



## 12-MONTH PROFESSIONAL PROGRAMME

# ChatGPT for Data Analysis

## Month 06: Statistical Reasoning

Use ChatGPT to explore, clean, analyse and explain business data through reproducible, carefully validated workflows.

| MONTH   | LESSONS | QUIZZES | ACTIVITIES |
|---------|---------|---------|------------|
| 06 / 12 | 30      | 30      | 60         |

### PROGRAMME DATA CHART



### Module purpose

Develop professional capability in statistical reasoning through strategic analysis, applied labs, quality assurance, risk controls and a portfolio deliverable.

### Professional outcomes

- Connect the module to measurable business value and responsible ownership.
- Complete 30 guided lessons and 30 formative knowledge checks.
- Produce practical portfolio evidence using fictional, public or properly authorised information.
- Apply privacy, security, fairness, validation and human-review controls.

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## 30-lesson professional study plan

Month 06 develops statistical reasoning from strategy through applied practice, assurance and an actionable module plan.

| 01 | <b>Strategic Context</b>             | Connect the topic to a measurable professional outcome          |
|----|--------------------------------------|-----------------------------------------------------------------|
| 02 | <b>Core Concepts</b>                 | Explain the essential concepts and their practical limits       |
| 03 | <b>Professional Terminology</b>      | Use the vocabulary accurately with stakeholders                 |
| 04 | <b>Capability Map</b>                | Distinguish people, process, data and technology capabilities   |
| 05 | <b>Use-Case Discovery</b>            | Identify a valuable and appropriately bounded use case          |
| 06 | <b>Stakeholder Needs</b>             | Analyse users, owners and people affected by the work           |
| 07 | <b>Workflow Mapping</b>              | Map the current process before introducing a                    |
| 08 | <b>Data Readiness</b>                | Assess quality, access, provenance and permitted use of data    |
| 09 | <b>Privacy and Security</b>          | Apply proportionate privacy and security controls               |
| 10 | <b>Prompt and Instruction Design</b> | Create clear instructions, context and output requirements      |
| 11 | <b>Tool Configuration</b>            | Configure a scalable tool without relying on unsafe defaults    |
| 12 | <b>Structured Outputs</b>            | Produce consistent outputs that people and systems can validate |
| 13 | <b>Guided Skills Lab</b>             | Complete a controlled hands-on exercise                         |
| 14 | <b>Comparative Tool Lab</b>          | Compare approaches using consistent success criteria            |
| 15 | <b>Professional Case Study</b>       | Apply the method to a realistic business scenario               |
| 16 | <b>Quality Rubric</b>                | Define accuracy, relevance, clarity and acceptance criteria     |
| 17 | <b>Validation and Fact-Checking</b>  | Verify important claims against dependable evidence             |
| 18 | <b>Bias and Inclusion Review</b>     | Identify unfair outcomes and improve accessibility              |
| 19 | <b>Failure-Mode Analysis</b>         | Test ambiguity, edge cases and predictable breakdowns           |
| 20 | <b>Risk and Control Design</b>       | Match controls to impact, likelihood and reversibility          |
| 21 | <b>Human Review and Approval</b>     | Assign accountable review and escalation decisions              |
| 22 | <b>Team Collaboration</b>            | Coordinate roles, handoffs and shared standards                 |
| 23 | <b>Performance Metrics</b>           | Measure quality, time, cost, adoption and outcomes              |
| 24 | <b>Value and ROI</b>                 | Build a realistic value case with explicit assumptions          |
| 25 | <b>Integration Blueprint</b>         | Connect the work safely to existing business systems            |
| 26 | <b>Scenario Simulation</b>           | Rehearse normal, difficult and failure scenarios                |
| 27 | <b>Troubleshooting Clinic</b>        | Diagnose weak outputs and improve the underlying design         |
| 28 | <b>Portfolio Deliverable</b>         | Create evidence of professional capability                      |
| 29 | <b>Professional Review</b>           | Present the work for structured peer or manager feedback        |
| 30 | <b>Module Action Plan</b>            | Define next steps, ownership and measures for improvement       |

## 30 interactive knowledge checks

Choose the most professional answer. An answer key and application guidance follow the questions.

