

Policy on the Use of Artificial Intelligence

Guidelines for Responsible AI Use in Coursework

Core Principle

In professional engineering practice, engineers are responsible for the work they approve, regardless of who or what produced it. The same principle is applied in developing this policy.

AI may assist the engineer, but it cannot replace the engineer. Engineering students remain responsible for the accuracy, integrity, and understanding of all submitted work.

Purpose

Artificial intelligence tools can accelerate learning, improve productivity, and support engineering practice. However, engineering education is not merely about producing answers. The goal is to develop the ability to formulate problems, apply engineering principles, exercise professional judgment, evaluate alternatives, communicate solutions, and defend engineering decisions.

Accordingly, this document introduces a tiered AI policy designed to balance responsible AI use with the learning objectives of each activity. The AI tier assigned to an assignment, laboratory activity, project milestone, or assessment establishes the maximum level of AI assistance permitted for that activity. Students remain fully responsible for all submitted work, regardless of whether AI assistance was used. The use of AI does not transfer responsibility from the student to the software.

This policy is intended as a framework that may be adapted to the learning objectives, assessment practices, and academic integrity expectations of individual courses and programs.

Quick Reference Guide

Tier	Summary
Tier 1 (No AI)	No AI Assistance Permitted
Tier 2 (Check My Work)	AI for Verification and Feedback Only
Tier 3 (Help Me Work)	AI-Assisted Work with Attribution

The assigned tier establishes the maximum permitted level of AI assistance. Students are never required to use AI; however, AI tools are increasingly becoming part of the life cycle of engineering projects. Consequently, the responsible use of AI must also become part of contemporary engineering education.

Tier 1: No AI Assistance Permitted (No AI)

AI tools may not be used at any stage of the assigned work.

Examples

- Exams and quizzes
- In-class activities unless AI use is specifically authorized
- Any assignment or assessment designated as Tier 1

The use of AI-generated content, calculations, explanations, designs, code, drawings, or solutions on Tier 1 work constitutes academic misconduct.

The Tier 1 Rule

No use of AI tools is authorized.

Tier 2: AI for Verification and Feedback Only (Check My Work)

Students must first develop a complete solution before consulting AI. The solution may be correct or incorrect, and it may be developed independently or with assistance from the instructor, classmates working within course policies, approved tutors, or other instructor-authorized human resources.

The solution must be complete before AI may be used. Reaching an impasse, running out of time, becoming frustrated, or deciding that a problem is too difficult does not authorize the use of AI to continue or complete missing portions of the work.

Consulting solution manuals, archived solutions, answer keys, Chegg, CourseHero, or other unauthorized sources does not satisfy the requirement of developing a complete solution and may independently constitute academic misconduct.

The Tier 2 Rule

A complete solution may be correct or incorrect, but it must exist before Tier 2 AI use begins.

When Tier 2 AI Use Begins

Being stuck does not activate Tier 2. The examples below illustrate acceptable and unacceptable situations involving Tier 2 AI use.

ACCEPTABLE PATHWAYS	UNACCEPTABLE PATHWAYS
Student → Complete solution → AI review	Student → Gets stuck → AI completes solution
Student → Office hours → Complete solution → AI review	Student → Runs out of time → AI completes solution
Student → Approved tutor → Complete solution → AI review	Student → AI provides next step → Student finishes
Student → Permitted collaboration → Complete solution → AI review	Student → Unauthorized solution source → AI review

Examples

Permitted Tier 2 AI Uses

- Checking calculations
- Identifying possible errors in reasoning
- Comparing the completed solution with an alternative method
- Reviewing a completed report for clarity, organization, grammar, formatting, or readability
- Identifying possible omissions or inconsistencies
- Providing feedback on completed analysis or design work

Prohibited Tier 2 AI Uses

- Providing the next step when the student is stuck
- Completing an unfinished derivation, calculation, analysis, design, CAD model, engineering drawing, code, or computational work
- Generating the initial solution
- Performing a substantive portion of the work
- Finishing work because of difficulty, frustration, or lack of time

Tier 2 Labeling Requirement

Any portion of the work for which AI was consulted must be clearly labeled "Tier 2 AI Use" at the relevant location in the submission. Students must be able to demonstrate that a complete solution existed before AI was consulted and that AI was used only for verification, review, comparison, or feedback.

Tier 3: AI-Assisted Work with Attribution (Help Me Work)

AI may be used as a brainstorming, research, drafting, analysis, implementation, or design-support tool. Students must still exercise their own engineering judgment and independently verify all AI-generated information before incorporating it into submitted work. Permission to use AI does not mean that unverified AI output may be submitted.

The Tier 3 Rule

AI output must be reviewed, verified, and confirmed. AI may supplement the student's work, but it may not replace the student's critical thinking, engineering judgment, or responsibility for the final result.

