

Thinking Critically Rubric (2017)				
	Advanced (3)	Developing (2)	Emerging (1)	Initial (0)
1. Definition of issue to be considered critically	Describes the issue/question/ problem clearly and precisely and comprehensively.	Describes issue/question/ problem clearly; not seriously impeded by omissions.	States issue/question/problem but some terms undefined or ambiguities unexplored.	States issue/question/ problem vaguely without clarification.
2. Synthesis of relevant existing knowledge	Synthesizes relevant background information from appropriate sources spanning multiple perspectives and approaches.	Presents relevant background information from appropriate sources representing various points of view and approaches.	Presents relevant background information from appropriate sources but limited in points of view.	Information is irrelevant or from inappropriate sources; important approaches and perspectives are missing.
3. Student's position (thesis/ hypothesis)	Position is imaginative, takes into account complexity, acknowledges limits, synthesizes other points of view. Testable outcomes of multiple hypotheses are compared.	Position is stated clearly, taking into account complexity and acknowledging other points of view. Testable outcomes of a hypothesis are explained.	Position is stated relatively clearly. Different sides of issue are acknowledged and/or some reflection on testable outcomes is presented.	Position is stated, but is vague, simplistic, obvious or untestable.
4. Evidence and Analysis	Selects, organizes, and synthesizes evidence to reveal insightful patterns, differences, or similarities, and evaluates quality and sufficiency of evidence with respect to the issue, question or problem.	Selects evidence appropriate to support an argument. Organizes evidence to reveal relevant patterns, differences, or similarities. Begins to evaluate quality and sufficiency of evidence with respect to the issue, question or problem.	Begins to consider what kind of evidence is needed. Organizes evidence, but not effectively enough to reveal important patterns/differences/similarities.	Lists evidence but lacks organization or relevance. May not distinguish between fact, opinion and value judgment, or between observations and interpretation.
5a Evaluation of Arguments	Explains structure of an argument and routinely judges soundness correctly.	Identifies structure of an argument and judges soundness correctly in most cases.	Identifies parts of an argument and describes what it means for an argument to be sound.	Recognizes that specific logical steps are required to form a sound argument.
5b Construction of Arguments	Generates conclusions supported by sound argument based on appropriate evidence discussed in priority order. Alternative conclusions evaluated. Assumptions identified and their impact on conclusions.	Develops conclusions logically tied to a range of information, including opposing viewpoints, but evidence may not be presented in priority order. Most assumptions stated explicitly, but their impact not thoroughly investigated.	States conclusions that are logically tied to some information, but opposing information is ignored or some supporting evidence or steps in logic are not fully explained. Some but not all assumptions may be identified.	Presents conclusions that are inconsistently tied to some of the information/evidence. Does not identify assumptions.
6 Examination of limitations and implications	Thoroughly explores limitations/implications.	Identifies and clearly explains some limitations and implications of the conclusions.	Clearly identifies some limitations, consequences and implications of the conclusions.	Does not consider limitations or implications of the conclusions, or does so only in a cursory manner.

GLO: Thinking Critically - Think critically, evaluate, analyze, and solve problems employing multiple methods of reasoning.

What does this GLO mean?

Thinking critically is the objective analysis of an issue in order to form a judgment. It is a habit of mind characterized by the comprehensive exploration of issues, ideas, artifacts, and events before accepting or formulating an opinion or conclusion. It is the intellectually disciplined process of actively and skillfully conceptualizing, applying, analyzing, synthesizing, and/or evaluating information gathered from or generated by observation, experiment, experience, reflection, reasoning, or communication as a guide to belief or action.

What should courses that seek certification as a GE course that satisfies this GLO include?

CSU Executive Order 1100 requires students to take one basic course specifically focused on critical thinking (category A3). In addition, CSUSB students are expected to continue to develop more discipline-specific critical thinking skills in many other courses throughout their undergraduate career, beginning with general education courses at both the lower- and upper-division levels (A2. Written Communication, D. American Government, B1. Physical Science, B2. Life Science, C2. Philosophy, D. Upper-division Social Science). Further development of critical thinking skills is expected within a student's major, in support of ILO 4 (Ways of Reasoning and Inquiry).

For the general, introductory course in critical thinking, EO1100 specifies: "In critical thinking (subarea A3) courses, students will understand logic and its relation to language; elementary inductive and deductive processes, including an understanding of the formal and informal fallacies of language and thought; and the ability to distinguish matters of fact from issues of judgment or opinion. In A3 courses, students will develop the abilities to analyze, criticize, and advocate ideas; to reason inductively and deductively; and to reach well-supported factual or judgmental conclusions." Each of these components should be present in courses proposed to satisfy subarea A3, even though this level of detail is not present with the attached rubric, which is designed for evaluating samples of student work with respect to the Critical Thinking GLO overall, after completion of the general education program and/or upon completion of an undergraduate degree.

