Michigan Technological University

Undergraduate Student Learning Goal 4: Critical and Creative Thinking Rubric (for use 2021-22)

Critical and creative thinking are learned cognitive processes. Key components in critical thinking include constructing and evaluating arguments, which entail identifying and analyzing relevant evidence, often for the purpose of understanding and advocating for a new or alternative perspective. Key components of creative thinking include modeling, composing, and refining ideas in innovative ways that allow for acknowledging contradictions. Collectively, these skills help students make sense of large amounts of information, detect and avoid fallacies, facilitate dialogues, generate alternative perspectives, and cultivate a deeper self-awareness of how to connect and synthesize cultural, social, economic, and scientific ideas.

Critical and Creative Thinking	What is being assessed	Beginning 1	Developing 2	Proficient 3	Exemplary 4
4.1 Explanation of Issues (Critical Thinking)	Clear and comprehensive communication of issues or problems	Idea/Issue/Problem to be considered is stated without clarification or description.	Idea/Issue/Problem to be considered critically is stated but description leaves some terms undefined, ambiguities unexplored, boundaries undetermined, and/or backgrounds unknown.	Idea/Issue/Problem to be considered critically is stated, described, and clarified so that understanding is communicated.	Idea/Issue/Problem to be considered critically is stated clearly and described comprehensively, delivering all relevant information necessary for full understanding.
4.2 Evidence (Critical Thinking)	Critical analysis or synthesis of information from a variety of sources	Information is taken from one or a few sources without any interpretation/evaluation. Viewpoints of experts are taken as fact, without question.	Information is taken from a variety of sources with some interpretation/ evaluation, but not enough to develop an analysis or synthesis. Viewpoints of experts are taken as mostly fact, with little questioning.	Information is taken from a variety of sources with enough interpretation or evaluation to develop a coherent analysis or synthesis. Viewpoints of experts are possibly questioned.	Information is taken from a variety of sources with enough interpretation/evaluation to develop a comprehensive analysis or synthesis. Viewpoints of experts are questioned.
4.3 Student's Position (perspective/thesis/ hypothesis) (Critical Thinking)	Consideration of others' points of view in developing one's own imaginative perspective, thesis, or hypothesis	Specific position is stated but is simplistic and obvious.	Specific position acknowledges different sides of an issue.	Specific position takes into account the complexities or nuances of an issue.	Specific position takes into account the complexities of an issue. Limits of position are acknowledged. Others' points of view are synthesized within the position.
4.4 Approaching Problems (Critical Thinking)	Creative problem solving by developing alternative methods or ideas	Only a single approach is used when encountering a problem.	Considers and rejects less acceptable approaches to a problem.	Having selected from among alternatives, develops an appropriate approach to solve a problem.	Develops an appropriate approach to solve a problem, recognizes consequences of approach, and can articulate reason for choosing approach.
4.5 Embracing Contradictions (Critical/Creative Thinking)	Ability to consider multiple perspectives or ideas	Acknowledges (mentions in passing) alternate, divergent, or contradictory perspectives or ideas.	Explores (recognizes the value of) alternate, divergent, or contradictory perspectives or ideas in a small way.	Incorporates alternate, divergent, or contradictory perspectives or ideas.	Integrates alternate, divergent, or contradictory perspectives or ideas fully.
4.6 Innovative Thinking (Creative Thinking)	Creating and applying significant ideas	Reformulates a collection of available ideas.	Experiments with creating an idea, question, format, or product.	Creates a novel or unique idea, question, format, or product.	Extends a novel or unique idea, question, format, or product to creation that crosses boundaries.
4.7 Acquiring Competencies (Creative Thinking)	Acquiring strategies and skills within a particular domain	Model: Successfully reproduces an appropriate exemplar.	Adapt: Successfully adapts an appropriate exemplar to her/his own specifications.	Create: Creates a new object, solution, or idea that is appropriate to the domain.	Create and Reflect: Evaluates creative process and new object, solution, or idea using domain-appropriate criteria.
4.8 Taking Risks (Creative Thinking)	The willingness to take risks, such as going beyond original parameters of the final product, introducing new materials and forms, tackling controversial topics, advocating unpopular ideas or solutions	Stays strictly within the minimum guidelines for the final product.	Considers new directions or approaches without going beyond the guidelines for the final product.	Incorporates new directions or approaches in the final product.	Actively seeks out and follows through on untested and potentially risky directions or approaches in the final product.
4.9 Connecting, Synthesizing, Transforming (Creative Thinking)	Making ideas internally meaningful and relevant	Recognizes existing connections among ideas or solutions.	Connects ideas or solutions in new or novel ways.	Synthesizes ideas or solutions into a satisfying whole.	Transforms ideas or solutions into new forms.

Adapted from Association of American Colleges & Universities (AAC&U) VALUE rubric [http://www.aacu.org/value-rubrics] on critical and creative thinking.