

De Anza College
Course Outline of Record Report
 10/02/2025

CISD051. : Introduction to Prompt Engineering

General Information

Faculty Initiator:	<ul style="list-style-type: none"> Sukhjot Singh Pape, Mary
Attachments:	Hybrid_CIS_51_2026F.pdf Online_CIS_51_2026F.pdf ReqAdv_G_CIS_51_2026F.pdf
Course ID (CB01A and CB01B) :	CISD051.
Short Course Title:	INTRO TO PROMPT ENGINEERING
Course Title (CB02) :	Introduction to Prompt Engineering
Department:	CIS - Computer Sci and Info Systems
Effective Term:	Fall 2026
TOP Code (CB03) :	(0707.10) *Computer Programming
CIP Code:	(11.0201) Computer Programming/Programmer, General.
SAM Priority Code (CB09) :	C - Clearly Occupational
Distance Education Approved:	Yes
Course Control Number:	No value
Curriculum Committee Approval Date:	06/17/2025
Board of Trustees Approval Date:	Pending
External Review Approval Date:	09/01/2026
Course Description:	<p>This course is designed to equip students with the skills needed to effectively design, refine, and implement prompts that guide AI model responses to be both factually accurate and practically useful. Students will learn how to craft clear and purposeful prompt sequences tailored to a variety of applications, including text generation, software development, data analysis, and problem-solving. They will also gain an understanding of the iterative process involved in optimizing AI outputs and develop strategies to troubleshoot common prompt-related challenges. In addition, students will explore key prompt patterns, the construction and deployment of AI Agents and Customized GPTs, and techniques such as Retrieval-Augmented Generation (RAG). The course will also address how to identify and mitigate potential risks and misuse associated with direct access to AI systems.</p>
Course Type (CB27) :	<ul style="list-style-type: none"> Lower Division
Mode of Delivery:	<ul style="list-style-type: none"> Online Hybrid
Faculty Initiator:	No value
Course Family:	Not Applicable

Faculty Requirements

Discipline 1:	<ul style="list-style-type: none"> Computer Science
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Discipline 2: No value
Discipline 3: No value
FSA:

- FHDA FSA - COMPUTER SCIENCE

Formerly Statement

Formerly Statement
No Value

Course Justification

Course Justification

This course takes a hands-on, structured approach to prompt engineering, guiding students through diverse techniques to refine AI responses, build AI agents, and apply Retrieval-Augmented Generation (RAG) for more reliable results. This CTE course is CSU transferable and is a course in the Applied Artificial Intelligence Certificate of Achievement.

Stand-Alone Statement

Stand-Alone Statement
No Value

Course Philosophy

Course Philosophy

The Introduction to Prompt Engineering course is designed to empower students with the ability to craft effective prompts for guiding AI models to generate accurate, useful, and contextually appropriate responses. As AI-driven systems become integral to various fields—ranging from software development and data analysis to creative writing and business solutions—understanding how to interact with these models efficiently is essential.

CTE Course

Is this a CTE (Career Technical Education) course?
Yes

Honors/Non-honors Course

Is this an honors/non-honors course?
No

Mirrored Credit/Noncredit Course

Is this a mirrored credit/noncredit course?

Yes - don't forget to duplicate the revisions in the mirrored credit/noncredit course

Cross-listed Course

Is this a cross-listed course?

No

Foothill Equivalency

Does the course have a Foothill equivalent?

No

Foothill Faculty Consultation Name

No Value

Foothill Course ID

No Value

Course Development Options

Basic Skill Status (CB08)

Course is not a basic skills course.

Course Special Class Status (CB13)

Course is not a special class.

Grade Options

- Letter Grade
- Pass/No Pass

Repeat Limit

0

Course Prior To College Level

Not applicable.

Repeatability Statement

No value

Course Support Status (CB26)

Course is not a support course

Associated Programs

Course is part of a program

Associated Program

Award Type

Active

Applied Artificial Intelligence Associate of Science (In Development)	Associate in Science (A.S.) Degree	Fall 2026
Applied Artificial Intelligence Certificate of Achievement (In Development)	Certificate of Achievement (COA)	Fall 2026
Applied Artificial Intelligence Certificate of Achievement - Advanced (In Development)	Certificate of Achievement-Advanced (COA-A)	Fall 2026

Transferability & Gen. Ed. Options

Course General Education Status (CB25)

Y

Transferability (CB05)

Transferable to CSU only

Transferability Status

Approved

UC Transferable and/or Lower-Division Major Requirement

Will the course be UC transferable?

No

If yes, identify the lower-division UC course and campus.

