

# ■ Daily Academic Rigor Framework

© Quayle Applications Research | Academic Rigor Framework

## Purpose

To cultivate precision, integrity, and depth in research, study, and engineering — transforming every task into a reproducible, scholarly contribution.

### 1. THINK LIKE A RESEARCHER (Daily)

- Ask “Why does this work?” and “How can I prove it?”
- Turn work tasks into research questions.
- Keep a Daily Inquiry Log: idea → test → insight.
- Avoid assumptions — seek primary sources.
- Goal: Curiosity disciplined by method.

### 2. GROUND WORK IN THEORY (Daily–Weekly)

- Identify the underlying concept (equation, law, or model).
- Log it in your “Concept → Application Map.”
- Cite the original paper or textbook.
- Re-derive small results to verify understanding.
- Goal: Every implementation is defensible by principle.

### 3. STRUCTURE & DOCUMENT (Daily)

- Use a research-style structure: Problem / Hypothesis / Method / Observation / Result.
- Store everything in version control: /docs, /experiments, /analysis, /reflections.
- Goal: Reproducibility through organization.

### 4. REVIEW & REFLECT (Weekly)

- Revisit your assumptions — what went untested?
- Ask: “Can someone else replicate this?”
- Conduct a peer/self review of one section or code module.
- Log “Lessons Learned” and improvements.
- Goal: Iteration through critique.

## **5. ETHICS & TRANSPARENCY (Always)**

- Record data provenance and limitations.
- Cite or link all third-party code, data, or methods.
- Ensure models and datasets are reproducible.
- Disclose uncertainty and bias.
- Goal: Integrity under scrutiny.

## **6. BALANCE DEPTH AND BREADTH (Weekly)**

- 80% → Deep work (build, analyze, write).
- 20% → Context work (read, compare, explore cross-fields).
- Track interdisciplinary insights in your “Idea Crossmap.”
- Goal: Depth without tunnel vision.

## **7. MAINTAIN A RESEARCH TOOLKIT (Ongoing)**

- Reference Management: Zotero / Mendeley
- Knowledge Base: Obsidian / Notion
- Version Control: GitHub / GitLab
- Analysis: Jupyter / RStudio
- Environment: Docker / Poetry
- Reading Workflow: Zotfile + Annotation
- Goal: Tool discipline = scalable rigor.

## **8. SELF-AUDIT (Monthly)**

- What did I learn deeply this month?
- Which assumptions remain untested?
- What can I reproduce and explain clearly?
- How has my framework evolved?
- Goal: Continuous refinement of your intellectual process.

“Rigor isn’t about perfection — it’s about consistency, clarity, and courage to confront your own uncertainty.”