



Tawfik AI-Tutoring Framework

Student User Manual

Your Personal AI-Powered Learning Journey

Version 3.0 | April 2026

Developed by Professor Mohammad Tawfik

Table of Contents

1. Introduction

Welcome to the Tawfik AI-Tutoring Framework — your personal AI-powered learning environment designed to help you study engineering courses effectively.

What makes this system special: your AI Tutor has read and understood all the lecture notes and materials in your course. It gives answers based on your actual course content, not generic information from the internet.

New in Version 3: the AI now offers four powerful Quick Actions — Daily Brief, Analytics, Hint Ladder, and Peer Debate — all accessible from a single button bar in the AI Tutor panel. The assessment engine has also been upgraded to track recurring misconceptions and provide richer feedback.

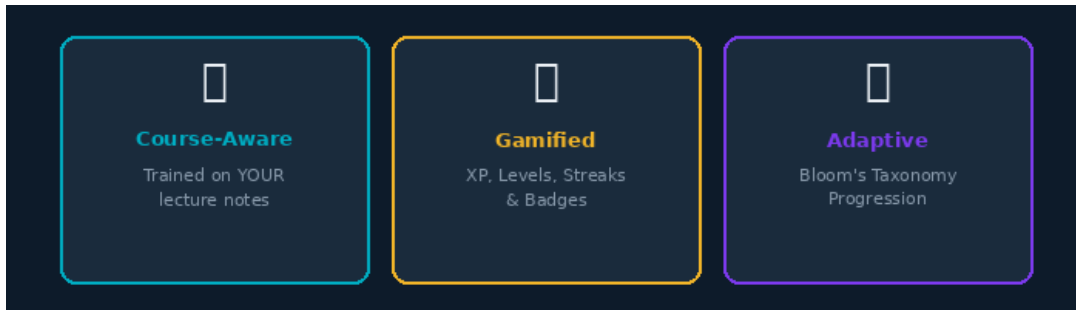



Figure 1: Three things that make this tutor unique

 The gamification engine tracks XP, levels, streaks, and badges globally across all your courses. The more you engage, the faster you climb to Chief Engineer!

This manual covers every feature of the student workspace with step-by-step instructions, from first registration to mastering assessments and earning advanced badges.

2. Getting Started: Login & Registration

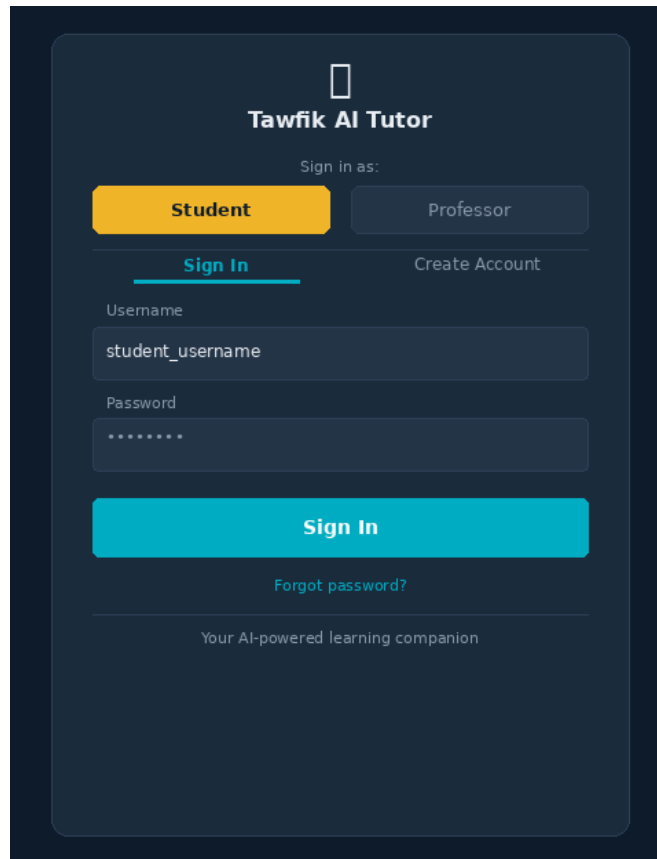
Launch the application by running StudentMain.py (or the installed executable). The Access Portal uses a dark "Scholarly Night" theme — deep navy with gold accents.

2.1 The Login Portal

The portal has two selectors at the top: a Role Toggle and a Mode Tab Switcher.

- Role Toggle — choose Student or Professor before signing in.
- Mode Tabs — switch between Sign In and Create Account.

Always make sure Student is selected in the role toggle before proceeding.