No Value

Will the course fulfill a UC/CSU lower-division major requirement?

No

If yes, identify the UC/CSU campus, course and major.

No Value

Units and Hours

Summary

Minimum Credit Units	4.5
Maximum Credit Units	4.5
Total Course In-Class (Contact) Hours	66
Total Course Out-of-Class Hours	96

Total Student Learning Hours 162

Credit / Non-Credit Options

Course Credit Status (CB04)

Credit - Degree Applicable

Course Non Credit Category (CB22)

Credit Course.

Course Classification Code (CB11)

Credit Course.

Variable Credit Course

Funding Agency Category (CB23)

Not Applicable.

Cooperative Work Experience Education Status (CB10)

Weekly Student Hours

	In Class	Out of Class
Lecture Hours	4	8
Laboratory Hours	1.5	0
NA Hours	0	0

Course Student Hours

Course Duration (Weeks)	12
Hours per unit divisor	36
Course In-Class (Contact) Hours	
Lecture	48
Laboratory	18
NA	0
Total	66
Course Out-of-Class Hours	
Lecture	96
Laboratory	0
NA	0
Total	96

Units and Hours - Weekly Specialty Hours

Activity Name	Type	In Class	Out of Class
No Value	No Value	No Value	No Value

SKIP

No Value

Specifications

Methods of Instruction

Methods of Instruction

Methods of Instruction

Methods of Instruction

Collaborative learning and small group exercises
 Collaborative projects
 Discussion and problem-solving performed in class
 Discussion of assigned reading
 Homework and extended projects
 In-class exploration of internet sites
 Laboratory discussion sessions and quizzes that evaluate the proceedings weekly laboratory exercises
 Lecture and visual aids
 Quiz and examination review performed in class

Assignments

- A. Reading in textbook, online references, and lecture notes.
- B. 6-8 problem solving assignments on identifying, applying, and evaluating Prompt Engineering Concepts.
 1. Create an effective series of Large Language Model (LLM) prompts for generating the planning for an involved life process (ex: a wedding).
 2. Enhance the original set of prompts by incorporating two or more important prompt patterns in the solution.
 3. Apply prompt patterns to generate a range of business solutions (ex: a product marketing plan).
 4. Leverage Retrieval Augmentation Generation (RAG) to "update" LLM training information through a set of supplied documents / web sites to make its responses more up to date (ex: including state-of-the-art scientific advances) .
 5. Package a set of RAG training sources and a corresponding set of prompt sequences into an application-specific AI agent, which self-gathers the user information it needs to operate effectively (ex: a virtual assistant to schedule appointments and send reminders).
 6. Create a customized GPT which is fed a complete set of documents defining a problem domain and then solves problems in that domain (ex: can accurately answer questions about a chosen board game).
 7. Explore the limits of an LLM by attacking its "guard rails" to see if inappropriate output can be generated.

Methods of Evaluation

Methods of Evaluation

Methods of Evaluation

- A. Weekly Assignments focused on generated correctly formatted, factually accurate and useful AI responses in wide variety of distinct application areas
- B. Midterm exam
- C. Final exam

Essential Student Materials/Essential College Facilities

Essential Student Material:

- None

Essential College Facilities:

- None

Examples of Primary Texts and References

Author	Title	Publisher	Date/Edition	ISBN
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James Phoenix & Mike Taylor

Prompt Engineering for
Generative AI

May 2024

O'Reilly Media;

978-1098153434

Suggested Reading List

No Value

Learning Outcomes

Course Objectives

Create effective Large Language Model (LLM) Prompts

Understand and use important Prompt Patterns

Apply prompt knowledge to a wide range of application types

Understand the advantages of Retrieval Augmented Generation (RAG) and use it successfully

Construct a simple AI Agent

Understand the advantages of Customized GPTs and use them successfully

Appreciate and assess the risks of prompting an AI.

