4TH YEAR · ADVANCED TRACK

SCIENCE, AGRICULTURE & ENVIRONMENT

AI & Digital Productivity Program

AI for Scientific Research, Field Impact & Science Communication

From Lab Notes to Real-World Impact.

19	120	1
DAYS	HOURS	REAL CLIENT

Science, Agriculture & Environment Stream · 120-Hour Training Program · 19 Days

SECTION 1

Program Overview

This Advanced Track is for final-year Science, Agriculture & Environment students preparing for final-year projects, higher studies and careers. Students already know the core tools from the Foundation Track, so this program does not re-teach them. Every day is built around a realistic Science, Agriculture & Environment brief: students choose their own tools, produce work a real person would use, and defend their choices.

HOW THIS TRACK WORKS

The Advanced Track is **outcome-centred**, not tool-centred. Each day opens with a short concept session, then moves to a brief. Students who explored more in 3rd year are rewarded with **Advanced Tier** versions of every challenge. The program ends with a **team project for a real client**.

Fresh batch? If students did not complete the Foundation Track, use the Day 1 Skill Check to find gaps and assign the matching Foundation home assignments (Days 1, 3, 7 and 8) as a catch-up kit. For two-year programmes (e.g. M.Sc., M.Com., MBA, B.Ed.), run the Foundation Track in Year 1 and the Advanced Track in Year 2.

TARGET AUDIENCE

B.Sc. / M.Sc. Physics, Chemistry, Mathematics, Statistics, Botany, Zoology, Biotechnology, Microbiology; B.Sc. Agriculture, Horticulture, Forestry; Environmental Science

ENTRY REQUIREMENTS

Completion of the 3rd Year Foundation Track recommended. No coding required.

Learning Objectives

01 Design reusable, multi-step AI prompt systems.

02 Build evidence maps that handle conflicting sources.

03 Create and test a custom AI assistant without coding.

04 Critically analyse Research Papers & Scientific Reports with AI, knowing its limits.

05 Use AI responsibly for final-year projects, literature reviews and citations.

06 Audit AI for bias, misinformation and copyright risks in Science, Agriculture & Environment.

07 Design mixed-methods research under India's DPDP Act.

08 Analyse numbers and interviews and publish interactive dashboards.

09 Design team workflows with simple automation.

10 Build no-code websites and apps.

11 Produce podcasts and mini-documentaries with AI media tools.

12 Plan for higher studies, exams and jobs, and deliver a real client project.

SECTION 2

Program Structure

Phase	Days	Daily Load	Hours
Classroom Training	Days 1–15	4 hrs/day	**60**
Home Assignments	Days 1–15	2 hrs/day	**30**
Team Client Project	Days 16–18	8 hrs/day	**24**
Client Showcase & Exhibition	Day 19	6 hrs	**6**
Total	19 Days		**120 Hours**

Learning Journey

1	PHASE 1 **Level Up: Advanced AI Workflows**	Days 1–3
2	PHASE 2 **Critical Thinking with AI**	Days 4–6
3	PHASE 3 **Research, Data & Insight**	Days 7–9
4	PHASE 4 **Building & Creating**	Days 10–12
5	PHASE 5 **Career Launch & Client Project**	Days 13–19

DAILY FORMAT
4 hours classroom training + 2 hours home assignment, Days 1–15.

ADVANCED TIER
A harder version of every brief, assigned from the Day 1 Skill Check or chosen by students who want more.

EXPECTED OUTPUT
Every day ends with a concrete deliverable that feeds the final portfolio.

RESPONSIBLE AI RULES FOR SCIENCE, AGRICULTURE & ENVIRONMENT

- Never fabricate, fill in or 'clean up' experimental or field data with AI. Keep an unchanged copy of raw data.
- Check every AI-generated formula, unit, species name and citation against the original source.
- AI is not a reliable crop-disease, yield or weather predictor. Verify with ICAR, KVK and IMD.
- Label AI-generated scientific images as illustrative, not real observations.