The image shows a dark-themed login portal for 'Tawfik AI Tutor'. At the top, there is a mobile phone icon and the text 'Tawfik AI Tutor'. Below this, a 'Sign in as:' label is followed by two buttons: 'Student' (highlighted in gold) and 'Professor'. Underneath, there are two tabs: 'Sign In' (underlined) and 'Create Account'. The 'Sign In' section contains a 'Username' field with the text 'student_username' and a 'Password' field with masked characters. A large blue 'Sign In' button is positioned below the password field. At the bottom of the form, there is a 'Forgot password?' link and the text 'Your AI-powered learning companion'.

Figure 2: The login portal — Student role selected (gold highlight)

2.2 First-Time Registration

⚠ Student registration requires email verification. Have your email address ready before you begin.

1. Click the Create Account tab.
2. Enter a unique username.
3. Enter a password.
4. Enter your email address.
5. Click Send Verification Code.

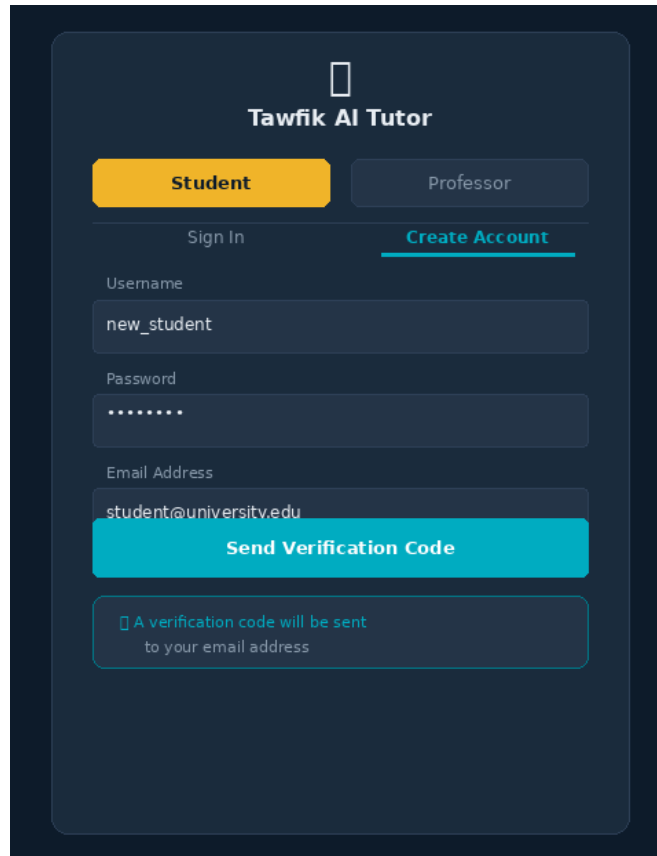


Figure 3: Create Account form with email field

The system sends a 6-digit code to your email address. The Verification Screen appears automatically.

6. Open your email and find the message from Tawfik AI.
7. Type the 6-digit code into the large input box.
8. Click Verify & Create Account.

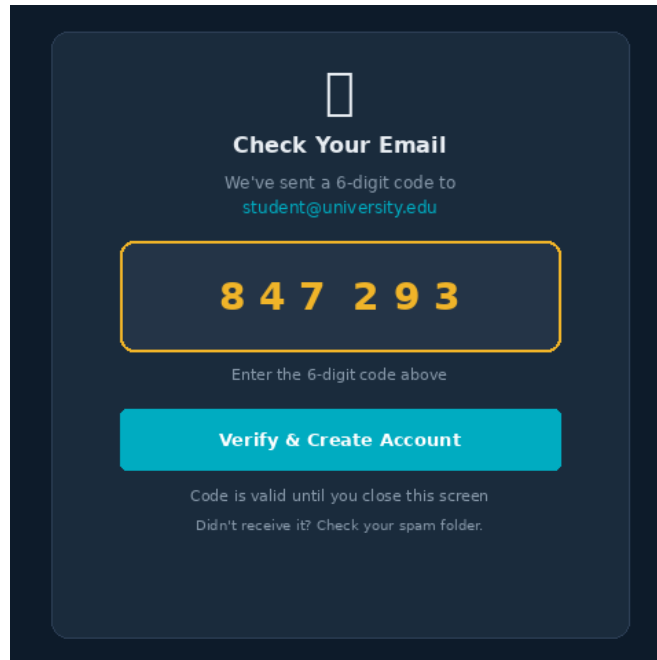


Figure 4: Email verification screen — enter your 6-digit code

💡 The code is valid until you close the signup screen. If you close it, start registration again.

2.3 Signing In

9. Make sure the Student role button is selected (highlighted in gold).
10. Confirm Sign In tab is active.
11. Enter your username and password.
12. Click Sign In. The Welcome screen appears.

