Faysal Aziz

AI Clinical Advantage

From AI Literacy to Personal AI Workflows for Doctors - 3 days

FA-0057 · 3 days

Agentic & Generative AI

Introduction

Understand the technology. Master the conversation. Build AI that works around your clinical knowledge.

Artificial intelligence becomes substantially more useful to a doctor once it stops being treated as a clever chatbot.

The first level is awareness: understanding what generative AI is, why it sometimes produces remarkably useful answers, why it can also be confidently wrong, and where confidentiality and professional responsibility create boundaries. The next level is practical use: learning how to prompt properly, provide context, work with documents, investigate research, compare evidence and transform information into useful professional outputs. The third level is more interesting: configuring AI around the physician's own work so that recurring tasks no longer have to begin from an empty chat window.

That progression is the purpose of this three-day programme.

The course deliberately concentrates on a relatively small collection of capable platforms instead of exposing participants to dozens of AI products. **ChatGPT, Claude and Manus** form the core practical platforms. They are complemented by research-oriented tools such as **Gemini Notebook, Consensus, Elicit and Perplexity**, where their particular strengths are useful to a physician.

There have also been important changes in the AI products themselves. Claude now includes Projects, Artifacts, Research, connectors and reusable Skills; its newer Artifacts capabilities can produce documents, dashboards and interactive tools rather than only conversational responses. Manus now distinguishes lightweight conversational use from an agent mode capable of carrying out multi-step work, creating applications and websites, and working with connected information sources.

ChatGPT has likewise moved beyond ordinary chat into search, deep research, files, Projects and connected applications. One particularly important September 2026 change is that **custom GPTs are being transitioned toward Plugins**, so a contemporary course should not spend significant time training doctors

to create a technology that is already being phased out. The programme instead introduces the broader concept of the **personalized AI assistant** and shows current ways of creating reusable instructions, knowledge, tools and connected workflows.

The programme will also distinguish ordinary generative-AI conversation from **source-grounded research**. Gemini Notebook, formerly NotebookLM, remains centred around information supplied by the user and can work across documents and other source material, while specialist research platforms such as Consensus and Elicit provide workflows designed around scientific literature.

For physicians, this distinction matters. Asking an AI model what it "knows" about a medical question is fundamentally different from asking a system to analyse a defined collection of guidelines, interrogate uploaded papers, search current literature and show where its conclusions came from. The course therefore develops the habit of choosing the **right AI workflow for the information risk involved**, rather than assuming that one AI tool should be used for everything.

Participants will progressively move from using AI to **working with AI systems**. They will learn how to construct reusable context, create project-based knowledge environments, work with files and research sources, build specialized assistants, and create simple lookup or knowledge systems around approved information. The intention is not to turn doctors into developers. Coding, APIs, advanced agent engineering and machine-learning theory are deliberately outside the main scope.

A realistic three-day programme provides approximately **18–21 instructional hours**. That is sufficient for meaningful hands-on exposure to the principal capabilities without attempting to master every feature of every platform. The emphasis will remain on workflows that a physician can realistically reproduce after the training.

The programme will be delivered by an **instructor with more than 30 years of industry experience**. Content will therefore concentrate on practical, currently demanded industry techniques and real working methods rather than presenting artificial intelligence as an academic or theoretical subject.

Learning outcomes

By the end of the programme, participants should be able to:

- Explain generative AI, large language models, multimodal AI and AI agents in practical terms.
- Distinguish conversational AI, AI search, deep research, source-grounded AI and agentic systems.
- Recognise appropriate and inappropriate applications of generative AI in a medical environment.
- Identify hallucinations, unsupported conclusions, fabricated citations and other common AI failure modes.
- Apply appropriate privacy and confidentiality precautions when working with medical information.
- Use ChatGPT effectively for professional, research, document and information-management tasks.
- Use Claude effectively across conversations, Projects, files, Research and Artifacts.
- Understand Claude Skills and connectors as mechanisms for reusable and connected workflows.
- Use Manus Chat and Agent capabilities appropriately.