DAY 01

PHASE 1 · LEVEL UP: ADVANCED AI WORKFLOWS

Skill Check & Advanced Prompt Systems

4 HRS CLASSROOM · 2 HRS HOME | BUILDS ON 3RD YEAR DAY 1 (PROMPTING BASICS)

LEARNING OBJECTIVE Measure each student's starting level, then move from single prompts to structured, reusable prompt systems.

HOUR 1

The Skill Check (diagnostic)

- A timed mixed challenge on research, NotebookLM, Docs, Canva and Sheets.
- Self-rating against a skills checklist.
- Results decide Standard or Advanced Tier challenges.

HOUR 2

Advanced Prompt Structures

- Role, context, constraints, examples and output format together.
- Few-shot prompting: teaching AI with examples.
- Asking AI to question you before it answers.

HOUR 3

Prompt Chaining & Iteration

- Breaking a big task into a chain of prompts.
- Self-critique and refinement prompts.
- Comparing ChatGPT, Gemini and Claude on the same chain.

HOUR 4 · PRACTICAL BRIEF

The Science Explainer Template

- Design a prompt chain that explains any scientific topic with sources.
- Test it on topics from three different subjects.
- Fix what breaks and document the final version.

ADVANCED TIER

Make the template output a correct version for a Class 8 reader and a researcher by changing one variable.

TOOLS

ChatGPT, Gemini, Claude

HOME ASSIGNMENT · 2 HOURS

- Build a library of five tested templates: paper summary, method critique, lab report, concept explainer, data interpretation.

EXPECTED OUTPUT

Scientific Prompt Library

DAY 02

PHASE 1 · LEVEL UP: ADVANCED AI WORKFLOWS

Deep Research & Evidence Mapping

4 HRS CLASSROOM · 2 HRS HOME | BUILDS ON 3RD YEAR DAY 2 (RESEARCH & VERIFICATION)

LEARNING OBJECTIVE Run structured research that handles conflicting sources and reaches evidence-based conclusions.

HOUR 1

Research Planning

- Turning a broad topic into a main question and sub-questions.
- Choosing the right source type for each question.
- AI deep-research modes and their limits.

HOUR 2

Evaluating Sources

- Domain sources: Google Scholar, PubMed, NCBI, arXiv, Shodhganga, ICAR / KVK, IMD, CPCB, data.gov.in.
- Author, purpose, date, evidence and bias.
- Lateral reading; spotting fabricated AI citations.

HOUR 3

Handling Conflicting Claims

- Mapping agreement and disagreement.
- Weighing evidence quality, not quantity.
- Writing balanced conclusions with stated uncertainty.

HOUR 4 · PRACTICAL BRIEF

Evidence Map on a Debated Science Question

- Investigate a debated question (e.g. organic vs conventional yield, microplastics in food).
- Map claims, supporting and opposing studies.
- Present a conclusion with uncertainty.

ADVANCED TIER

Add one primary dataset (e.g. from data.gov.in or IMD) that sharpens one claim.

TOOLS

Perplexity, Google Scholar, ChatGPT / Gemini deep research, diagrams.net

HOME ASSIGNMENT · 2 HOURS

- Expand the map into a 2-page research brief with eight verified sources.

EXPECTED OUTPUT

Evidence Map + Research Brief

DAY 03

PHASE 1 · LEVEL UP: ADVANCED AI WORKFLOWS

Build Your Own AI Assistant (No Code)

4 HRS CLASSROOM · 2 HRS HOME | NEW IN 4TH YEAR

LEARNING OBJECTIVE Create a custom AI assistant grounded in chosen materials, with clear instructions, limits and testing.

HOUR 1

How Custom Assistants Work

- Instructions, knowledge files and grounding.
- Gemini Gems, NotebookLM and Custom GPTs (where available).
- Why grounded assistants still make mistakes.

HOUR 2

Designing the Assistant

- Purpose, audience and tone.
- Writing instructions and boundaries.
- Preparing reliable source material.

HOUR 3

Testing & Improving

- A test set of normal, tricky and off-topic questions.
- Scoring accuracy and source use.
- Revising instructions from failures.