If you registered on another device, the system checks the cloud automatically and caches your account locally.

2.4 The Welcome Screen

After signing in you see a personalised Welcome screen showing your username initial as an avatar.

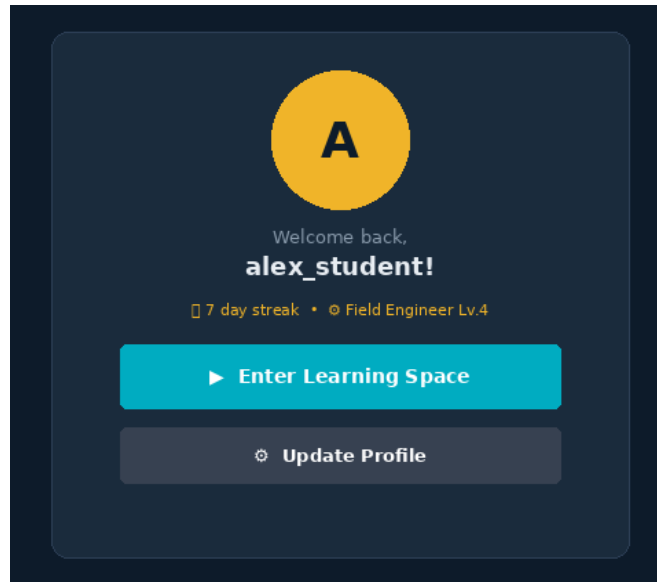


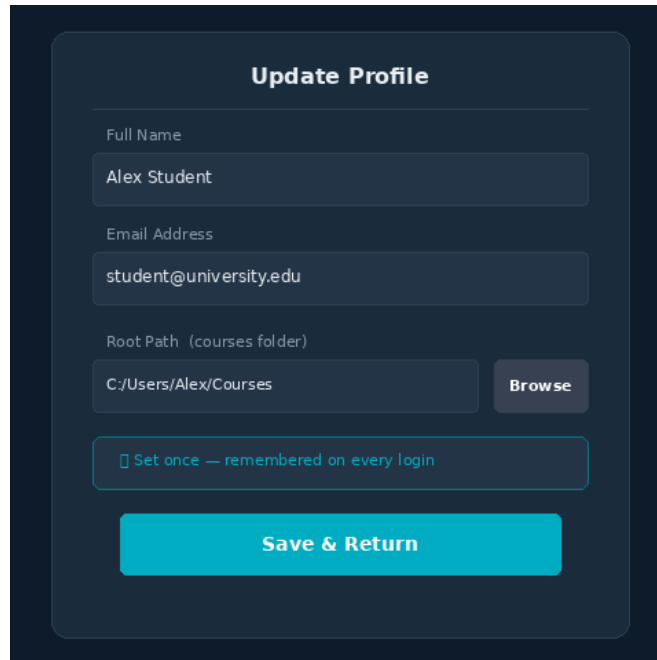
Figure 5: Welcome screen after login

- Enter Learning Space — opens the Student Workspace.
- Update Profile — opens the profile editor to set your root path.

2.5 Setting Your Root Path (Required on First Login)

⚠ You must set your Root Path before you can access courses. Without it, the workspace cannot load your local course library.

13. Click Update Profile.
14. Fill in your full name and email (optional but recommended).
15. Click Browse and select a folder on your computer where courses will be stored.
16. Click Save & Return.
17. Click Enter Learning Space to proceed.



Update Profile

Full Name
Alex Student


Email Address
student@university.edu

Root Path (courses folder)
C:/Users/Alex/Courses **Browse**

Set once — remembered on every login

Save & Return

Figure 6: Profile screen — set your workspace root path

 Your Root Path only needs to be set once. After that, just Sign In and click Enter Learning Space.

3. The Student Workspace

The Student Workspace is the main learning environment. It has three panels that you can show or hide independently.