### 01. What is the strongest professional approach to strategic context in Statistical Reasoning?

- A. Enter confidential information into any public tool to improve detail.
- B. Accept the most fluent AI response without checking evidence or risk.
- C. Define the outcome, apply strategic context to authorised information, test the result and document accountable human review.
- D. Remove human approval immediately so the process is faster.

### 02. What is the strongest professional approach to core concepts in Statistical Reasoning?

- A. Enter confidential information into any public tool to improve detail.
- B. Accept the most fluent AI response without checking evidence or risk.
- C. Remove human approval immediately so the process is faster.
- D. Define the outcome, apply core concepts to authorised information, test the result and document accountable human review.

### 03. What is the strongest professional approach to professional terminology in Statistical Reasoning?

- A. Define the outcome, apply professional terminology to authorised information, test the result and document accountable human review.
- B. Enter confidential information into any public tool to improve detail.
- C. Accept the most fluent AI response without checking evidence or risk.
- D. Remove human approval immediately so the process is faster.

### 04. What is the strongest professional approach to capability map in Statistical Reasoning?

- A. Enter confidential information into any public tool to improve detail.
- B. Define the outcome, apply capability map to authorised information, test the result and document accountable human review.
- C. Accept the most fluent AI response without checking evidence or risk.
- D. Remove human approval immediately so the process is faster.

### 05. What is the strongest professional approach to use-case discovery in Statistical Reasoning?

- A. Enter confidential information into any public tool to improve detail.
- B. Accept the most fluent AI response without checking evidence or risk.
- C. Define the outcome, apply use-case discovery to authorised information, test the result and document accountable human review.
- D. Remove human approval immediately so the process is faster.

### 06. What is the strongest professional approach to stakeholder needs in Statistical Reasoning?

- A. Enter confidential information into any public tool to improve detail.
- B. Accept the most fluent AI response without checking evidence or risk.
- C. Remove human approval immediately so the process is faster.
- D. Define the outcome, apply stakeholder needs to authorised information, test the result and document accountable human review.

### 07. What is the strongest professional approach to workflow mapping in Statistical Reasoning?

- A. Define the outcome, apply workflow mapping to authorised information, test the result and document accountable human review.
- B. Enter confidential information into any public tool to improve detail.
- C. Accept the most fluent AI response without checking evidence or risk.
- D. Remove human approval immediately so the process is faster.

### 08. What is the strongest professional approach to data readiness in Statistical Reasoning?

- A. Enter confidential information into any public tool to improve detail.
- B. Define the outcome, apply data readiness to authorised information, test the result and document accountable human review.
- C. Accept the most fluent AI response without checking evidence or risk.
- D. Remove human approval immediately so the process is faster.

**09. What is the strongest professional approach to privacy and security in Statistical Reasoning?**

- A. Enter confidential information into any public tool to improve detail.
- B. Accept the most fluent AI response without checking evidence or risk.
- C. Define the outcome, apply privacy and security to authorised information, test the result and document accountable human review.
- D. Remove human approval immediately so the process is faster.

**10. What is the strongest professional approach to prompt and instruction design in Statistical Reasoning?**

- A. Enter confidential information into any public tool to improve detail.
- B. Accept the most fluent AI response without checking evidence or risk.
- C. Remove human approval immediately so the process is faster.
- D. Define the outcome, apply prompt and instruction design to authorised information, test the result and document accountable human review.

## Knowledge checks 11-20

**11. What is the strongest professional approach to tool configuration in Statistical Reasoning?**

- A. Define the outcome, apply tool configuration to authorised information, test the result and document accountable human review.
- B. Enter confidential information into any public tool to improve detail.
- C. Accept the most fluent AI response without checking evidence or risk.
- D. Remove human approval immediately so the process is faster.