HOUR 4 · PRACTICAL BRIEF

Subject Tutor Bot

- Build a Gem or NotebookLM assistant grounded on one syllabus paper or a KVK advisory set.
- Run a 15-question test set and score it.
- Demo it live.

ADVANCED TIER

Add a 'refuse and redirect' rule for questions outside its sources and prove it works.

TOOLS

Gemini Gems, NotebookLM, Custom GPTs (where available)

HOME ASSIGNMENT · 2 HOURS

- Polish the assistant and write a one-page user guide with known limits.

EXPECTED OUTPUT

Custom Science AI Assistant

DAY 04

PHASE 2 · CRITICAL THINKING WITH AI

Critical Analysis of Research Papers & Scientific Reports with AI

4 HRS CLASSROOM · 2 HRS HOME | BUILDS ON 3RD YEAR DAY 3 (DOCUMENT INTELLIGENCE)

LEARNING OBJECTIVE Use AI to compare and critique Research Papers & Scientific Reports while recognising where AI analysis falls short.

HOUR 1

Human Reading vs AI Reading

- What AI does well: patterns, summaries, extraction.
- What it misses: context, nuance, judgement.
- Using AI as a second reader, not the first.

HOUR 2

Comparative Analysis

- Comparing two or more documents side by side.
- Extracting recurring points and differences.
- Comparison tables with source-grounded evidence.

HOUR 3

Testing AI Interpretations

- Checking every AI claim against the source.
- Spotting invented quotes, figures and citations.
- Writing your own judgement where AI is shallow.

HOUR 4 · PRACTICAL BRIEF

Paper Critique Lab

- Compare two papers on the same question: methods, sample, results.
- Ask AI for a critique, then check each point.
- Write your own critique where AI is weak.

ADVANCED TIER

Spot one statistical or methodological weakness the AI missed.

TOOLS

NotebookLM, Claude, ChatGPT, Google Docs

HOME ASSIGNMENT · 2 HOURS

- Write a 1,000-word critical review of a research paper with an appendix of rejected AI claims.

EXPECTED OUTPUT

Critical Paper Review

DAY 05

PHASE 2 · CRITICAL THINKING WITH AI

AI for Final-Year Projects & Academic Writing

4 HRS CLASSROOM · 2 HRS HOME | NEW IN 4TH YEAR

LEARNING OBJECTIVE Use AI responsibly to plan and support a final-year research project or dissertation, lab report and scientific paper.

HOUR 1

Planning the Project

- Choosing and narrowing a topic with AI brainstorming.
- Research questions, scope and chapter structure.
- A realistic timeline.

HOUR 2

Literature Review with AI

- Finding and grouping related studies.
- Summarising papers with NotebookLM.
- OCR for scanned material (LightPDF / iLovePDF / Google Lens).

HOUR 3

Citations & Integrity

- Zotero for references; APA / MLA basics.
- Verifying every AI-suggested reference exists.
- QuillBot and where paraphrasing becomes plagiarism; AI-use disclosure.

HOUR 4 · PRACTICAL BRIEF

Dissertation Proposal Sprint

- Narrow a research topic and frame research questions.
- Build a ten-source Zotero library.
- Draft the chapter plan with an AI-use disclosure.

ADVANCED TIER

Produce a literature map grouping ten sources into themes and showing your gap.

TOOLS

NotebookLM, Google Scholar, Zotero, QuillBot, LightPDF / iLovePDF, ChatGPT

HOME ASSIGNMENT · 2 HOURS

- Prepare a dissertation proposal pack: title, questions, methods, chapter plan, bibliography, disclosure.

EXPECTED OUTPUT

Dissertation Proposal Pack

DAY 06

PHASE 2 · CRITICAL THINKING WITH AI

AI Ethics, Bias & Misinformation

4 HRS CLASSROOM · 2 HRS HOME | NEW IN 4TH YEAR

LEARNING OBJECTIVE Examine how AI can mislead, exclude or harm in Science, Agriculture & Environment, and how to use it responsibly.