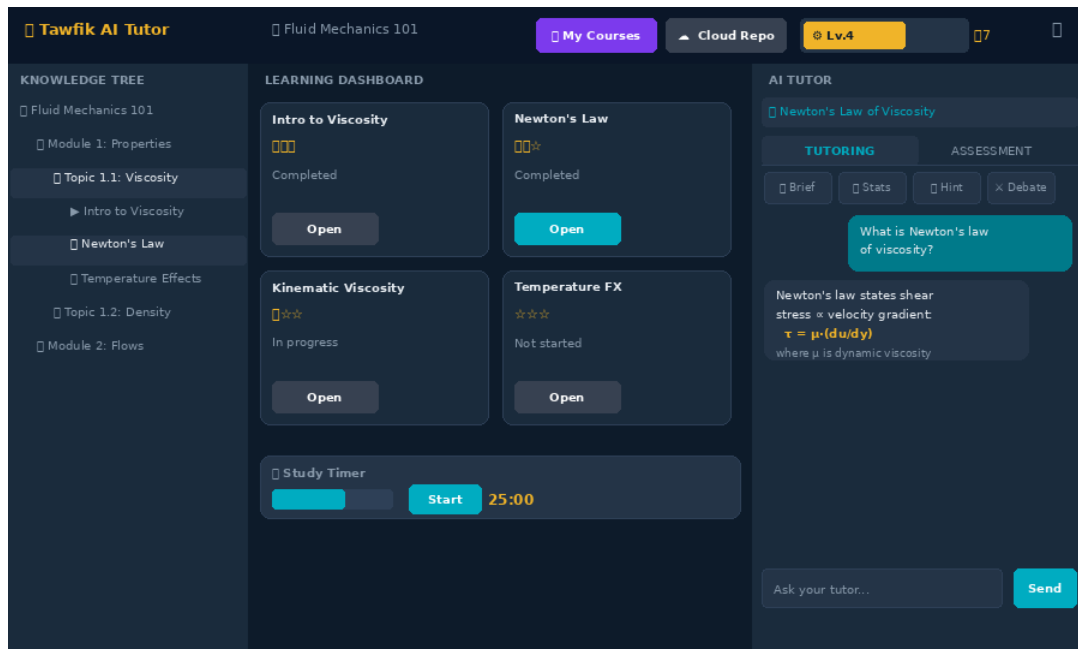



Figure 7: The three-panel Student Workspace — Knowledge Tree (left), Learning Dashboard (centre), AI Tutor (right)

Panel 1 — Knowledge Tree (Left): Displays the hierarchical course structure. Click any item to navigate and open a lesson.

Panel 2 — Learning Dashboard (Centre): Your main study area — shows lesson cards with star ratings, breadcrumb navigation, an embedded media player for videos and PDFs, and the Study Timer.

Panel 3 — AI Tutor (Right): Your personal AI teaching assistant with Tutoring and Assessment modes, and the Quick Actions bar.

 Toggle any panel on or off using the eye buttons in the toolbar. This is useful for focusing on a single panel on a smaller screen.

3.1 XP Progress Bar & Gamification HUD

A live XP progress bar and streak counter appear in the top-right of the toolbar at all times. The bar shows your progress toward the next engineer level.



Figure 8: The Gamification HUD — level, XP bar, streak, and badges

4. Browsing & Opening Courses

4.1 Local Courses

18. Click My Courses (purple button) in the toolbar.
19. Course cards appear in the Learning Dashboard.
20. Click any card to open the course and load its Knowledge Tree.

4.2 Cloud Repository

21. Click Cloud Repo (white button) in the toolbar.
22. Browse published courses from your professor.
23. Click any course card to download it to your local library.

Courses synchronise with the cloud when you open them, so you always receive the latest content published by your professor.

5. Using the AI Tutor

The AI Tutor is your most powerful learning tool. Unlike generic chatbots, this tutor has read all your lecture notes and understands the full curriculum of your course.