CSLOs

Design and utilize effective prompts for Large Language Models

Expected SLO Performance: 0.0

Understand the major prompt patterns and when to apply them

Expected SLO Performance: 0.0

Understand and use Retrieval Augmented Generation

Expected SLO Performance: 0.0

Understand and create a simple AI agent

Expected SLO Performance: 0.0

Understand and create a customized GPT

Expected SLO Performance: 0.0

Outline

Course Outline

- A. Creating effective Large Language Model (LLM) Prompts
 - 1. LLM settings
 - 2. Prompting basics
 - 3. Prompt Elements
 - 4. Prompt Design Guidelines
 - 5. Prompt Examples
- B. Understand and use important Prompt Patterns
 - 1. Zero Shot
 - 2. Few Shot
 - 3. Flipped Interaction
 - 4. Recipe
 - 5. Reflection
 - 6. Refinement
 - 7. Persona
 - 8. Context Management
 - 9. Chain of Thought
 - 10. Tree of Thoughts
 - 11. Prompt Chaining
- C. Apply prompt knowledge to a wide range of application types
 - 1. Classification
 - 2. Coding
 - 3. Creativity
 - 4. Evaluation
 - 5. Text Summarization and Information Extraction
 - 6. Image Generation
 - 7. Reasoning
 - 8. Adversarial Programming
- D. Understand the advantages of Retrieval Augmented Generation (RAG) and use it successfully
 - 1. Introduction and Advantages
 - 2. Response Traceability and Explainability
 - 3. Component Framework
 - 4. Performance and Sizing Analysis
- E. Construct a simple AI Agent (Intelligent Assistant with decision making capabilities)
 - 1. Introduction
 - 2. Core Components
 - 3. Real world case study
- F. Understand the advantages of Customized GPTs and use them successfully
 - 1. Introduction
 - 2. Step by step construction process
 - 3. Real world case study
- G. Appreciate and assess the risks of prompting an AI.
 - 1. Current Prompt challenges
 - 2. Adversarial Prompts
 - 3. Factuality
 - 4. Biases

Lab Outline

- A. Understand core prompt elements—task instructions, context, and formatting—and how clarity vs. ambiguity affects model output.
- B. Configure LLM behavior using temperature, top-p sampling, max tokens, and stop sequences to control randomness and length.
- C. Design effective prompts using Zero Shot, Few Shot, Persona, and Recipe patterns for classification, tone, and instructional guidance.
- D. Use advanced prompting structures like Chain of Thought and Tree of Thoughts to enable logical reasoning and scenario branching.
- E. Manage context in stateless models through memory emulation, prompt recursion, summarization, and chaining for coherent workflows.
- F. Apply domain-specific prompting techniques to code generation, summarization, information extraction, and creative writing tasks.
- G. Use Retrieval-Augmented Generation (RAG) to incorporate external documents via vector search for grounded, explainable outputs.
- H. Evaluate RAG output quality with source alignment and traceability, explaining responses with supporting document chunks.
- I. Construct simple AI agents with decision logic, multi-step flows, and defined roles such as customer service or task assistants.
- J. Balance instruction-following and reactive behavior in AI agents by defining tool use, action triggers, and response rules.
- K. Customize GPTs by setting instructions, tone, and behavior patterns for specific applications like education or business support.
- L. Address prompt safety and ethics by identifying hallucinations, bias, and adversarial inputs, and applying guardrails like filtering and testing.

Blue Form

For changes to the units and hours tab; 1) Contact the Curriculum Office at curriculum@fhda.edu with the course information changes; and 2) address items 1-3 below. Please be aware that load factors and seat counts are assigned based on established, negotiated values.

No Value

1. Is the unit(s) change required for articulation?

No Value

2. If the course is UC or CSU transferable, identify one UC or CSU campus with the same unit value requested and copy and paste the catalog description of the course.

No Value

3. Identify the areas in the course outline of record that justify the unit(s) and/or hour(s) change.

No Value

Office Use ONLY: For a REVISION, state the existing unit(s); lec hour(s) and load; lab hour(s) and load; and seat count.

No Value

Office Use ONLY: For a REVISION, state the new unit(s); lec hour(s) and load; lab hour(s) and load; and seat count.

No Value

Office Use ONLY: For NEW, state the unit(s); lec hour(s) and load; lab hour(s) and load; and seat count.

- Units: 4.5
- Lec Hrs: 4
- Lec Load: .089
- Lab Hrs: 1.5
- Lab Load: .024
- Total Load: .113
- Seat Ct: 40
- (mkct 5/23/25)

Req/Adv

Prerequisite(s):

No Value

Corequisite(s):

No Value

Advisory(ies):

No Value

Advisory(ies) - Other:

CIS D004.

Limitation(s) on Enrollment:

No Value

Limitation(s) on Enrollment - Other:

No Value

Entrance Skills(s):

No Value

Entrance Skill(s) - Other:

No Value

General Course Statement(s):

No Value

General Course Statement(s) - Other:

No Value

A-Matrix Form

EWRT D001A or EWRT D01AH or ESL D005. If this is the requisite for the course, complete the objective(s) below. If this requisite is being removed, provide an explanation as to why.

No Value

Objective 1: Analyze college level texts and discourse that are culturally and rhetorically diverse.

No Value

Objective 2: Compose essays drawn from personal experience and assigned texts.