Permitted Tier 3 Uses

- Generating design concepts or alternatives
- Exploring possible approaches to open-ended problems
- Identifying potentially relevant standards, references, components, or manufacturers
- Developing preliminary calculations, models, code, or design strategies
- Drafting portions of a report or presentation
- Creating figures, illustrations, or presentation content
- Obtaining feedback on design decisions
- Developing study or organizational materials

Student Responsibilities

- Verify all calculations, technical claims, and recommendations
- Confirm that cited references exist and support the claims attributed to them
- Evaluate the feasibility, safety, manufacturability, and appropriateness of AI-generated suggestions
- Clearly distinguish personal engineering judgment from AI-generated contributions
- Understand and be able to explain all submitted content
- Modify or reproduce the submitted work when requested

Use Critical Thinking and Engineering Judgment

Treat AI output like advice from an inexperienced intern. It may be useful, but it must not be accepted without careful verification.

Tier 3 Labeling Requirement

Any text, calculation, analysis, code, figure, design concept, or other material that benefited from AI assistance must be clearly labeled "Tier 3 AI Use" at the relevant location in the submission.

CAD, Engineering Drawings, and Engineering Software

Where applicable, the use of CAD, CAE, drafting, simulation, and other engineering software is expected and encouraged. The use of computer software is not, by itself, considered AI use. However, AI-assisted features must comply with the tier assigned to the activity.

Students are expected to create engineering models, assemblies, drawings, analyses, and related design artifacts themselves rather than relying on AI to generate substantial portions of the engineering work.

CAD Principle

Use of AI-assisted features must comply with the assigned tier. Regardless of the tier, the student must remain the primary creator of the engineering design.

AI may assist with implementation details, automation, verification, repetitive tasks, or review, as permitted by the assigned tier. It may not replace the student's responsibility to establish the design intent, determine the engineering configuration, select dimensions, or make engineering decisions.

CAD Under Tier 2

For activities designated as Tier 2, the student must establish the design intent and create the underlying model, drawing, analysis, or engineering solution before using AI.

CAD Under Tier 3

For activities designated as Tier 3, AI may assist with concept development, modeling, analysis, or implementation. Students must still understand the design requirements; evaluate AI-generated concepts; verify dimensions, constraints, materials, and assumptions; evaluate safety, feasibility, and manufacturability; and be able to explain, justify, modify, and reproduce the submitted work.

CAD Decision Guide

ACCEPTABLE: AI ASSISTS EXECUTION	NOT ACCEPTABLE: AI CREATES THE DESIGN
Create repetitive features after design intent is established	Generate a complete component from a high-level description
Generate arrays, patterns, or repeated features	Determine geometry and dimensions with minimal student input
Suggest modeling procedures or commands	Make the principal design decisions
Review drawings for missing dimensions or inconsistencies	Generate a complete engineering drawing from a brief prompt
Automate routine implementation steps	Substitute AI-generated work for student engineering judgment

CAD Examples

PERMITTED	NOT PERMITTED
"Create a 3 x 3 array of M6 tapped holes." The student established the design intent, feature type, size, quantity, and arrangement. AI accelerates routine steps.	"Draw a shaft with two spur gears of 20 and 120 teeth and include all dimensions." AI is asked to establish substantial geometry and produce engineering documentation.

Programming, Scripting, and Computational Tools

Where applicable, the use of programming, scripting, mathematical modeling, simulation, and computational tools is expected and encouraged. Examples include MATLAB, Simulink, C/C++, Python, microcontroller development environments, and similar platforms.

The use of a programming or computational platform is not, by itself, considered AI use. However, AI-assisted code generation, debugging, completion, or modeling must comply with the tier assigned to the activity. Students are expected to develop the underlying computational logic, algorithms, control strategies, solution methods, and engineering decisions themselves rather than relying on AI or copied code to perform the intellectual work.

Programming Principle

Use of AI-assisted programming tools must comply with the assigned tier. Regardless of the tier, the student must remain the primary author of the computational logic.

AI may assist with implementation details, debugging, syntax, formatting, documentation, and code review, as permitted by the assigned tier. It may not replace the student's responsibility to formulate algorithms, develop solution strategies, or make engineering decisions. Using code from websites, repositories, previous submissions, or other sources without authorization, attribution, understanding, and verification does not establish authorship. Superficial changes to variable names, comments, formatting, or isolated commands do not transform externally generated code into student-created work.

Programming Under Tier 2

For programming activities designated as Tier 2, students must first develop the algorithm, computational logic, mathematical formulation, flowchart, pseudocode, control strategy, or program structure before consulting AI. The algorithm may be correct or incorrect, and it may be efficient or inefficient, but it must originate with the student before AI may assist with implementation, debugging, review, or improvement.

The Tier 2 Programming Rule

The algorithm may be correct or incorrect, but it must originate with the student before AI may assist with implementation.