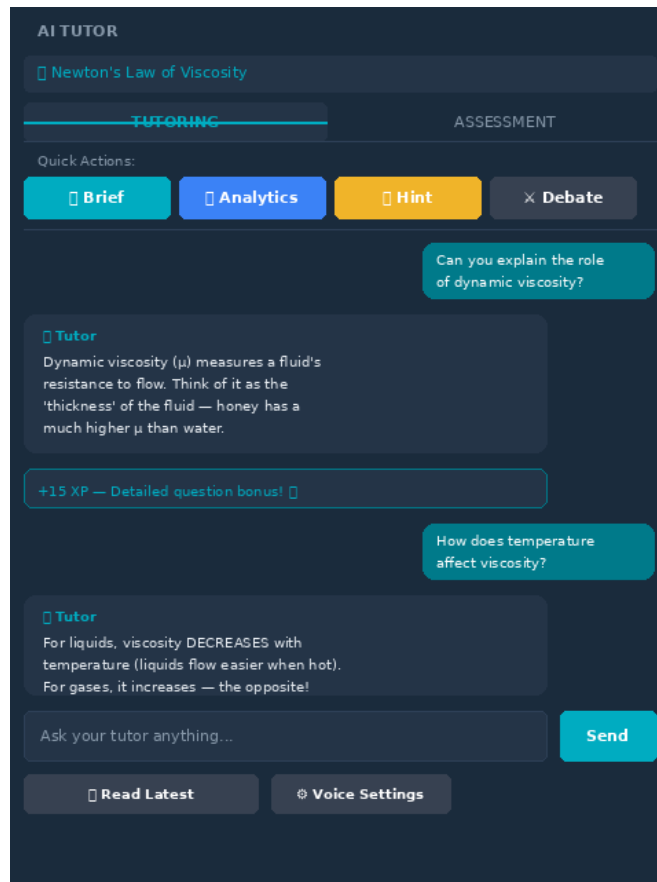


Figure 9: AI Tutor panel — Quick Actions bar, chat, and input

5.1 Starting a Tutoring Session

24. Select a lesson from the Knowledge Tree or Learning Dashboard.
25. Check that the CONTEXT label in the AI Tutor panel shows your current lesson name.
26. Click the TUTORING tab if it is not already selected.
27. Type your question in the input box at the bottom of the panel.
28. Press Enter or click Send.

5.2 What You Can Ask

- Explain concepts or terminology from the lecture notes.
- Provide real-world examples or engineering applications.
- Walk through problem-solving steps or derivations.
- Show how a concept connects to other topics in the course.
- Clarify formulas, equations, or worked examples.





 Questions longer than 15 words earn +15 XP instead of +5 XP, and qualify for the Deep Dive badge!


5.3 XP for Asking Questions

- Short question (fewer than 15 words): +5 XP
- Detailed question (15 words or more): +15 XP

5.4 Quick Actions Bar (NEW in v3)

The Quick Actions bar sits at the very top of the AI Tutor panel and gives you one-tap access to four advanced AI features:

-  Daily Brief — a personalised study agenda for today based on your recent performance.
-  Analytics — a spoken and written 5-sentence summary of your performance trends.
-  Hint — a tiered hint for your current assessment question (costs XP — see §9.2).
-  Debate — challenge the AI to argue the opposite position for 3× XP rewards.

 Quick Actions are always visible in the panel header — you never need to scroll to reach them.

5.5 Text-to-Speech

Click Read Latest to hear the AI's most recent response read aloud. Use the gear icon to adjust voice, speed, and volume settings.

6. Taking AI Assessments

Assessment mode tests your knowledge with adaptive questions calibrated to Bloom's Taxonomy. The AI starts with recall questions and progressively advances to higher cognitive levels as you demonstrate mastery.

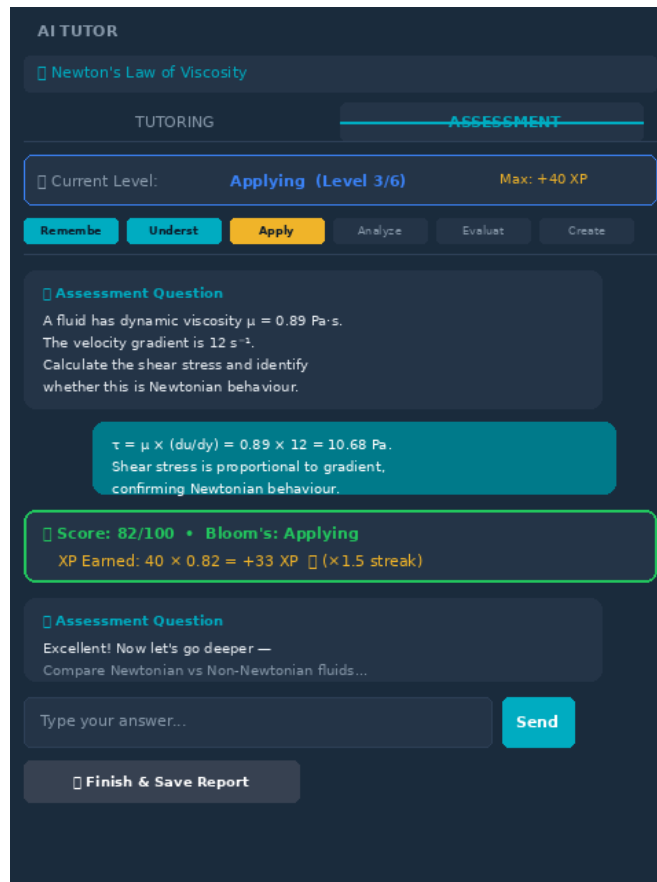



Figure 10: Assessment mode — Bloom's level indicator and score-based XP feedback

6.1 Starting an Assessment

29. Select a lesson from the Knowledge Tree.
30. Click the ASSESSMENT tab in the AI Tutor panel.
31. The AI begins asking questions, progressing from Remembering upward.
32. Type your answer and press Enter.

 The AI now tracks recurring misconceptions during your session. If it revisits a concept from a different angle, that is intentional — it is helping you correct a gap!

