



## MASTER COURSE OUTLINE

### A. CPRO 2500 Vibe Coding Capstone

### B. COURSE DESCRIPTION:

This is an introductory-level course designed for students with little or no programming background. Using a modern Artificial Intelligence (AI)-assisted development workflow known as Vibe Programming, students learn to rapidly prototype and build functional software applications by collaborating with large language models (LLMs). Through hands-on projects, students will learn how to effectively prompt AI coding assistants, review and refine AI-generated code, and deploy working applications. Emphasis is placed on understanding program logic, software design principles, and responsible use of AI tools in a professional context. Prerequisite: Any CPRO coding class or equivalent experience.  
**(3 Cr – 3 lect, 0 lab)**

### C. \*Core Theme: Critical Thinking

### D. RIVERLAND INSTITUTIONAL LEARNING OUTCOMES:

This course addresses the following Riverland Institutional Learning Outcome(s):

- ILO 1: critical thinking (*Core Theme Goal 2*)
- ILO 2: awareness of the larger global community (*Core Theme Goal 7 or 8*)
- ILO 3: ethical, engaged citizenship (*Core Theme Goal 9 or Goal 10*)
- ILO 4: communication and collaboration (*Discipline Goal 1 and by any learning outcome(s) involving communication or collaboration*)

### E. MAJOR CONTENT AREAS:

- AI-Assisted Development Workflow (Vibe Programming)
- Prompt Engineering for Code Generation
- Code Review and Debugging AI-Generated Code
- Software Design and Application Architecture
- Responsible and Ethical Use of AI in Programming

F. GOAL TYPE, OBJECTIVES, AND OUTCOMES:

<u>GOAL TYPE</u>	<u>OBJECTIVES</u>	<u>OUTCOMES</u>
	<b>Students will be able to</b>	<b>The student will successfully</b>
<u>*Critical Thinking</u>	gather factual information and apply it to a given problem in a manner that is relevant, clear, comprehensive, and conscious of possible bias in the information selected.	1. produce a working application from AI-generated code that meets stated requirements.
<u>CS</u>	write effective prompts that produce accurate and useful code from an LLM.	1. demonstrate prompt iteration by submitting a prompt history showing progressive improvement leading to correct program output.
<u>CS</u>	use AI coding assistants to generate, refine, and integrate code for a specified programming task.	1. design and deploy a multi-feature application with clearly separated components, demonstrating understanding of program structure and flow.
<u>CS</u>	review, test, and debug AI-generated code to identify logic errors and unintended behavior.	1. locate and correct at least one logic error or bug in a provided AI-generated program, documenting the debugging process.

G. SPECIAL INFORMATION:

This course may require use of the Internet, the submission of electronically prepared documents and the use of a course management software program. Students who have a disability and need accommodations should contact Accessibility Services at the beginning of the semester. This information will be made available in alternative format, such as Braille, large print, or current media, upon request.

H. COURSE CODING INFORMATION:

Course Code T/Class Maximum 30; Letter Grade

Revision date:

AASC Approval date: 05/12/26

\*These five MnTC Goals have been identified as Riverland Community College Core Themes. Every course in the Riverland Community College curriculum shall meet outcomes from one of these themes.

\*\*These five MnTC Goals have been identified as Riverland Community College Disciplines. Riverland's MnTC courses also shall meet outcomes from a Discipline Area.

NOTE: The Minnesota Transfer Curriculum "10 Goal Areas of Emphasis" are reflected in the five required discipline areas and five core themes noted in the Riverland Community College program of study guide and/or college catalog.

<b>*Riverland Community College Core Themes</b>	<b>MnTC Goal Number</b>
Critical Thinking (CT)	2
Human Diversity (HD)	7A, 7B, 7A/B
Global Perspective (GP)	8
Ethical and Civic Responsibility (EC)	9
People and the Environment (PE)	10

<b>**Riverland Community College Discipline Areas</b>	<b>MnTC Goal Number</b>
Communication (CM)	1
Natural Sciences (NS)	3
Mathematics/Logical Reasoning (MA)	4
History and the Social & Behavioral Sciences (SS)	5
Humanities and Fine Arts (HU)	6

Riverland