rule: Treat AI like a brilliant but overconfident student — always check their work

Activities



Click on the QR code



AI for Academic Writing



Scoping Review

Mapping the Landscape of Evidence with AI

✂ Recommended AI Tools

Elicit

Find papers across broad topics quickly

Connected Papers

Map related works visually

Claude / ChatGPT

Group themes & summarise clusters

Perplexity AI

Rapid landscape overview with sources

NotebookLM

Upload papers & ask synthesis questions

⚡ Where AI Does the Heavy Lifting

📖 Literature Mapping

Visualise coverage gaps across topics

🏷 Thematic Grouping

Cluster papers into themes automatically

📄 Charting Data

Organise extracted info into tables

🗨 Narrative Summary

Draft descriptive synthesis of findings

📌 JBI Framework Guidance

Align methodology to scoping standards

Original Research Article

From Raw Data to Publishable Manuscript with AI Assistance

IMRaD Structure — AI Assistance Per Section

Introduction



Background framing, gap identification, research rationale

Methods



Refine descriptions, statistical justification, ethical statement

Results



Interpret tables/figures, draft findings narrative

Discussion



Compare with literature, explain implications, limitations

Abstract & Title



Generate structured abstract, suggest impactful titles

Tools: Claude • ChatGPT • Grammarly • QuillBot • Turnitin AI Detector

⚠ AI writes drafts — you provide the intellectual contribution. Always disclose AI use to journals.

Case Report

Turning Clinical Encounters into Publishable Stories with AI

Recommended AI Tools

Claude

Write compelling clinical narratives

ChatGPT

Literature comparison & discussion drafts

Grammarly

Proofread & polish clinical language

Perplexity

Find similar published case reports

CARE Checklist

Ensure case report completeness

Where AI Does the Heavy Lifting



Clinical Narrative

Structure timeline of events clearly



Literature Search

Find similar cases & compare outcomes



Discussion Section

Why this case is unique & what we learn



References

Suggest & format relevant citations



CARE Checklist

Verify all required elements are included

Narrative Literature Review

AI as Your Research Assistant for Synthesising Evidence

🔧 Recommended AI Tools

NotebookLM

Upload papers & generate summaries

Claude

Synthesise & compare multiple sources

Perplexity AI

Quick literature landscape overview

Elicit

Find & extract key paper arguments

ChatGPT

Organise outline & draft sections

⚡ Where AI Does the Heavy Lifting



Reading & Summarising

Digest 20+ papers in minutes



Thematic Clustering

Group findings into coherent themes



Comparing Arguments

Contrast different authors' positions



Structuring the Review

Build logical outline & flow



Drafting Paragraphs

Write synthesis with proper attribution

Systematic Review & Meta-Analysis

AI Tools to Power Your Evidence Synthesis

Recommended AI Tools

Elicit

Search & summarise papers automatically

Rayyan

Screen & manage article inclusion/exclusion

Covidence

Full review workflow + data extraction

Claude

Synthesise findings, write sections

Connected Papers

Visualise paper relationships

Where AI Does the Heavy Lifting



Title & Abstract Screening

Screen hundreds of papers in minutes



Data Extraction

Pull key variables from full-text PDFs



PRISMA Flow Diagram

Generate flow with exact numbers



Writing the Review

Draft methods, results & discussion



Gap Identification

Spot what is missing in the literature

Grant & Research Proposal

Win Funding with AI-Enhanced Proposals

🔧 Recommended AI Tools

Claude

Write persuasive background & rationale

ChatGPT

Draft objectives & expected outcomes

Elicit

Find supporting evidence & references

Grammarly

Polish language for review panels

NotebookLM

Analyse previous successful proposals

⚡ Where AI Does the Heavy Lifting



Problem Statement

Articulate the research gap compellingly



Objectives & Hypotheses

SMART objectives aligned to aims



Research Framework

Conceptual & theoretical framework



Budget Justification

Draft rationale for each budget item



Expected Outcomes

Articulate impact & deliverables clearly



Applies to ALL types of academic writing

DO Best Practices

- ✓ Give AI your actual data, context & target journal
- ✓ Iterate — refine AI output through conversation
- ✓ Always verify facts, stats & references manually
- ✓ Disclose AI use as required by your journal
- ✓ Use AI for first drafts — add your expertise on top

DON'T Avoid These

- ✗ Submit AI output without reviewing it
- ✗ Trust AI-generated references blindly
- ✗ Input patient or confidential data
- ✗ Use AI to fabricate or misrepresent data
- ✗ Ignore journal AI disclosure policies

 **Golden Rule: AI is your co-pilot, not your autopilot. You are still the expert.**

Activities



Click on the QR code

AI for Teaching & Assessment



AI for Teaching & Assessment



What Do Lecturers Struggle With Most?