6.2 How Bloom's Taxonomy XP Works

The AI evaluates every answer at one of six Bloom's Taxonomy levels and assigns a score from 0–100. Your XP reward is proportional to your score.

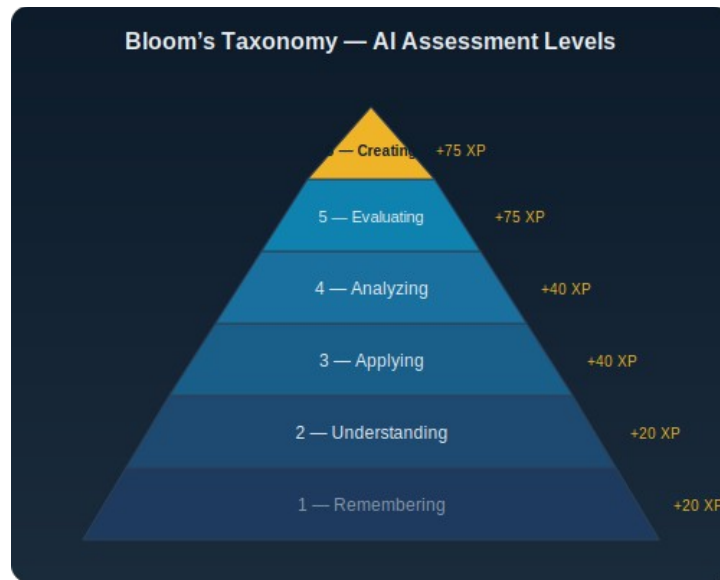



Figure 11: Bloom's Taxonomy pyramid — levels and XP rewards

Level	Cognitive Skill	Max XP	Example
1 — Remembering	Recalling facts	20 XP	Define viscosity
2 — Understanding	Explaining concepts	20 XP	Explain Newton's law
3 — Applying	Using knowledge	40 XP	Calculate kinematic viscosity
4 — Analyzing	Finding patterns	40 XP	Compare laminar vs turbulent
5 — Evaluating	Making decisions	75 XP	Critique a fluid selection
6 — Creating	Designing solutions	75 XP	Design a measurement system

Example: if the AI evaluates your answer as Applying level and awards a score of 80/100, you earn $40 \times 0.80 = 32$ XP (plus your streak multiplier).

6.3 Finishing the Assessment

33. Click Finish & Save Report when you are ready to end the session.
34. The AI uses a deep reasoning model to generate a comprehensive performance report.
35. The report is saved automatically. You earn +100 XP for completing it!

 Assessment history is saved per lesson. Switch to Assessment mode in any previous lesson to review past sessions.

7. Gamification System

The gamification system tracks your progress globally — your XP, level, streak, and badges persist across all courses, not just one.

7.1 XP Rewards Summary

Action	XP Reward
Asking the Tutor (short, < 15 words)	+5 XP
Asking the Tutor (detailed, 15+ words)	+15 XP
Opening a new lesson	+10 XP
Assessment — Remembering / Understanding	up to +20 XP
Assessment — Applying / Analyzing	up to +40 XP
Assessment — Evaluating / Creating	up to +75 XP
Completing an assessment report	+100 XP
Completing a Study Timer round	+25 XP
Daily login bonus (scales with streak)	+25 to +200 XP
Surprise reward (20% chance per AI response)	+75 XP
Peer Debate answer (3× XP)	3× normal XP

7.2 Engineer Career Levels

Progress through ten engineer career titles as you accumulate XP:

Level	Title	XP Required
Level 1	Freshman Engineer	0 XP
Level 2	Lab Technician	200 XP
Level 3	Junior Analyst	500 XP
Level 4	Field Engineer	1,000 XP
Level 5	Design Engineer	2,000 XP
Level 6	Systems Integrator	4,000 XP
Level 7	Senior Engineer	7,000 XP
Level 8	Lead Engineer	11,000 XP
Level 9	Principal Engineer	16,000 XP
Level 10	Chief Engineer	25,000 XP






7.3 Streak Multiplier

Studying every day builds your streak, which multiplies all XP you earn:

- 1–2 day streak: ×1.0 (normal XP)
- 3–6 day streak: ×1.5 XP
- 7–29 day streak: ×2.0 XP
- 30+ day streak: ×3.0 XP










A warning banner appears if you are at risk of losing your streak. Starting a Study Timer round dismisses the warning and counts as active study.