Permitted Tier 2 Programming Uses

- Identify bugs or syntax errors
- Explain compiler or runtime error messages
- Identify dimension mismatches or data-type conflicts
- Review completed code for potential problems
- Suggest improvements to readability or organization
- Compare alternative implementations of student-developed logic
- Suggest a more efficient implementation of an existing student-developed algorithm
- Generate comments or documentation for code already developed by the student
- Translate student-developed pseudocode, equations, or flowcharts into programming syntax

Prohibited Tier 2 Programming Uses

- Generate the initial algorithm
- Determine the overall solution strategy
- Design the controller or computational method
- Provide the next programming step when the student has not developed the underlying logic
- Complete major unfinished portions of code
- Generate a complete program directly from the assignment description
- Create a complete Simulink model from a laboratory or project prompt
- Write a complete microcontroller program when the student has not developed the control logic
- Generate code merely because the student is stuck or lacks time

Programming Under Tier 3

For programming activities designated as Tier 3, AI may assist more directly with implementation and code generation. Students must still develop or understand the overall solution strategy; verify the computational logic; test and validate the code; confirm that outputs are physically and mathematically reasonable; understand every portion of submitted code; identify and correct errors; explain the program structure and execution; modify or reproduce the implementation when requested; and distinguish student-developed logic from AI-generated contributions.

Submitting functioning code is not, by itself, evidence of learning. Students must understand how the code works and why it produces the reported results.

Programming Decision Guide

ACCEPTABLE: AI ASSISTS IMPLEMENTATION	NOT ACCEPTABLE: AI REPLACES COMPUTATIONAL THINKING
Debug student-developed code	Generate the entire solution from the assignment prompt
Explain a compiler or runtime error	Design the algorithm or controller for the student
Translate student-developed pseudocode into syntax	Generate a complete Simulink model with minimal student input

ACCEPTABLE: AI ASSISTS IMPLEMENTATION	NOT ACCEPTABLE: AI REPLACES COMPUTATIONAL THINKING
Review completed code for possible errors	Write a complete microcontroller program from a high-level description
Improve organization, readability, or efficiency	Make only superficial changes to AI-generated or copied code
Generate documentation for student-developed code	Submit code the student cannot explain, modify, or reproduce

Programming Examples

PERMITTED UNDER TIER 2	NOT PERMITTED UNDER TIER 2
"I developed the following PID control algorithm and determined the governing equations. Here is my flowchart and pseudocode. Help me translate this logic into Arduino syntax." The engineering logic originated with the student. AI assists with implementation.	"Design a PID controller for this motor and write the Arduino code." AI is asked to perform both the engineering design and the programming.

Assigning AI Tiers to Assessments

The applicable AI tier will be identified in the instructions for each assessment. An assessment may assign different tiers to different components. For example:

- Engineering analysis: Tier 2, Check My Work
- Programming: Tier 2, Check My Work
- Report writing: Tier 3, Help Me Work
- CAD model and engineering drawings: Tier 2, Check My Work
- Presentation graphics: Tier 3, Help Me Work

When an assessment does not specify different tiers for its components, the assigned tier applies to the entire assessment. If the assigned tier is unclear, students must contact the instructor before using AI.

Documentation Requirements

For Tier 2 and Tier 3 work, students must retain complete records of their AI use, including:

- Prompts submitted to the AI tool
- AI responses
- Modifications made to AI-generated or AI-reviewed content
- Steps used to verify the accuracy of the information
- Evidence of the work completed before AI was consulted when Tier 2 applies

Examples of appropriate evidence may include calculations, handwritten notes, drafts, version histories, flowcharts, pseudocode, source files, intermediate models, or other records showing the development of the work. These records do not need to be submitted unless requested. The instructor may request them at any time. Students must also be prepared to explain their work, describe how AI was used, and demonstrate understanding of all submitted content.

Authorship, Understanding, and Burden of Proof

Under this policy, the burden does not fall on the instructor to prove that AI was used. Rather, the burden falls on the student to demonstrate authorship, understanding, and appropriate compliance with the assigned AI tier.

Students may be asked to:

- Explain the submitted work
- Describe how and where AI was used
- Provide records of AI interactions
- Provide evidence of work completed before AI was consulted

- Reproduce or modify portions of the work
- Explain code, calculations, models, drawings, or design decisions
- Justify assumptions and engineering choices
- Demonstrate understanding of all submitted material

Failure to properly label Tier 2 or Tier 3 AI use, provide requested documentation, or demonstrate authorship and understanding may result in the work receiving a grade of zero until the student satisfactorily explains and validates the submission. Violations may also be addressed under applicable course and university academic integrity policies.

Disclosure of AI Use in Developing This Policy

Development of this policy was primarily consistent with Tier 2 AI use, with limited Tier 3 assistance. Generative AI was used to review, organize, draft, and refine this policy. AI also contributed examples, visual aids, and alternative formulations. The policy objectives, educational rationale, examples, and final decisions originated with the author, who reviewed, revised, and approved all content.

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