

“Prompt Engineering” in 2025 and beyond.

From basic to better.

Rich Tape, UBC CTLT, Aug 2025



A ~~MONTHLY~~ SERIES THROUGHOUT 2025

Model Behaviour: Redefining Our A.I. Vocabulary

Replay: <https://ai.ctlt.ubc.ca/generative-ai-studio-february-26-2025-replay/>



Privacy and Ethical considerations around A.I. and how university policy and guidelines intersect

(Not Recorded for privacy) Let's make sure we're asking (all of) the (right) questions

On-device usage of Generative A.I. tools

Replay: <https://ai.ctlt.ubc.ca/generative-ai-studio-may-28-2025-replay/>

A ~~MONTHLY~~ SERIES THROUGHOUT 2025

“Prompt Engineering” in 2025 and beyond. (you are here!)

From Basic to Better. (You may also see this now referred to as “Context Engineering”)



AND MORE TO COME...

Discipline-Specific A.I. Applications

A.I. In Teaching and Learning

**What even is a
prompt?**



***Super* Basic**



A prompt is the instruction you give to a language model.

A prompt can be anything from “Provide me with 3 questions I can ask my students about Shakespeare” right through to prompts which encompass thousands of words.

Simple prompts **can** work. But results can be inconsistent.

Well-structured, context-rich prompts produce ‘better’, more reliable outcomes.

Real-world prompts (send me some of yours!)

Now that we know what a prompt is:

Privately, should you wish, in the chat in zoom, **send me some prompts that you have recently used**. Later in this session we'll see if we can improve them.



The Building Blocks of a Prompt

- **Task** – what you want the model to do
- **Context** – relevant background or details
- **Constraints** – Rules, limitations, or required formats
- **Examples** – (optional) Samples for the model to follow



Clearer inputs → more relevant, reliable outputs

Tip #1: Your *first* attempt at a particular prompt will (likely) *not* be the one that produces the best result for you. Prompting is iterative. Look at the results the model gives you for your prompt, determine what needs to be improved/added/removed, start an **entirely new** conversation, and adjust your prompt accordingly, with that *extra context*.

Example

Basic: Write me a quiz on cell division

Create a 5-question multiple-choice quiz with an answer key. For a second-year undergraduate biology course focusing on mitosis and meiosis. Ensure each question has 4 answer choices; limit explanations to one sentence. Use this style for questions: “What stage of mitosis involves the separation of sister chromatids?”



Task – what you want the model to do

Context – relevant background or details

Constraints – Rules, limitations, or required formats

Examples – (optional) Samples for the model to follow

What “Context” Means for Prompts

Context – Information that frames the task for the model

Context guides the level, scope, tone, and relevance of the output. Without context, the model can make assumptions.



Context can include:

- Audience
- Subject Matter
- Purpose
- Tone or Style
- Format requirements

Tip #2: Assume that you have NOT provided all of the relevant context (even if you're pretty sure you have). At the end of your prompt, instruct the model to ask you questions about the task you have given it, tell it you will then answer those questions, and then do exactly that.

Example

Basic: Summarize the attached article



Summarize the attached article intended for second-year sociology students to support a class discussion on urbanization trends. Limit to 150 words; use clear, non-technical language; highlight three discussion points. Follow the structure of “Main Idea -> Key supporting points -> Open question for the class”. What questions do you have about this task to which the answers I provide will give you the best possible chance of success?

Task – what you want the model to do

Context – relevant background or details

Constraints – Rules, limitations, or required formats

Examples – (optional) Samples for the model to follow

Questions – Ask the model to ask you questions about the task so it can glean more context

From Basic to Better

- Small changes in prompt design can lead to large improvements in output
- Techniques applied:
 - Clear task definition
 - Added context
 - Provided constraints
 - Example for style or structure
- Let's have some more examples



Example

Basic: Write me some quiz questions on Shakespeare

Create 5 multiple-choice quiz questions with an answer key for a first-year English literature course covering Romeo and Juliet. Ensure each question has 4 answer options; mix comprehension and interpretation questions; the correct answer should not always be in the same spot (i.e. not always in position (b)); avoid spoilers beyond Act 2. Use this style for questions: “In Act 1, Scene 5, describe how Juliet reacts when she first meets Romeo”.

What questions do you have about this task to which the answers I provide will give you the best possible chance of success?