Real pain points from medical lecturers — now solvable with AI

01 **Generating Exam Questions**

Hours spent writing MCQs, MTFs, OSCEs for each assessment cycle

02 **Building Lecture Slides**

Converting complex content into clear, engaging presentations

03 **Writing Learning Objectives**

Bloom's Taxonomy alignment is time-consuming and often inconsistent

04 **Designing Marking Rubrics**

Fair, detailed rubrics for essays, MEQs and OSCEs take hours

05 **Giving Student Feedback**

Personalised written feedback at scale is exhausting

06 **Creating Clinical Cases**

Rich case-based scenarios for TBL and PBL sessions

All of these can now be done in minutes — not hours — with the right AI tools



AI for Exam Question Generation

Generate any question format in seconds — from a single topic, lecture slide, or learning objective

Question Formats AI Can Generate

MCQ

Multiple Choice

Single best answer with 4–5 distractors

 AI Ready

MTF

Multiple True-False

5 stems, each marked true or false independently

 AI Ready

SAQ

Short Answer

Structured short answers with mark allocation

 AI Ready

MEQ

Modified Essay

Progressive clinical scenario with sub-questions

 AI Ready

OSCE

Clinical Station

Examiner instructions, patient brief & mark sheet

 AI Ready

SBQ

Structured Based Q

Data/image interpretation with guided questions

 AI Ready



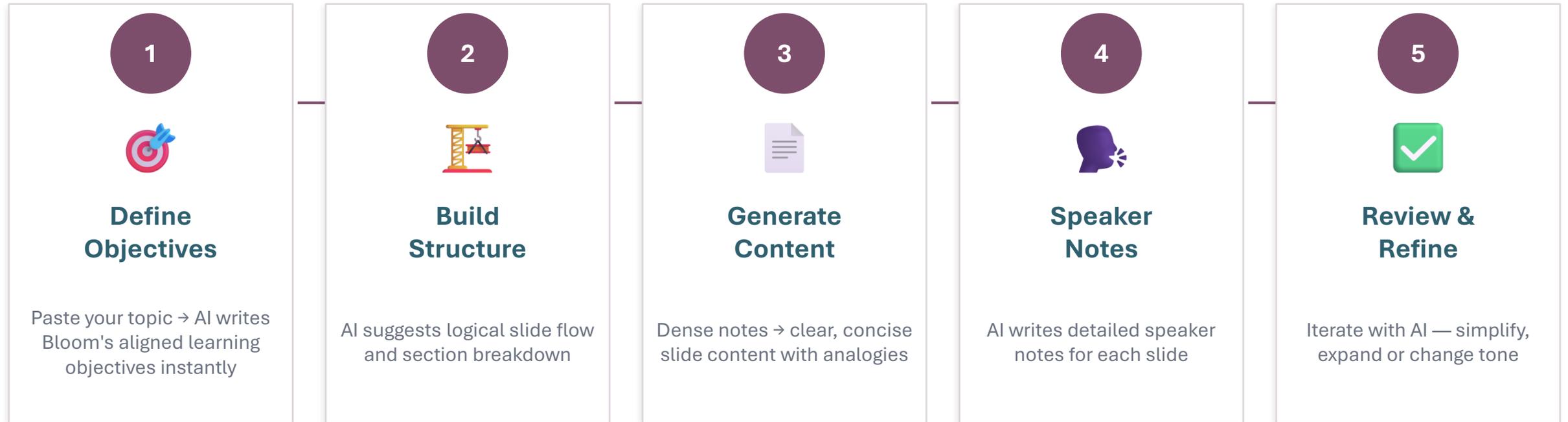
Bonus: AI can also check blueprint coverage, adjust difficulty level & generate answer keys with explanations



AI for Lecture Preparation

From blank page to polished lecture — AI handles the heavy lifting

The AI-Assisted Lecture Workflow



More Ways AI Helps with Teaching Prep



Clinical Case Generator

Rich TBL/PBL cases from any clinical topic



Simplify & Translate

Convert complex content to simpler English or BM



Analogy Generator

Explain renal physiology using a water filtration plant

Custom AI Assistants & NotebookLM

Build your own subject-specific AI — tuned to your curriculum, your style, your students

Build Your Own AI Teaching Assistant

Custom GPT

OpenAI • ChatGPT Plus

- Upload your lecture notes & past papers
- Set persona: 'You are an anatomy tutor for Year 2 MBBS'
- Students can access via shared link
- Generates questions in your style

Claude Projects

Anthropic • Claude.ai

- Upload module guides, syllabi, textbook chapters
- Remembers context across all conversations
- Custom instructions per project
- Great for long document analysis

Gemini Gems

Google • Gemini Advanced

- Create specialised teaching personas
- Integrates with Google Workspace
- Access Google Drive materials directly
- Best for Google Slides + Docs users

NotebookLM — For Lecturers (Not Just Students!)