- Understand how Manus can create simple web-based and information-oriented tools without requiring participants to become programmers.
- Use appropriate AI research platforms for literature discovery and evidence exploration.
- Apply structured prompting instead of relying on short conversational questions.
- Use context effectively to improve relevance, consistency and precision.
- Separate instructions, background information, source material and expected output within complex prompts.
- Use iterative prompting and critical questioning to improve AI responses.
- Analyse documents, guidelines, papers, tables and other uploaded material.
- Create reusable AI instructions for recurring professional activities.
- Build source-grounded personal knowledge environments from approved reference material.
- Develop a simple personalized medical-information lookup workflow.
- Understand the difference between a useful personal AI assistant and an autonomous clinical decision-maker.
- Establish verification procedures before acting on AI-generated medical or scientific information.
- Select an AI platform according to the task instead of using one tool indiscriminately.
- Develop a practical personal strategy for continuing AI adoption after the programme.

Prerequisites

- Intended primarily for medical doctors, medical officers, specialists, consultants, healthcare leaders and physicians involved in teaching or research.
- No previous AI experience required.
- No programming knowledge required.
- Comfortable use of a modern web browser.
- Laptop computer strongly recommended.
- Reliable Internet connectivity.
- Personal email account for registering with demonstration platforms where required.
- Access to selected free or paid AI services may be required depending on the training environment.
- Participants should use synthetic, anonymised or trainer-provided information during training rather than identifiable patient data.
- Organisational policies governing patient confidentiality and external AI services remain applicable throughout the programme.

Training outline

1. AI and the Changing Medical Information Environment

Artificial Intelligence, Machine Learning and Generative AI

1. Large Language Models
2. Multimodal AI
3. Reasoning Models
4. AI Agents

Understanding What AI Actually Produces

1. Prediction versus Knowledge
2. Generated Answers versus Retrieved Information
3. Model Knowledge versus Current Information
4. Source-Grounded Responses

AI Opportunities for Medical Professionals

1. Information Synthesis
2. Literature Exploration
3. Professional Communication
4. Medical Education
5. Administrative Productivity
6. Knowledge Management
7. Clinical Information Support

Understanding the Boundaries

1. Hallucination
2. Bias
3. Missing Information
4. Unsupported Confidence
5. Fabricated References
6. Automation Bias
7. Human Clinical Judgment

2. Privacy, Safety and Responsible Medical Use

Patient Confidentiality

1. Personally Identifiable Information
2. Protected Clinical Information

3. De-identification Principles
4. Public versus Organisational AI Systems

Responsible Information Handling

1. Uploaded Documents
2. Conversation Histories
3. Connected Applications
4. Shared AI Workspaces
5. Institutional AI Policies

Physician Accountability

1. AI Assistance versus Clinical Decision-Making
2. Verification Responsibilities
3. Professional Oversight
4. Appropriate Use Boundaries

3. Working Effectively with Generative AI

Anatomy of an Effective Prompt

1. Objective
2. Context
3. Source Material
4. Constraints
5. Audience
6. Output Format

Context Engineering for Doctors

1. Clinical Background Context
2. Professional Role Context
3. Audience Context
4. Reference Context
5. Temporal Context
6. Scope and Exclusions

Improving Weak Responses

1. Iterative Prompting
2. Follow-Up Prompting
3. Prompt Decomposition
4. Assumption Checking
5. Counter-Questioning

6. Response Critique
7. Response Refinement

Reusable Prompt Structures

1. Research Prompts
2. Summarisation Prompts
3. Comparison Prompts
4. Document Review Prompts
5. Communication Prompts
6. Teaching and Learning Prompts

4. ChatGPT for Medical Professional Work

ChatGPT Working Environment

1. Conversations
2. Files
3. Projects
4. Search
5. Deep Research

Working with Documents

1. PDF Analysis
2. Document Summarisation
3. Information Extraction
4. Table Interpretation
5. Cross-Document Comparison

Web and Research Workflows

1. Current Information Search
2. Multi-Source Investigation
3. Deep Research
4. Source Review
5. Citation Verification

Projects and Persistent Context

1. Project Organisation
2. Project Instructions
3. Reference Material
4. Reusable Professional Context
5. Long-Running Knowledge Work

Connected AI Workflows

1. Plugins
2. Connected Applications
3. Searchable Organisational Information
4. Tool Permissions
5. Reusable Workflow Instructions

Personalized ChatGPT Workflows

1. Purpose-Specific Instructions
2. Reference Knowledge
3. Workflow Behaviour
4. Output Standards
5. Testing and Refinement
6. Transition from Custom GPT Concepts to Plugins