7.4 Badges

Badge	How to Earn It
 First Spark	Complete your first tutoring session
 On Schedule	Study 3 consecutive days (builds streak)
 Deep Dive	Send a question longer than 15 words
 Bloom's Peak	Reach Evaluating or Creating level in assessment
 Sharpshooter	Score 80 or above on an assessment

7.5 Lesson Mastery Stars

Each lesson card in the Learning Dashboard shows a star rating from one to three:


-    1 Star — You have opened and started the lesson.
-    2 Stars — You have completed an assessment for this lesson.
-    3 Stars — You have reached Evaluating or Creating level (Bloom's Peak).

Stars only ever increase — they never decrease.

8. Study Timer

The Study Timer is located at the bottom of the Learning Dashboard. It helps you study in focused bursts using the Winnable Round format.

36. Select a duration: 10, 15, or 25 minutes from the dropdown.
37. Click Start to begin the countdown.
38. Study during the timer. The progress bar turns red in the final 60 seconds.
39. When the round completes, you earn +25 XP plus a 20% chance of a surprise reward.

 Starting a Study Timer round also dismisses any streak-at-risk warning, confirming you are actively studying for the day.

9. Advanced AI Features

Version 3 introduces four powerful AI-driven features accessible from the Quick Actions bar at the top of the AI Tutor panel. These tools deepen your engagement and give you real-time insight into your progress.

9.1 Daily Brief

The Daily Brief gives you a personalised study agenda at the start of each session. It summarises what you covered recently, flags your weakest topics from recent assessments, and suggests what to study today.

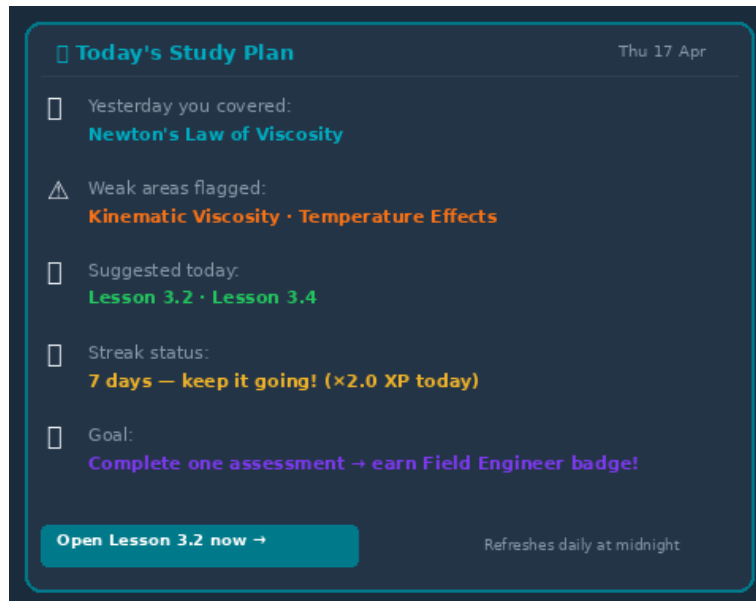





Figure 12: Daily Brief — your personalised daily study agenda

40. Navigate to any lesson (so the AI has course context).
41. Click the  Daily Brief button in the Quick Actions bar.
42. The AI generates a 5-point brief — weak topics, suggested lessons, and a motivational note.
43. Click any suggested lesson name to jump there directly.

 The brief is cached once per day. Clicking  again on the same day shows the same brief instantly — no extra AI call needed.

9.2 Hint Ladder

Stuck on an assessment question? The Hint Ladder gives you up to three levels of progressively more detailed hints — without just giving away the answer.

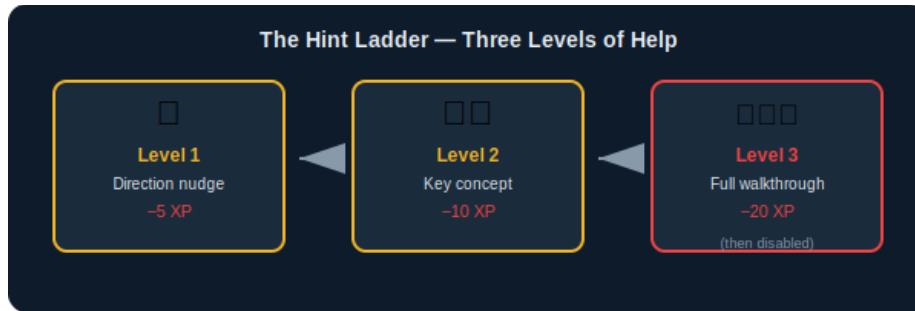


Figure 13: The three-level Hint Ladder — each level costs more XP

- Level 1 Hint: A gentle nudge in the right direction (–5 XP)
- Level 2 Hint: A clearer pointer to the key concept (–10 XP)
- Level 3 Hint: A near-complete walkthrough (–20 XP)

44. During an assessment, click the 💡 button.

45. Level 1 hint appears in the chat.

46. Click 💡 again for Level 2, and again for Level 3.

47. After Level 3, the 💡 button is disabled for that question.

⚠️ Hints cost XP! Use wisely — attempting the answer yourself first keeps your score higher and earns more XP overall.

