20-Day Training Schedule for
Chemistry Summer Internship Programme

AI-Integrated Hands-on Food Adulteration Analysis

❖ ***WEEK 1 — FOUNDATION & RESEARCH BASICS***

Day	Topic	Wet Lab Work	Dry Work / AI-Integrated Work	Outcome
Day 1	Orientation & Introduction	Lab visit, safety rules, glassware handling	Introduction to internship workflow and research basics	Understanding of programme structure
Day 2	Basics of Food Adulteration	Introduction to common adulterants	Introduction to literature review and research documentation	Understanding adulteration concepts
Day 3	Research Fundamentals	Sample collection and labelling	Literature searching and article reading	Research topic understanding
Day 4	Scientific Documentation	Observation recording methods	Research note preparation and referencing	Scientific documentation skills
Day 5	Experimental Design	Preparation of reagents	Designing experimental workflow	Experimental planning
Day 6	Data Recording Methods	Trial qualitative tests	Tabulation and observation sheet preparation	Data recording skills

❖ ***WEEK 2 — HANDS-ON FOOD ANALYSIS***

Day	Topic	Wet Lab Work	Dry Work / AI-Integrated Work	Outcome
Day 7	Sample 1 Analysis	Detection of adulterants in the sample	Recording observations and comparison tables	Analytical skills
Day 8	Sample 2 Analysis	Detection of adulterants in the sample	Literature comparison and interpretation	Comparative analysis
Day 9	Sample 3 Analysis	Detection tests for adulterants	Data tabulation and graph planning	Data organization
Day 10	Sample 4 Analysis	Qualitative testing methods	Preparation of result sheets	Experimental accuracy
Day 11	Sample 5 Analysis	Detection tests for adulterants	Comparative documentation	Research correlation
Day 12	Group Experimental Work	Group-wise experiments	Data compilation and troubleshooting	Team-based research experience

❖ ***WEEK 3 — DATA ANALYSIS & INTERPRETATION***

Day	Topic	Wet Lab Work	Dry Work / AI-Integrated Work	Outcome
Day 13	Data Analysis Basics	Verification experiments	Graph plotting and table preparation	Data visualization
Day 14	Statistical Interpretation	Repetition and validation of tests	Basic statistical calculations	Analytical interpretation
Day 15	Result Interpretation	Comparative analysis	Discussion writing	Scientific interpretation
Day 16	Research Compilation	Final experimental verification	Draft report preparation	Report organization

❖ ***WEEK 4 — REPORT WRITING & PRESENTATION***

Day	Topic	Wet Lab Work	Dry Work / AI-Integrated Work	Outcome
Day 17	Scientific Writing	Final observation review	Article/report writing	Scientific writing skills
Day 18	Presentation Skills	Experimental demonstration	PPT/ preparation	Presentation skills
Day 19	Group Presentation	Demonstration of findings	Seminar/ presentation session	Communication skills
Day 20	Final Submission & Evaluation	Final practical assessment	Submission of report and documentation	Completion of internship project

❖ DAILY TIME SCHEDULE

Time	Activity
9:00 AM – 9:30 AM	Theory Discussion
9:30 AM – 11:45 AM	Wet Lab Experimental Work
11:45 AM – 12:15 PM	Lunch Break
12:15 PM – 1:00 PM	Observation & Documentation AI-Integrated Research / Literature Work
1:00 PM – 2:00 PM	Data Analysis / Report Writing / Discussion
2:00 PM – 3:00 PM	Assignment / Group Work

❖ FINAL OUTPUT OF STUDENTS

At the end of the internship, students will prepare:

- Laboratory observation notebook
- Experimental data sheets
- Comparative analysis tables
- Scientific report/article
- Power point presentations
- Final internship documentation

❖ SKILLS DEVELOPED

- Laboratory handling skills
- Food adulteration testing techniques
- Data analysis and interpretation
- Scientific documentation
- AI-assisted research understanding
- Presentation and teamwork skills