5. Claude for Medical and Knowledge Work

Claude Working Environment

1. Conversations
2. File Uploads
3. Web Search
4. Research
5. Extended Reasoning

Claude Projects

1. Project Knowledge
2. Project Instructions
3. Reference Documents
4. Persistent Context
5. Project-Based Medical Knowledge Work

Claude Artifacts

1. Documents
2. Structured Reference Material
3. Dashboards
4. Interactive Tools
5. Simple Web Interfaces

Claude Skills

1. Reusable Instructions

2. Specialized Knowledge
3. Repeatable Workflows
4. Personal Skills
5. Organisational Skills

Claude Connectors

1. Connected Information Sources
2. Search Across External Content
3. Permissions and Access
4. Tool-Assisted Workflows

Claude Research Workflows

1. Multi-Step Research
2. Web Investigation
3. Citation-Backed Outputs
4. Research Refinement
5. Combining Research with Project Knowledge

Claude for Scientific Work

1. Literature-Oriented Workflows
2. Research Documents
3. Data-Oriented Scientific Tasks
4. Introduction to Claude Science

6. AI-Assisted Medical and Scientific Research

Search versus Research

1. Conventional Web Search
2. AI Search
3. Semantic Search
4. Literature Search
5. Deep Research

Gemini Notebook

1. Source Collections
2. PDF and Document Sources
3. Source-Grounded Questioning
4. Cross-Source Synthesis
5. Audio and Visual Study Outputs
6. Personal Knowledge Notebooks

Consensus

1. Scientific Literature Search
2. Medical Mode
3. Study Filters
4. Research Agent
5. Deep Review
6. Full-Text Interaction

Elicit

1. Literature Discovery
2. Research Questions
3. Study Screening
4. Evidence Extraction
5. Literature Synthesis
6. Systematic-Review-Oriented Workflows

Perplexity

1. AI Search
2. Pro Search
3. Research Mode
4. Source Exploration
5. File-Based Research

Selecting a Research Tool

1. Rapid Orientation
2. Evidence Discovery
3. Literature Comparison
4. Guideline Exploration
5. Source-Grounded Investigation
6. Deeper Evidence Synthesis

7. Working with Medical Documents and Knowledge

Guidelines and Protocols

1. Guideline Summarisation
2. Recommendation Extraction
3. Comparison Across Guidelines
4. Version and Date Awareness

Medical Literature

1. Paper Summarisation
2. Methods Review
3. Population and Intervention Extraction
4. Outcome Identification
5. Limitation Identification

Creating Structured Knowledge

1. Reference Tables
2. Topic Summaries
3. Decision-Support Reference Material
4. Teaching Notes
5. Departmental Knowledge Collections

8. Introducing AI Agents

Chatbots versus Agents

1. Conversation
2. Tools
3. Planning
4. Actions
5. Multi-Step Tasks

Appropriate Agentic Work

1. Research Tasks
2. Information Collection
3. Document Production
4. Data Organisation
5. Repetitive Administrative Work

Agent Risk and Control

1. Permissions
2. Autonomous Actions
3. Confirmation Requirements
4. Data Exposure
5. Human Review

9. Manus for Agentic Workflows

Manus Working Environment

1. Chat Mode
2. Agent Mode
3. Files
4. Web Research
5. Multi-Step Tasks

Manus Projects and Instructions

1. Task Context
2. Shared Instructions
3. Reusable Workflows
4. Persistent Work Organisation

Manus Connectors

1. External Information Sources
2. Document and Data Retrieval
3. Connected Services
4. Permissions

Building with Manus

1. Websites
2. Simple Web Applications
3. Information Dashboards
4. Search Interfaces
5. Internal Reference Tools

Manus Agents

1. Specialized Agent Purpose
2. Persistent Conversations
3. Task Delegation
4. Connected Workflows

Physician-Oriented Manus Systems

1. Departmental Reference Portal
2. Guideline Lookup Interface
3. Research Information Organizer
4. Medical Teaching Resource System
5. Professional Knowledge Assistant