HOUR 1

Bias in AI

- Where bias comes from: data and design choices.
- Risks in Science, Agriculture & Environment: hallucinated formulas and citations, pseudoscience, over-confident crop or weather predictions.
- Under-representation of Indian and local contexts.

HOUR 2

Deepfakes & Misinformation

- AI-generated images, audio and video.
- Verification: Google Lens, reverse image search, metadata, context.
- How misinformation spreads.

HOUR 3

Copyright, Privacy & Consent

- Ownership of AI-generated content.
- Using other people's images, voices and data.
- Privacy when uploading material to AI.

HOUR 4 · PRACTICAL BRIEF

Science Misinformation Audit

- Test AI tools with prompts on vaccines, GM crops or climate.
- Record errors, bias and missing context.
- Fact-check one viral science image.

ADVANCED TIER

Publish a short verification thread explaining each fact-check step.

TOOLS

ChatGPT, Gemini, image generators, Google Lens / reverse image search

HOME ASSIGNMENT · 2 HOURS

- Write an audit report with evidence and a personal Responsible Science AI charter.

EXPECTED OUTPUT

AI Science Audit Report

DAY 07

PHASE 3 · RESEARCH, DATA & INSIGHT

Research Design & Data Collection

4 HRS CLASSROOM · 2 HRS HOME | BUILDS ON 3RD YEAR DAY 8 (SURVEYS)

LEARNING OBJECTIVE Design research that combines surveys with interviews, with proper sampling, ethics and data protection.

HOUR 1

Research Design

- Quantitative, qualitative and mixed methods.
- Matching methods to research questions.
- Sampling basics and their limits.

HOUR 2

Advanced Instruments

- Likert scales, branching logic and validation in Google Forms.
- Semi-structured interview guides.
- Pilot testing and fixing weak questions.

HOUR 3

Ethics & Data Protection

- Informed consent and anonymity.
- India's DPDP Act 2023: collect less, store safely, delete on time.
- Free transcription: Otter.ai free tier, Docs voice typing.

HOUR 4 · PRACTICAL BRIEF

Field Study Instrument Kit

- Plan a mixed-methods study (e.g. farmer practices, campus water use).
- Build a branching survey and an interview guide.
- Pilot both and revise.

ADVANCED TIER

Add a one-page data-protection note following DPDP principles.

TOOLS

Google Forms, Otter.ai (free tier), Google Docs voice typing, ChatGPT

HOME ASSIGNMENT · 2 HOURS

- Collect 20 responses and two consented interviews, plus any measurements.

EXPECTED OUTPUT

Field Research Kit + Data

DAY 08

PHASE 3 · RESEARCH, DATA & INSIGHT

AI-Assisted Data Analysis & Insight Generation

4 HRS CLASSROOM · 2 HRS HOME | BUILDS ON 3RD YEAR DAYS 7 & 9 (SPREADSHEETS, CHARTS)

LEARNING OBJECTIVE Analyse numbers and interviews, using AI to assist while verifying every conclusion.

HOUR 1

Cleaning & Preparing Data

- Fixing inconsistent responses and missing values.
- Coding open-ended answers into categories.
- Documenting every cleaning step.

HOUR 2

Quantitative Analysis

- Pivot tables and group comparisons.
- Cross-tabulation of two variables.
- Correlation vs causation.

HOUR 3

Qualitative Analysis with AI

- Thematic coding of transcripts.
- AI-suggested themes checked against quotes.
- Combining numbers and voices into findings.

HOUR 4 · PRACTICAL BRIEF

Field Data Insight Report

- Clean and code your Day 7 data without altering raw values.
- Use pivot tables and cross-tabs.
- Code interview themes with AI and verify with quotes.

ADVANCED TIER

Find one place where AI overstated a conclusion from your data.

TOOLS

Google Sheets / Excel pivot tables, ChatGPT, Gemini, NotebookLM

HOME ASSIGNMENT · 2 HOURS

- Write a 3-page insight report: methods, findings, limitations, recommendations.