**12. What is the strongest professional approach to structured outputs in Statistical Reasoning?**

- A. Enter confidential information into any public tool to improve detail.
- B. Define the outcome, apply structured outputs to authorised information, test the result and document accountable human review.
- C. Accept the most fluent AI response without checking evidence or risk.
- D. Remove human approval immediately so the process is faster.

**13. What is the strongest professional approach to guided skills lab in Statistical Reasoning?**

- A. Enter confidential information into any public tool to improve detail.
- B. Accept the most fluent AI response without checking evidence or risk.
- C. Define the outcome, apply guided skills lab to authorised information, test the result and document accountable human review.
- D. Remove human approval immediately so the process is faster.

**14. What is the strongest professional approach to comparative tool lab in Statistical Reasoning?**

- A. Enter confidential information into any public tool to improve detail.
- B. Accept the most fluent AI response without checking evidence or risk.
- C. Remove human approval immediately so the process is faster.
- D. Define the outcome, apply comparative tool lab to authorised information, test the result and document accountable human review.

**15. What is the strongest professional approach to professional case study in Statistical Reasoning?**

- A. Define the outcome, apply professional case study to authorised information, test the result and document accountable human review.
- B. Enter confidential information into any public tool to improve detail.
- C. Accept the most fluent AI response without checking evidence or risk.
- D. Remove human approval immediately so the process is faster.

**16. What is the strongest professional approach to quality rubric in Statistical Reasoning?**

- A. Enter confidential information into any public tool to improve detail.
- B. Define the outcome, apply quality rubric to authorised information, test the result and document accountable human review.
- C. Accept the most fluent AI response without checking evidence or risk.
- D. Remove human approval immediately so the process is faster.

**17. What is the strongest professional approach to validation and fact-checking in Statistical Reasoning?**

- A. Enter confidential information into any public tool to improve detail.
- B. Accept the most fluent AI response without checking evidence or risk.
- C. Define the outcome, apply validation and fact-checking to authorised information, test the result and document accountable human review.
- D. Remove human approval immediately so the process is faster.

**18. What is the strongest professional approach to bias and inclusion review in Statistical Reasoning?**

- A. Enter confidential information into any public tool to improve detail.
- B. Accept the most fluent AI response without checking evidence or risk.
- C. Remove human approval immediately so the process is faster.
- D. Define the outcome, apply bias and inclusion review to authorised information, test the result and document accountable human review.

**19. What is the strongest professional approach to failure-mode analysis in Statistical Reasoning?**

- A. Define the outcome, apply failure-mode analysis to authorised information, test the result and document accountable human review.
- B. Enter confidential information into any public tool to improve detail.
- C. Accept the most fluent AI response without checking evidence or risk.
- D. Remove human approval immediately so the process is faster.

**20. What is the strongest professional approach to risk and control design in Statistical Reasoning?**

- A. Enter confidential information into any public tool to improve detail.
- B. Define the outcome, apply risk and control design to authorised information, test the result and document accountable human review.
- C. Accept the most fluent AI response without checking evidence or risk.
- D. Remove human approval immediately so the process is faster.

## Knowledge checks 21-30

**21. What is the strongest professional approach to human review and approval in Statistical Reasoning?**

- A. Enter confidential information into any public tool to improve detail.
- B. Accept the most fluent AI response without checking evidence or risk.
- C. Define the outcome, apply human review and approval to authorised information, test the result and document accountable human review.
- D. Remove human approval immediately so the process is faster.

**22. What is the strongest professional approach to team collaboration in Statistical Reasoning?**

- A. Enter confidential information into any public tool to improve detail.
- B. Accept the most fluent AI response without checking evidence or risk.
- C. Remove human approval immediately so the process is faster.
- D. Define the outcome, apply team collaboration to authorised information, test the result and document accountable human review.