10. Creating Personalized AI Assistants

Defining the Assistant

1. Purpose
2. Intended Users
3. Permitted Tasks
4. Prohibited Tasks
5. Knowledge Boundaries

Building the Knowledge Layer

1. Approved Documents
2. Guidelines
3. Departmental Procedures
4. Reference Material
5. Source Currency

Building the Instruction Layer

1. Identity and Role
2. Response Rules
3. Information Hierarchy
4. Output Formatting
5. Escalation Rules
6. Uncertainty Handling

Building the Interaction Layer

1. Natural-Language Questions
2. Structured Lookups
3. Filters and Categories
4. Follow-Up Questions
5. Source Display

Platform Approaches

1. ChatGPT Projects and Plugins
2. Claude Projects and Skills
3. Claude Artifacts
4. Manus Agents
5. Manus Web Applications
6. Gemini Notebook Knowledge Collections

11. Creating a Source-Grounded Medical Lookup System

Information Scope

1. Approved Knowledge Sources

2. Inclusion Criteria
3. Exclusion Criteria
4. Update Responsibility

Knowledge Organisation

1. Document Collections
2. Topic Classification
3. Searchable Content
4. Metadata
5. Version Management

Retrieval and Response Behaviour

1. Question Interpretation
2. Source Retrieval
3. Source-Based Answering
4. Reference Display
5. Missing-Information Handling

Safety Controls

1. No-Source Response Behaviour
2. Uncertainty Statements
3. Citation Requirements
4. Restricted Clinical Recommendations
5. Physician Verification

Testing the System

1. Expected Questions
2. Ambiguous Questions
3. Unsupported Questions
4. Conflicting Sources
5. Outdated Sources
6. Failure Testing

12. Everyday AI Workflows for Doctors

1. Professional Correspondence
2. Committee and Administrative Work
3. Meeting Information
4. Policy and Document Review
5. Research Preparation

6. Teaching Material Development
7. Presentation Preparation
8. Patient-Education Drafting
9. Continuing Professional Development
10. Personal Knowledge Management

13. Verification and Critical Evaluation

Verification Before Reliance

1. Claims
2. References
3. Dates
4. Dosages
5. Statistics
6. Guidelines

Evaluating Evidence Quality

1. Study Design
2. Population
3. Recency
4. Primary versus Secondary Sources
5. Conflicting Evidence

Recognising AI Failure Patterns

1. Plausible Fabrication
2. Citation Mismatch
3. Loss of Context
4. Excessive Generalisation
5. False Precision
6. Unwarranted Certainty

14. Developing the Doctor's Personal AI Environment

1. Selecting Core Platforms
2. Separating Low-Risk and High-Risk Tasks
3. Building Reusable Prompt Libraries
4. Creating Knowledge Projects
5. Creating Specialized Assistants

6. Maintaining Trusted Reference Collections
7. Reviewing Connected Applications
8. Updating AI Workflows as Tools Change
9. Maintaining Human Oversight

Course Scope

This is intentionally a **three-day applied programme rather than a catalogue of AI products**. ChatGPT, Claude and Manus receive the greatest attention because together they expose participants to conversational AI, source-based research, persistent knowledge environments, reusable instructions, interactive outputs and agentic workflows.

Gemini Notebook, Consensus, Elicit and Perplexity are introduced where they provide a distinctly useful capability, particularly around source-grounded information and scientific research. Participants are not expected to master every advanced function.

The personalized-assistant component is also deliberately kept achievable. Participants should understand how to configure an AI system around a defined body of professional knowledge and create a useful reference or lookup workflow, but they will **not** be expected to learn software engineering, API development, database administration or production clinical-system integration within three days.

The intended progression is therefore:

AI user → competent prompter → evidence-conscious researcher → contextual AI user → builder of a simple personalized AI workflow.

That is a realistic level of advancement for medical professionals within three days without overwhelming participants or sacrificing the safety and verification principles that medical use demands.

Disclaimer

This course outline is provided as a structured framework for the planning and delivery of professional training and should not be interpreted as a fixed or exhaustive curriculum. Artificial-intelligence products, interfaces, availability and capabilities change frequently. The trainer therefore reserves the right to amend, substitute, reorder, expand, reduce or omit any topic, platform or activity where reasonably necessary to reflect technological developments, participant requirements, organisational policies, available subscriptions, regulatory considerations or instructional time. Such modifications may be made without prior notice where, in the trainer's professional judgment, they improve the relevance, safety or effectiveness of the programme.

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