9.3 Peer Debate Mode ✂️

Peer Debate mode challenges your understanding by having the AI argue the opposite position from yours. This technique strengthens critical thinking and helps you defend your reasoning.

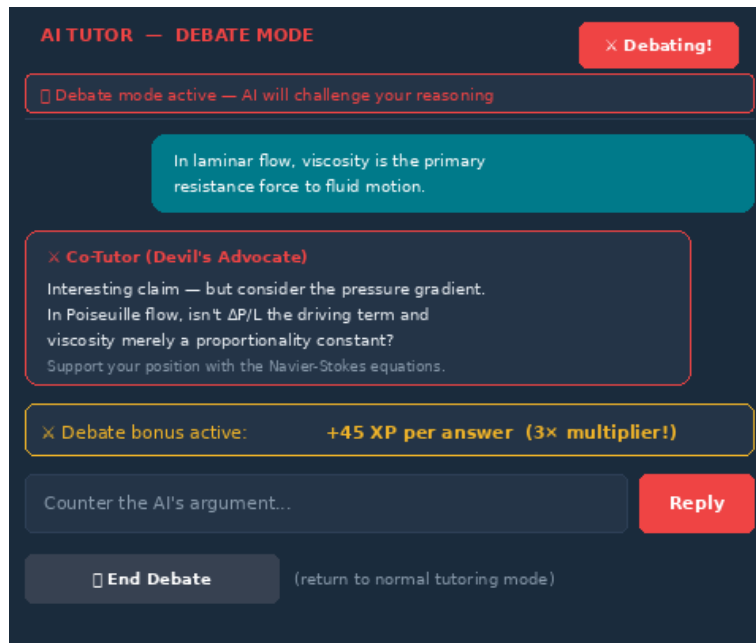





Figure 14: Peer Debate mode — the AI challenges your reasoning

48. Click the  button to enter Debate mode (the button turns red).
49. State your position or answer a question as normal.
50. The AI argues against you — respond to its challenges!
51. Click  (the same button) to end the debate and return to normal mode.


 Answers during a debate earn 3× the normal XP — you are demonstrating a deeper level of critical engagement!

9.4 Analytics Narrator

The Analytics Narrator gives you a spoken and written summary of your performance trends. Rather than staring at numbers, you hear a human-readable insight report in plain language.

What the narrator covers:

- Your most and least mastered topics.
- Your Bloom's level progress over recent sessions.
- Trends: improving, plateauing, or areas needing attention.
- A motivational closing note.

52. Click the  button in the Quick Actions bar.
53. The AI generates a 5-sentence analytics report in the chat.
54. The report is also read aloud automatically (if Text-to-Speech is enabled).

55. Use the insights to decide what to study next.

10. Troubleshooting & FAQ

Common Questions

Q: The AI shows an error when I ask a question.

A: Check your internet connection. The AI Tutor requires access to the DeepSeek API.

Q: I cannot see any courses in My Courses.

A: Ensure your Root Path is set correctly in your profile (Update Profile) and courses have been published by your professor.

Q: My streak was reset!

A: Streaks reset if you miss a full calendar day without opening a lesson or completing a timer. The warning banner appears before the day ends — start a timer or ask the tutor to keep your streak.

Q: Videos are not playing.

A: Ensure files are in supported formats (MP4, MKV, AVI). YouTube links require an active internet connection.

Q: I did not receive my email verification code.

A: Check your spam folder. The code expires when you close the signup screen. Ensure you entered a valid email address.

Q: How do I review past assessments?

A: Navigate to any lesson and click the ASSESSMENT tab. Your previous conversation history loads automatically.

Q: What does the Daily Brief use to make suggestions?

A: It reads your most recent assessment results and XP history to identify weak topics and suggest relevant lessons.

Q: I clicked  Hint but nothing happened.

A: Hints are only available during an active Assessment session. Switch to the ASSESSMENT tab first.

Q: Does Debate mode count toward my assessment score?

A: Debate mode is separate from formal assessment scoring but still earns 3× XP for the engagement.

Q: Can I use the same account on multiple computers?

A: Yes. Sign in from any device — if your account is not found locally, the system checks the cloud and caches it. Your XP and profile sync automatically.

Q: Is there a web version I can use without installing anything?

A: Yes! Visit tutor.academyofknowledge.org for the browser-based version — same features, no installation required. Your account and XP work across both.