EXPECTED OUTPUT

Field Insight Report

DAY 09

PHASE 3 · RESEARCH, DATA & INSIGHT

Data Storytelling & Interactive Dashboards

4 HRS CLASSROOM · 2 HRS HOME | BUILDS ON 3RD YEAR DAY 9 (DATA VISUALISATION)

LEARNING OBJECTIVE Turn findings into interactive visual stories that combine data with human context.

HOUR 1

Data Storytelling

- The one finding that matters most.
- Story arc: context, tension, insight, action.
- Pairing charts with real voices.

HOUR 2

Honest Visualisation

- Misleading axes and cherry-picking.
- Accessible colour and labelling.
- Annotated charts that explain themselves.

HOUR 3

Interactive Tools

- Looker Studio dashboards on Google Sheets.
- Flourish interactive charts and maps.
- Napkin AI for turning written findings into visuals.

HOUR 4 · PRACTICAL BRIEF

Environmental Data Story

- Build a Looker Studio dashboard from your data or open environmental data.
- Annotate key charts.
- Present the story in three minutes.

ADVANCED TIER

Add a district-level map in Flourish.

TOOLS

Looker Studio, Flourish, Napkin AI, Google Sheets

HOME ASSIGNMENT · 2 HOURS

- Publish the data story as a shareable link with three annotated visuals.

EXPECTED OUTPUT

Published Data Story

DAY 10

PHASE 4 · BUILDING & CREATING

Multi-Tool Workflow Design & Automation

4 HRS CLASSROOM · 2 HRS HOME | NEW IN 4TH YEAR

LEARNING OBJECTIVE Design and run a complete workflow that connects research, analysis, design and delivery, with simple automation.

HOUR 1

Thinking in Workflows

- Research Analysis Organisation Design Delivery.
- Stages, inputs, outputs and handoffs.
- Picking the right tool for each stage.

HOUR 2

Team Collaboration

- Shared folders, naming conventions and versions.
- Comments, suggestion mode and version history.
- Running meetings on Google Meet.

HOUR 3

Automation & Quality Control

- Zapier (free tier): e.g. Form Sheet email alert.
- Human review checkpoints for AI output.
- Checklists for accuracy and tone.

HOUR 4 · PRACTICAL BRIEF

The Lab-to-Leaflet Sprint

- Teams turn a research finding into a farmer or school leaflet in 3 hours.
- Map the workflow and handoffs.
- Automate one step with Zapier (e.g. Form Sheet email).

ADVANCED TIER

Add a human-review checkpoint log for every AI step.

TOOLS

Google Drive, Google Meet, Zapier (free tier), Napkin AI, diagrams.net, Notion

HOME ASSIGNMENT · 2 HOURS

- Document the workflow as an SOP another team can follow.

EXPECTED OUTPUT

Workflow SOP + Diagram

DAY 11

PHASE 4 · BUILDING & CREATING

No-Code Digital Solution Building

4 HRS CLASSROOM · 2 HRS HOME | NEW IN 4TH YEAR

LEARNING OBJECTIVE Build a useful digital resource such as a website or simple app without programming.

HOUR 1

Information Architecture

- Organising information for users.
- Sitemaps, navigation and page hierarchy.
- Writing for the web: short and scannable.

HOUR 2

User Experience Basics

- Who is the user and what do they need first?
- Mobile-first design.
- Accessibility: readable text, alt text, contrast.

HOUR 3

Building the Solution

- Google Sites for websites.
- Glide for simple apps from Google Sheets.
- Notion as a public resource page.

HOUR 4 · PRACTICAL BRIEF

Science Resource Website or App

- Build a lab manual site, biodiversity guide or crop advisory app.
- At least three linked pages or screens.
- Test it on a phone with a classmate.

ADVANCED TIER

Embed your Day 3 assistant or Day 9 dashboard.

TOOLS

Google Sites, Glide, Notion, Canva

HOME ASSIGNMENT · 2 HOURS

- Complete the resource with five pages and feedback from two real users.