No Value

Objective 3: Utilize MLA guidelines to format essays, cite sources, and compile a works cited page.

No Value

Objective 4: Create syntactically varied sentences that are free of mechanical errors.

No Value

Objective 5: Distinguish, compare, and evaluate the multiplicity and ambiguity of perspectives.

No Value

B-Matrix Form

ESL D272. and ESL D273., or ESL D472. and ESL D473., or eligibility for EWRT D001A or EWRT D01AH or ESL D005. If this is the requisite for the course, complete the objective(s) below. If this requisite is being removed, provide an explanation as to why.

No Value

Objective 1: Analyze a variety of college-level texts with a focus predominantly on expository and argumentative writing.

No Value

Objective 2: Develop analytical ideas and topics for essays.

No Value

Objective 3: Compose and support thesis statements for analytical essays.

No Value

Objective 4: Develop clear sequential relationship between central argument/controlling idea and supporting ideas in writing.

No Value

Objective 5: Identify and practice writing for different audiences and purposes.

No Value

Objective 6: Develop and demonstrate a variety of rhetorical strategies to develop strong analysis in essays.

No Value

Objective 7: Demonstrate writing as a multi-step process including attention to planning and revision.

No Value

Objective 8: Practice composing organized, developed, analytical essays that increase in complexity.

No Value

Objective 9: Demonstrate appropriate grammar usage and mechanics.

No Value

C-Matrix Form

ESL D261. and ESL D265., or ESL D461. and ESL D465., or eligibility for EWRT D001A or EWRT D01AH or ESL D005. If this is the requisite for the course, complete the objective(s) below. If this requisite is being removed, provide an explanation as to why.

No Value

Objective 1: Create compositions about fiction and non-fiction texts from many cultural and social perspectives in a variety of genres.

No Value

Objective 2: Compose a focused, purposeful, developed paper of 500 words or more that engages with, responds to, or is inspired by written or visual texts.

No Value

Objective 3: Produce written work using a cyclical process of multiples drafts and revisions.

No Value

Objective 4: Demonstrate the ability to include a variety of sentence structures in writing.

No Value

Objective 5: Edit compositions to correct errors in the major conventions of Standard Written English.

No Value

D-Matrix Form

Intermediate algebra or equivalent (or higher), or appropriate placement beyond intermediate algebra. If this is the requisite for the course, complete the objective(s) below. If this requisite is being removed, provide an explanation as to why.

No Value

Objective 1: Plan, implement, and assess work cycles, at the problem, lesson, module, and course level, to develop self-efficacy through the practice of self-regulated learning.

No Value

Objective 2: Investigate the use of mathematics in real world.

No Value

Objective 3: Explore functions.

No Value

Objective 4: Develop linear function models.

No Value

Objective 5: Use systems of two linear equations to solve real world problems.

No Value

Objective 6: Use linear inequalities in one variable to solve real world problems.

No Value

Objective 7: Examine exponential expressions and develop exponential function models.

No Value

Objective 8: Examine logarithmic expressions and develop logarithmic function models.

No Value

Objective 9: Develop quadratic function models to solve problems.

No Value

Objective 10: Investigate the characteristics of rational expressions.

No Value

Objective 11: Develop skills to work with radical expressions.

No Value

E-Matrix Form

Elementary algebra or equivalent (or higher), or appropriate placement beyond elementary algebra. If this is the requisite for the course, complete the objective(s) below. If this requisite is being removed, provide an explanation as to why.

No Value

Objective 1: Develop, throughout the course as applicable, systematic problem-solving methods.

No Value

Objective 2: Explore the function concept algebraically, numerically, verbally and graphically.

No Value

Objective 3: Explore the graphical and numerical characteristics of linear relationships and describe their meaning in the context of a problem.

No Value

Objective 4: Develop linear function models to solve problems.

No Value

Objective 5: Use systems of two linear equations to solve real-world problems.

No Value

Objective 6: Explore the graphical and numerical characteristics of quadratic relationships and describe their meaning in the context of a problem.

No Value

Objective 7: Develop quadratic function models to solve problems.

No Value

Objective 8: Use inequalities to solve real world problems.

No Value

Objective 9: Explore arithmetic sequences and series.

No Value

Objective 10: Investigate, throughout the course as applicable, how mathematics has developed as a human activity around the world.

No Value

F-Matrix Form

Pre-algebra or equivalent (or higher), or appropriate placement beyond pre-algebra. If this is the requisite for the course, complete the objective(s) below. If this requisite is being removed, provide an explanation as to why.

No Value

Objective 1: Develop, throughout the course as applicable, systematic problem solving methods.