Task – what you want the model to do

Context – relevant background or details

Constraints – Rules, limitations, or required formats

Examples – (optional) Samples for the model to follow

Questions – Ask the model to ask you questions about the task so it can glean more context



Example

Basic: Fix the grammar in this email.

Review and correct grammar, punctuation, and spelling in the below email. The email is to a colleague who I have worked with for a long time; maintain my friendly and informal tone.

Keep the structure and wording as close to the original as possible; do not add new content.

If the original says “Hi Sam, hope you’re well!”, preserve that greeting style. What questions do you have about this task to which the answers I provide will give you the best possible chance of success?

Task – what you want the model to do

Context – relevant background or details

Constraints – Rules, limitations, or required formats

Examples – (optional) Samples for the model to follow

Questions – Ask the model to ask you questions about the task so it can glean more context



Example

Basic: Summarize this paper

Summarize the following research paper. I am conducting a literature review on renewable energy storage technologies for a graduate thesis. Limit to approximately 200 words; include key methodology and findings; highlight any limitations stated by the authors.

Structure the output as “Overview -> Methodology -> Key Findings -> Limitations”. What questions do you have about this task to which the answers I provide will give you the best possible chance of success?

Task – what you want the model to do

Context – relevant background or details

Constraints – Rules, limitations, or required formats

Examples – (optional) Samples for the model to follow

Questions – Ask the model to ask you questions about the task so it can glean more context



Intermediate Prompting Techniques

- **Role Assignment** – Tell the model who it is or how it should act
- **Chain-of-Thought Prompting** – Ask the model to reason step-by-step
- **Be Specific and Concrete** – Reduce ambiguity in the task
- **Set Constraints** – Control length, structure, output format, or style
- **Few-shot prompting** – Give examples for the model to imitate, both good AND bad, and explain why they're good and bad
- **Output Formatting** – Request a clear and usable structure



Tip #3: Order of these items does not really matter.

Example

Basic: Give feedback on student writing



WARNING! CAUTION! DANGER, WILL ROBINSON! AWOOGA! OTHER WORDS TO GET YOUR ATTENTION!

Do **not put a student's work into a 3rd-party tool that has not been through a PIA. (This is a bit of a plug for you to go watch the “Running LLMs Locally” Session from a couple months back.**

Example (multi-shot)

Task – what you want the model to do

Context – relevant background or details

Constraints – Rules, limitations, or required formats

Examples – (optional) Samples for the model to follow

Questions – Ask the model to ask you questions

Basic: Give feedback on student writing

Provide written feedback on a short piece of student writing. You are an experienced university writing instructor who provides specific, constructive, and supportive feedback to help students improve their academic writing. Feedback should highlight strengths and suggest concrete improvements; avoid vague phrases like 'good job'; feedback should be clear, supportive, and academically appropriate for a university setting. If the student text is "Climate change is caused by humans", bad feedback would be 'good job' as that is too vague, unhelpful, and there is no guidance for improvement. However, good feedback might be 'This is a good start, can you expand on which human activities contribute most, and add one scholarly reference?'. This is good feedback as it is specific, constructive, and actionable. What questions do you have about this task to which the answers I provide will give you the best possible chance of success?



Example

Basic: Make me a grading rubric for an essay



**SLIGHTLY LESS ALARMING NOTICE. MORE OF A RECOMMENDATION
ACTUALLY.**

We recommend that you disclose when you've used Generative AI for your work. This helps foster a sense of trust with your students or colleagues (and subtly suggests they do the same). Say what you used - be specific – and what you did with the output (i.e. making sure you're always keeping yourself 'in the loop'). Bonus points: Share the prompt you used.

Example (CoT)

Task – what you want the model to do

Context – relevant background or details

Constraints – Rules, limitations, or required formats

Examples – (optional) Samples for the model to follow

Questions – Ask the model to ask you questions

Basic: Make me a grading rubric for an essay

Develop a clear and fair grading rubric for an undergraduate history essay. You are a senior university instructor in the Humanities who regularly creates grading rubrics that balance clarity, academic rigor, and fairness. A step-by-step reasoning process before giving the final rubric; rubric must include criteria, performance levels, and descriptors. A bad rubric might be 'essay is good/bad' because it is oversimplified, subjective, and not measurable. A good rubric might be "Criteria: Thesis Clarity (Excellent/Good/Needs Improvement). Descriptors explain what 'Excellent' and 'Good' mean. This is good as it provides clear standards, it is measurable, and actionable. Now, please create a rubric for the undergraduate essay question "Discuss the causes of World War I". What questions do you have about this task to which the answers I provide will give you the best possible chance of success?