EXPECTED OUTPUT

Live No-Code Science Resource

DAY 12

PHASE 4 · BUILDING & CREATING

Narrative Media: Podcasts & Mini-Documentaries

4 HRS CLASSROOM · 2 HRS HOME | BUILDS ON 3RD YEAR DAY 11 (SHORT VIDEO)

LEARNING OBJECTIVE Move from short clips to longer narrative media built on research and real voices.

HOUR 1

Narrative Structure

- Non-fiction story structure: hook, journey, resolution.
- Interviews as storytelling.
- Designing for a specific audience.

HOUR 2

Podcast Production

- Episode planning and scripting with AI.
- Recording on a phone; cleaning audio in Audacity.
- ElevenLabs voice and Suno music, always disclosed.

HOUR 3

Mini-Documentary Production

- Storyboards and shot lists.
- B-roll, Google Flow / Kling clips and permissions.
- Subtitles and bilingual versions with Bhashini.

HOUR 4 · PRACTICAL BRIEF

Science Podcast or Mini-Doc Pitch

- Pitch a 3–5 minute podcast or documentary on a local science or environmental issue.
- Present script, storyboard and interview plan.
- Lock the plan after feedback.

ADVANCED TIER

Produce a bilingual version with Bhashini-assisted subtitles.

TOOLS

CapCut, Clipchamp, Canva Video, Audacity, ElevenLabs, Suno, Google Flow / Kling AI, Bhashini

HOME ASSIGNMENT · 2 HOURS

- Produce the episode or mini-doc with at least one consented interview.

EXPECTED OUTPUT

Science Podcast / Mini-Documentary

DAY 13

PHASE 5 · CAREER LAUNCH & CLIENT PROJECT

Higher Studies & Competitive Exam Preparation

4 HRS CLASSROOM · 2 HRS HOME | NEW IN 4TH YEAR

LEARNING OBJECTIVE Use AI strategically to plan the next step after graduation: further study or competitive exams.

HOUR 1

Mapping Your Options

- Exams and programmes: IIT JAM, CUET-PG, CSIR-NET, GATE, ICAR AIEEA-PG / JRF, state agriculture officer exams.
- Eligibility, timelines and patterns.
- Comparing programmes with AI-assisted research.

HOUR 2

Applications & SOPs

- Structure of a strong Statement of Purpose.
- AI feedback without losing your voice.
- Requesting recommendation letters.

HOUR 3

AI for Exam Preparation

- A study plan with milestones.
- Practice questions and answer-writing with AI.
- Verifying facts against official sources.

HOUR 4 · PRACTICAL BRIEF

My Science Next-Step Plan

- Choose higher studies, an exam (JAM, NET, GATE, ICAR) or both.
- Build a 6-month plan with milestones.
- Draft your SOP or exam strategy.

ADVANCED TIER

Run a 10-minute AI mock interview as an admissions panel.

TOOLS

ChatGPT, Gemini, Perplexity, NotebookLM, Notion

HOME ASSIGNMENT · 2 HOURS

- Finalise the SOP or strategy and build a NotebookLM revision notebook for one subject.

EXPECTED OUTPUT

Next-Step Plan + SOP Draft

DAY 14

PHASE 5 · CAREER LAUNCH & CLIENT PROJECT

Jobs, Freelancing & Portfolio of Real Work

4 HRS CLASSROOM · 2 HRS HOME | BUILDS ON 3RD YEAR DAY 14 (RESUME & LINKEDIN)

LEARNING OBJECTIVE Get job-ready: tailor applications to real postings, start freelancing and show real work.

HOUR 1

Careers in the AI Era

- Roles for Science, Agriculture & Environment graduates: research assistant, lab and QC roles, agri-extension, environmental consultancy, science communication.
- Skills AI changes and skills it makes more valuable.
- Skill-gap analysis against real job descriptions.

HOUR 2

Freelancing & Pitching

- Freelance services, pricing, proposals and contracts.
- Platforms, safety and avoiding scams.
- Your 60-second pitch and handling tough questions.

HOUR 3

Portfolio of Real Work

- Turning projects from both years into case studies.
- Problem process result.
- Publishing on Google Sites or Notion.