No Value

Objective 2: Solve problems involving arithmetic operations, including fractions, percents and decimals.

No Value

Objective 3: Apply the order of operations to evaluate signed numerical expressions.

No Value

Objective 4: Solve problems involving operations with signed numbers.

No Value

Objective 5: Explore the characteristics and properties of real numbers.

No Value

Objective 6: Use estimation to determine approximate solutions and to check the reasonableness of answers.

No Value

Objective 7: Explore rates and ratios and use proportions to solve problems.

No Value

Objective 8: Explore, as applicable throughout the course, the geometry of mathematical measurements and solve problems involving geometric figures and formulas.

No Value

Objective 9: Explore the use of variables in expressions and evaluate algebraic expressions.

No Value

Objective 10: Solve linear equations in one variable numerically and algebraically.

No Value

Objective 11: Graph linear relationships on a Cartesian coordinate by plotting ordered pairs.

No Value

Objective 12: Investigate, throughout the course as applicable, how mathematics has developed as a human activity around the world.

No Value

G-Matrix Form

If the requisite does not fall under an A-F Matrix and is being removed, provide an explanation as to why.

No Value

If the requisite does not fall under an A-F Matrix and is being retained/added, download the Content Review Matrix G from the Reference Materials, and follow the remaining instructions on the form. Reminder that: an "OR" conjunction statement requires ONE representative G-Matrix; an "AND" conjunction statement requires a separate G-Matrix for EACH course.

No Value

H-Matrix Form

Objective 1: For entrance into a CTE program such as Nursing, AUTO, APRN, etc... list the prerequisite(s) to participate in the program.

No Value

Objective 2: For Student Cohorts, such as Honors, Puente, performance groups, intercollegiate teams, Special Projects course, etc... list the prerequisite(s) to participate in the cohort.

No Value

Objective 3: For Prerequisites based on Government/Licensing/Certification Regulations, or legal requirements, cite the regulation that mandates a prerequisite or attach a copy of it to this form.

No Value

Objective 4: For Requirements based on Health and Safety, describe the specific skills, concepts, and information without which the students would create a hazard to themselves or those around them. Also describe how students will meet those skills.

No Value

Objective 5: For Entrance Skills that are necessary for taking the course, describe the specific skills and the reason they are necessary for this course. Also describe how students will meet those skills.

No Value

Objective 6: For other Limitations on Enrollment not covered above, indicate the limitation on enrollment and the reason it is necessary for this course. Also describe how students will be able to meet the requirement.

No Value

De Anza GE Form

Criteria 1: Present core concepts and scope that define the discipline. (ONLY using the Outline, Assignments or Methods of Evaluation areas, cite, copy and paste the area referenced.)

No Value

Criteria 2: Foster oral and written communication and collaborative exercises. Note that this criteria has three separate pieces: oral communication, written communication, and collaborative exercises. (ONLY using the Outline, Assignments or Methods of Evaluation areas, cite, copy and paste the area referenced.)

No Value

Criteria 3: Stimulate critical thinking. (ONLY using the Outline, Assignments or Methods of Evaluation areas, cite, copy and paste the area referenced.)

No Value

Criteria 4: Include diverse perspectives and contributions in the discipline such as: gender, culture, values, and/or societal perspectives. (ONLY using the Outline, Assignments or Methods of Evaluation areas, cite, copy and paste the area referenced.)

No Value

Criteria 5: Provide global and historical context. (ONLY using the Outline, Assignments or Methods of Evaluation areas, cite, copy and paste the area referenced.)

No Value

Criteria 6: Use real-world or hands-on applications that will provide a context for the concepts being discussed. (ONLY using the Outline, Assignments or Methods of Evaluation areas, cite, copy and paste the area referenced.)

No Value

Comments

Stage 2: Department Chair

No Value

Stage 3: Division Curriculum Representative

No Value

Stage 4: Division Dean

No Value

Stage 5: SLO Coordinator

No Value

Stage 7: Content Review Matrix Liaison

No Value

Stage 8: Dean of Online Learning

No Value

Stage 9: Articulation Officer

No Value

Stage 10: De Anza General Education

No Value

Stage 13: Curriculum Committee

No Value

CO
Sort ID (00 < 10; 0 < 100) CIS 051
Course Status New
Course Characteristics <ul style="list-style-type: none">• CTE
Cross-Listed/Related Course Information <ul style="list-style-type: none">• NA
Cross-Listed/Related Course ID's No Value
DL Approval Date (MM/DD/YYYY) 06/17/2025
Hybrid Approval Date (MM/DD/YYYY) 06/17/2025
Curriculum Office Notes No Value