Example continued

You may even provide a FULL example which might include the Reasoning i.e.

Bad Output (ignores chain-of-thought):

“Rubric: Thesis, Evidence, Style.”

Why bad: Too vague, no reasoning, lacks descriptors.

Good Output (follows structure):

Reasoning (step-by-step):

Essays need clarity of thesis, Historical evidence and analysis are central, Writing style and referencing matter in academic work, Therefore, rubric should balance argument, evidence, and clarity.

Final Rubric:

Thesis & Argument (30%): Excellent (clear, nuanced thesis), Good (clear but basic thesis), Needs Improvement (unclear or missing thesis).



Evidence & Analysis (40%): Excellent (uses multiple scholarly sources, strong analysis), Good (some sources, adequate analysis), Needs Improvement (weak evidence, descriptive only).

Writing & Structure (20%): Excellent (well-structured, academic style), Good (mostly clear, some issues), Needs Improvement (confusing, poor style).

Referencing (10%): Excellent (accurate, consistent), Good (minor errors), Needs Improvement (frequent errors or missing).

Why good: Transparent reasoning, clear rubric, practical for teaching.

LLM Prompting Frameworks

- **CLEAR** – Context, Logic, Expectations, Action, Restrictions
- **SMART** – Specific, Measurable, Achievable, Relevant, Time-bound
- **QUEST** – Question, Understanding, Expectation, Scope, Time
- **GUIDE** – Goal, Understanding, Information, Direction, Evaluation
- **IDEA** – Intent, Details, Examples, Adjustments

All of them (and many, many more like them) all revolve around one central tenet: **Context is Key**.

The more relevant context you can provide a model, the better your outcomes will be.

Tip #4: Being polite
(at least anecdotally)
seems to sometimes
improve the quality of
the output. (plus it
feels right?)



Context is Key. But also the Killer?

- Language models have a 'context length'. This is a MAXIMUM amount of content that you can send to an LLM at any one time that it can process and understand.
- For large, 3rd party LLMs (ChatGPT, Claude, Google Gemini etc.) this context length is in the hundreds of thousands of tokens. For smaller models that you may run locally, this can be in the tens of thousands or fewer.
- The WHOLE CONVERSATION that you are in is sent to the model *each time* you add a message. So as your conversation gets longer, the amount of 'context' you are sending increases. This also includes the replies from the model.

Tip #5: Start new conversations regularly. But remember, that new conversation has ZERO context to start with. Towards the end of a long conversation, get the model to provide a summary which you can then provide as context at the start of the next



What about ChatGPT 5?

- ChatGPT5 is a very different model to the vast majority of LLMs we've seen so far. It is the first model where I can say that it truly **follows instructions**. Almost with surgical precision.
- It is less verbose. It is less 'nice'. It is less sycophantic.
- You can think of it as it being 3 different models. A small, a medium, and a large. However, you may not have the ability to 'switch' between them directly. It has a 'router' which tries to determine which of its models to use for the instructions you provide. This is defined as "reasoning effort".
- Telling GPT5 to 'think deeply' or 'be careful' about a specific part of your prompt will (generally) put the model into a 'higher' level of thinking. This will give you a slower response, but possibly an improved response at the same time.



Some things to avoid

- Don't **overload** the task. Keep things narrow in scope. i.e. don't:
 - “Summarize this article, then write quiz questions, generate discussion topics, and draft an email to students about it.”
- Spit the tasks into separate, context-full prompts. Keep each prompt focused on one clear goal.
- Don't try to iterate on your initial prompt *in the same conversation*. Start a new one. If your initial prompt isn't quite getting you the results you want, determine why, and then start a new conversation with an improved prompt. Otherwise the model may get confused. (Especially with smaller models you may be running locally)
- Don't rely on the first output. Once you are happy with your prompt, start multiple conversations (different tabs, perhaps) and use the same prompt. Compare the answers. Iterate on the prompt if necessary.



Real-world prompts

Let's go through some of yours!





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