**23. What is the strongest professional approach to performance metrics in Statistical Reasoning?**

- A. Define the outcome, apply performance metrics to authorised information, test the result and document accountable human review.
- B. Enter confidential information into any public tool to improve detail.
- C. Accept the most fluent AI response without checking evidence or risk.
- D. Remove human approval immediately so the process is faster.

**24. What is the strongest professional approach to value and roi in Statistical Reasoning?**

- A. Enter confidential information into any public tool to improve detail.
- B. Define the outcome, apply value and roi to authorised information, test the result and document accountable human review.
- C. Accept the most fluent AI response without checking evidence or risk.
- D. Remove human approval immediately so the process is faster.

**25. What is the strongest professional approach to integration blueprint in Statistical Reasoning?**

- A. Enter confidential information into any public tool to improve detail.
- B. Accept the most fluent AI response without checking evidence or risk.
- C. Define the outcome, apply integration blueprint to authorised information, test the result and document accountable human review.
- D. Remove human approval immediately so the process is faster.

**26. What is the strongest professional approach to scenario simulation in Statistical Reasoning?**

- A. Enter confidential information into any public tool to improve detail.
- B. Accept the most fluent AI response without checking evidence or risk.
- C. Remove human approval immediately so the process is faster.
- D. Define the outcome, apply scenario simulation to authorised information, test the result and document accountable human review.

**27. What is the strongest professional approach to troubleshooting clinic in Statistical Reasoning?**

- A. Define the outcome, apply troubleshooting clinic to authorised information, test the result and document accountable human review.
- B. Enter confidential information into any public tool to improve detail.
- C. Accept the most fluent AI response without checking evidence or risk.
- D. Remove human approval immediately so the process is faster.

**28. What is the strongest professional approach to portfolio deliverable in Statistical Reasoning?**

- A. Enter confidential information into any public tool to improve detail.
- B. Define the outcome, apply portfolio deliverable to authorised information, test the result and document accountable human review.
- C. Accept the most fluent AI response without checking evidence or risk.
- D. Remove human approval immediately so the process is faster.

**29. What is the strongest professional approach to professional review in Statistical Reasoning?**

- A. Enter confidential information into any public tool to improve detail.
- B. Accept the most fluent AI response without checking evidence or risk.
- C. Define the outcome, apply professional review to authorised information, test the result and document accountable human review.
- D. Remove human approval immediately so the process is faster.

**30. What is the strongest professional approach to module action plan in Statistical Reasoning?**

- A. Enter confidential information into any public tool to improve detail.
- B. Accept the most fluent AI response without checking evidence or risk.
- C. Remove human approval immediately so the process is faster.
- D. Define the outcome, apply module action plan to authorised information, test the result and document accountable human review.

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## Answer key and application guidance

Every correct answer applies the same professional standard: a clear outcome, authorised information, proportionate safeguards, validation and accountable human review.

|        |        |        |        |        |        |
|--------|--------|--------|--------|--------|--------|
| 01 - C | 02 - D | 03 - A | 04 - B | 05 - C | 06 - D |
| 07 - A | 08 - B | 09 - C | 10 - D | 11 - A | 12 - B |
| 13 - C | 14 - D | 15 - A | 16 - B | 17 - C | 18 - D |
| 19 - A | 20 - B | 21 - C | 22 - D | 23 - A | 24 - B |
| 25 - C | 26 - D | 27 - A | 28 - B | 29 - C | 30 - D |

### Module portfolio project

Create a professional Statistical Reasoning Implementation pack containing: a one-page business objective; stakeholder and workflow map; authorised data checklist; prompt or process design; normal, ambiguous and failure tests; quality and risk rubric; measured results; and a 30-day improvement plan with a named owner.

|             |          |              |         |
|-------------|----------|--------------|---------|
| Q1 DISCOVER | Q2 BUILD | Q3 INTEGRATE | Q4 LEAD |
|-------------|----------|--------------|---------|

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