HOUR 4 · PRACTICAL BRIEF

Apply for a Real Science Role

- Pick a real internship or job posting in research, QC or agri-extension.
- Tailor resume and cover letter.
- Face an AI mock interview and a peer panel.

ADVANCED TIER

Send one real application or freelance science-writing proposal after review.

TOOLS

ChatGPT, Gemini, LinkedIn, Google Sites, Notion, Canva

HOME ASSIGNMENT · 2 HOURS

- Publish a portfolio with three case studies from both years.

EXPECTED OUTPUT

Portfolio + Tailored Application

DAY 15

PHASE 5 · CAREER LAUNCH & CLIENT PROJECT

Client Brief & Team Project Planning

4 HRS CLASSROOM · 2 HRS HOME | UPGRADE OF 3RD YEAR DAY 15 (INDIVIDUAL PROJECT)

LEARNING OBJECTIVE Form teams, meet a real client, understand their need and plan a deliverable they will actually use.

HOUR 1

Meeting the Client

- Clients such as school science departments, college labs, Krishi Vigyan Kendras, farmer producer organisations, eco-clubs, environmental NGOs.
- Running a requirements interview.
- Client emails in Gmail: updates, meeting notes, scheduled send.

HOUR 2

Scoping the Project

- In scope and out of scope.
- Deliverables, quality standards and success criteria.
- Risks and how to handle them.

HOUR 3

Team Planning

- Roles: research, content, design, project manager.
- A three-day plan with daily checkpoints.
- Shared workspace in Drive or Notion.

HOUR 4 · PRACTICAL BRIEF

The Client Pitch

- Structure the pitch: problem, plan, value; rehearse client Q&A.
- Pitch to the client and instructor; get an e-signed approval or requested changes.
- Update the plan the same day.

ADVANCED TIER

Prepare a one-page handover plan: how the client will maintain the deliverable after the program.

TOOLS

Gmail, Google Meet, Google Docs, LightPDF (e-sign), Notion, Trello

HOME ASSIGNMENT · 2 HOURS

- Write the approved project charter: client, problem, scope, deliverables, roles, timeline and success criteria.

EXPECTED OUTPUT

Signed-Off Project Charter

DAYS 16–18

Team Client Project

Teams of 3–5 work for three full days on the project approved by their client on Day 15. Each day starts with a stand-up and ends with a check-in.

DAY 16

8 HOURS · TEAM

Research & Client Foundation

Build the research and content foundation for the client deliverable.

- Morning stand-up: confirm roles and targets.
- Research and verify everything the client needs.
- Collect permissions; store any personal data safely (DPDP).
- Build the shared knowledge base and outline.
- Evening check-in with client or mentor.

DELIVERABLES

- Verified research base
- Permissions log
- Content outline
- Updated plan

DAY 17

8 HOURS · TEAM

Build & Integrate

Produce the main deliverable and integrate all components.

- Create the core deliverable.
- Integrate data, visuals and writing.
- Run internal quality checkpoints.
- Send the client a progress email and working draft.
- Log feedback and agree on changes.

DELIVERABLES

- Working prototype
- Client feedback log
- Supporting materials

DAY 18

8 HOURS · TEAM

Client Feedback, Refinement & Handover

Apply client feedback and prepare a usable handover.

- Apply the agreed changes.
- Final fact-check, proofreading and accessibility check.
- Test with real users where possible.
- Prepare the handover pack and user guide.
- Rehearse the final showcase.

DELIVERABLES

- Final deliverable
- Handover pack & user guide
- Showcase presentation

DAY 19 · 6 HOURS

Client Showcase & Final Exhibition

30 min	Welcome, registration and team setup
45 min	Exhibition and gallery walk (clients invited)
3 hr 15 min	Team presentations, live demos and client Q&A
45 min	Evaluation, client feedback and reflection
45 min	Recognition, certificates and handover to clients

PRESENTATION FORMAT

Each team: 8 minutes presentation, 5 minutes live demo, 5 minutes questions from the client and panel. For larger batches, run parallel panels.