Other courses that seek certification as general education courses with respect to the critical thinking GLO should:

- Structure the course to intentionally develop and practice the skills of evaluation, analysis, and synthesis needed to become a critical thinker
- Apply these skills in specific settings and disciplines appropriate to the course content
- Explicitly highlight and have students reflect on how critical thinking is used in the class
- Include assignments that can be used to assess student performance in a majority of rows the rows of the attached rubric.

What do we want our students to become in terms of the critical thinking GLO? What should CSUSB graduates know and be able to do in terms of this GLO?

CSUSB graduates should have both the skills and the inclination to think critically. Students should be able to routinely apply the skills of evaluation and analysis in a variety of contexts and situations. Students should be able to critically analyze arguments constructed by others and to construct compelling, well supported arguments of their own within the context of critical examination of an issue, question or problem. Ideally, students will become critical thinkers in all aspects of their daily lives. For most rows in the rubric, students should achieve an emerging level of competency in lower-division general education courses and a developing level of competency by the time they complete their upper division general education requirements. With additional support for critical thinking skills within the courses for their major, students should strive to attain an advanced level in as many rows as possible by the time they graduate. The rubric cells may be adapted as appropriate for specific disciplines.

Additional clarification regarding row 5a Argument Analysis

Students should achieve at least a developing level of proficiency in argument analysis during an introductory course in critical thinking that meets the A3 requirement. Students should clearly understand the overall structure of an argument in terms of its constituent parts (assumptions, evidence, qualifiers, counter-argument, conclusion,

etc.) and should routinely use that understanding to judge the soundness of arguments appropriately. Students should recognize whether or not assertions are justified by evidence or by steps in a coherent logical argument and should identify hidden assumptions.

In other GE courses certified to promote critical thinking, students should achieve a developing level of ability to analyze arguments in the specific contexts appropriate to each course. For some courses, the cells of row 5a in the rubric may be applicable as is. For other courses, the cells may be adapted to fit the style of argument used in different disciplines. A specific adaption for hypothesis testing as a mode of critical thinking is shown in the example below.

5a Argument analysis applied to hypothesis testing

Advanced: Identifies the hypothesis and the specific outcomes it predicts. Considers which tests are most capable of distinguishing between alternative hypotheses. Synthesizes the results of multiple experiments and describes the extent to which the results support or refute the hypothesis or remain inconclusive.

Developing: Identifies the hypothesis and specific outcomes it predicts. Evaluates whether the results of an experiment or test support or refute the hypothesis or are inconclusive.

Emerging: Identifies the hypothesis. Attempts to identify specific outcomes it predicts and to evaluate whether the results of an experiment or test support or refute the hypothesis or are inconclusive.

Initial: Understands that knowledge can be created by designing and conducting an experiment to test a hypothesis.

The specific example above is given because CSU Executive Order 1100 requires that all students should develop some familiarity with the scientific method. This should occur in general education courses that are certified in the B1, B2 and B3 areas **and in any upper division GE science courses**. With respect to analyzing an argument based on hypothesis testing, by the time they complete their GE requirements, all students should reach the developing level of competency specified in the example above, which involves understanding the basic logic of causal hypothesis testing, being able to identify the hypothesis in a scientific argument and to identify specific outcomes that are predicted by that hypothesis. They should be able to evaluate whether a proposed experiment or test is capable of supporting or refuting a specific hypothesis and should be able to evaluate the results of an experiment, describing the extent to which the results support or refute the hypothesis or are inconclusive. Science majors should strive to reach the competency described in the “advanced” column.

Some assignments that might contribute to meeting and assessing this GLO

- Analysis of arguments constructed by others (e.g., in courses meeting the A3, B1 or B2 requirements; rows 5a may be the only relevant row)
- Experiments conducted in science lab classes (e.g., in courses meeting the B3 requirement)
- Individual or group term projects that require constructing an argument in support of a particular position, thesis or hypothesis. (e.g., in upper division general education courses)
- **Senior research projects or other culminating experiences**

Sources:

Much of the text in the attached rubric comes from the AAC&U Value rubrics for Critical Thinking and for Inquiry and Analysis <<https://www.aacu.org/value-rubrics>>, supplemented with locally composed text and with minor additions from the Washington State University critical thinking rubric <https://assessment.trinity.duke.edu/documents/WashingtonStateUniversityCriticalThinkingProjectResourceGuide_000.pdf>.