Upload ALL past papers → identify repeated question patterns



Upload curriculum docs → auto-generate learning objectives



Upload research papers → create literature-based exam questions



Convert lecture notes into an AI-generated audio podcast for students

 *Build once — your custom AI assistant works for you every semester, getting smarter as you add more content*



AI for Assessment Design & Student Practice

Beyond question generation — AI transforms how students are assessed and how they practise



Assessment Design Tools



Marking Rubrics

Generate detailed rubrics for essays, MEQs and OSCE stations in minutes



Student Feedback

Paste answer → AI writes personalised constructive feedback



Objective Alignment

Verify your questions match your learning objectives automatically



Blueprint Checker

Ensure exam coverage across all topics and cognitive levels



Simulated Patient — ChatGPT Voice Mode



STAR FEATURE

Students speak to ChatGPT as a real patient — in real time

Using ChatGPT Voice Mode (mobile app), set a patient persona prompt and students practice history taking, clinical communication and OSCE scenarios — anytime, anywhere.



ChatGPT Plus Required

What Can It Simulate?



History taking — any presenting complaint



Difficult patients — anxious, non-compliant



Paediatric cases — AI plays the parent



Psychiatric clerking — depression, psychosis



Live Demo Idea: Let a participant speak to ChatGPT as a patient during the workshop!

Activities



Click on the QR code



BMS Smart Tutor

By community builder 

Helps medical students strengthen their understanding of anatomy, physiology, biochemistry, pathology, and pharmacology through structured practice questions and guided explanations.

Generate 5 MTF questions on renal physiology.

Create 5 OBA questions on cardiac cycle.

Give me a Short Notes question (10 marks) on types of...

Create a 10-mark SBQ on obstructive jaundice.



Click this [link](#)

AI for Admin & Productivity



AI for Admin & Productivity

*No coding.
No apps.
Just AI.*



**Email &
Communication**



**Meetings &
Minutes**



**Report
Writing**



**Document
Drafting**



**Data &
Scheduling**



**Personal
Productivity**



If you can type a message — you can use AI for admin tasks

Email, Communication & Meetings

The tasks that eat your time — done in seconds

Email & Communication



Draft emails to HoD, students or external parties



Reply to difficult student emails — diplomatically



Write formal letters & official memos



Translate documents BM ↔ English instantly

Meetings & Minutes



Paste rough notes → proper meeting minutes



Generate agenda from bullet points



Extract action items & assign responsibilities



Summarise long WhatsApp discussions



Report Writing & Document Drafting

Turn rough ideas into polished official documents



Report Writing



LPP / SSM Report

Annual performance report



Course Assessment Report

End-of-semester analysis



Committee Reports

Formal proposals & updates



Accreditation Docs

MQA / AMC documentation



Document Drafting



SOP Writing



Policy Documents



Job Descriptions



Official Proposals



Prompt tip: 'Act as an academic administrator. Draft a formal proposal for [purpose] to submit to the Dean.'

⚡ Personal Productivity with AI

Small habits. Big time savings. Every single day.



Summarise Long PDFs

Paste a 20-page circular
→ get 5 bullet summary



Proofread Instantly

Paste any document
→ AI fixes grammar & tone



Schedule & Planning

Describe your week
→ AI suggests optimised plan



Simple Excel Help

Ask AI for formulas
→ no more Googling syntax



Student Grouping

Paste a student list
→ AI creates balanced groups



Translate Instantly

Any document
BM ↔ English in seconds



Copy. Paste. Done.

Email

"Act as a professional academic. Write a formal email to my Head of Department requesting approval for [purpose]. Keep it concise and respectful."

Meeting Minutes

"Convert these rough meeting notes into formal minutes with attendees, agenda items and action items clearly listed: [paste notes]"

Report

"Act as an academic administrator. Help me write a formal [report type] report for [semester/year]. Structure it professionally with an executive summary."

Summarise PDF

"Summarise this document in 5 bullet points. Highlight the most important deadlines or action items. [paste content]"



Try ONE of these prompts right now — open Claude, ChatGPT or Gemini on your phone

Activities



Click on the QR code



Q&A



Thank you