Each Team Demonstrates

01 The client and their problem	**02** Research process and evidence	**03** AI and digital workflow
04 The final deliverable, live	**05** Client feedback and response	**06** Handover and future impact

SECTION 3

Suggested Client Projects

Each team delivers a project for a real client. Final scope is agreed with the client on Day 15.

PROJECT 01

KVK Crop Advisory Kit

Verified advisories for a Krishi Vigyan Kendra in a local language.

Deliverables: Leaflets, short videos, Glide app, source log

PROJECT 02

School Science Lab Guide

A digital lab guide for a partner school.

Deliverables: Website, safety posters, experiment videos, teacher notes

PROJECT 03

Campus Environment Dashboard

An audit of campus waste, water or energy for the college.

Deliverables: Mixed-methods report, Looker Studio dashboard, recommendations

PROJECT 04

Biodiversity Mobile Guide

A mobile guide to local flora and fauna.

Deliverables: Glide app, verified species pages, photo archive

PROJECT 05

Science Communication Podcast

A podcast series for an eco-club or science society.

Deliverables: Three episodes, transcripts, show notes, consent records

PROJECT 06

Water-Quality Awareness Campaign

A campaign for a village or ward with an NGO.

Deliverables: Survey insights, posters, video, handover guide

PROJECT 07

Research Group Website

A website for a college research lab.

Deliverables: Site, publication list, AI assistant on lab protocols

YOUR OWN IDEA

Propose Your Own

Students may propose an original project, subject to instructor and client approval on Day 15.

SECTION 4

Assessment & Evaluation

Classroom briefs & participation	10%
Daily home assignments	20%
Project charter & planning	10%
Final deliverable quality & usefulness	35%
Client / user feedback	10%
Showcase presentation & teamwork	15%
Total	**100%**

Final Project Evaluation Criteria

Real value to the client or users	Depth and accuracy of research	Thoughtful choice and integration of tools	Critical, responsible use of AI
Quality and polish of the deliverable	Response to feedback	Teamwork and communication	

Tools Covered

Category	Tools	Category	Tools
AI Assistants	ChatGPT, Gemini, Claude	**Data Analysis**	Sheets / Excel pivot tables
Custom Assistants	Gemini Gems, NotebookLM, Custom GPTs	**Dashboards & Visuals**	Looker Studio, Flourish, Napkin AI
Research	Perplexity, Google Scholar, deep research modes	**Automation**	Zapier (free tier)
References & Writing	Zotero, QuillBot	**No-Code Building**	Google Sites, Glide, Notion
PDF Tools	LightPDF / iLovePDF (OCR, e-sign)	**Media**	CapCut, Clipchamp, Audacity, ElevenLabs, Suno, Flow / Kling
Verification	Google Lens, reverse image search	**Teams**	Google Drive, Meet, Gmail, Notion, Trello
Surveys & Interviews	Google Forms, Otter.ai, Docs voice typing	**Career**	LinkedIn, Google Sites

Tool selection can be adjusted for free-plan availability, institutional access and internet connectivity. No paid subscription should be compulsory for students.

SECTION 5

Expected Program Outcomes

After completing the 120-hour Advanced Track, students should be able to:

1	Design and run multi-step AI workflows for real projects.
2	Build evidence-based arguments from conflicting sources.
3	Create and test a custom AI assistant without coding.
4	Use AI responsibly for final-year academic work.
5	Recognise and audit AI bias, misinformation and privacy risks.
6	Run mixed-methods research and publish interactive data stories.
7	Build no-code digital resources and automate simple workflows.
8	Produce podcasts and mini-documentaries with AI media.
9	Plan for higher studies, competitive exams, freelancing and jobs.
10	Deliver a real project to a real client as part of a team.

Graduates of the Advanced Track leave with a **published portfolio**, a **final-year project plan**, a **career or higher-studies roadmap** and a **real client project** they can talk about in interviews.

4TH YEAR · SCIENCE, AGRICULTURE & ENVIRONMENT · ADVANCED TRACK

From Lab Notes to Real-World Impact.

NO CODING REQUIRED · 120 HOURS · 19 DAYS