

# Critical Thinking

**Learning Goal:** Critical thinking includes the processes of analysis, synthesis and evaluation necessary to understand and acquire knowledge. In addition to the application of formal logic, critical thinking also incorporates careful observation, reflection and experience. Critical thinking is not only applied in investigations intended to result in a single, unambiguous conclusion, but also includes skills that allow for sound judgments to be made when multiple, competing viewpoints are possible. Throughout the core curriculum, students will practice the habits of critical thinking and move forward in their ability (and perhaps willingness) to question their assumptions. In short, students will be able to recognize, formulate and pursue meaningful questions about their own and others' ideas.

**Learning Outcomes:** With increasing proficiency, students will

1. Identify and understand assumptions and theses that exist in the work of others; and
2. Ask meaningful questions, originate plausible theses, and identify their own underlying assumptions; and
3. Seek and identify confirming and opposing evidence relevant to original and existing theses; and
4. Evaluate and synthesize evidence for the purpose of drawing valid conclusions.

**Rationale** (i.e., the intention of the proposed outcomes): The essence of critical thinking is the ability to engage in well-reasoned criticism. Criticism as used here means development of skills necessary for doing credible analysis of the ideas of others, and developing credible and original ideas of ones own. The term *theses* is intended to include a broad spectrum of assertions, hypotheses, and premises relative to a variety of academic disciplines. The term assumptions is included because sophisticated analysis requires recognition, articulation, and understanding of theses, as well as recognition, articulation and understanding of assumptions that explicitly or implicitly underlie theses. Outcome #3 requires both confirming and opposing evidence to be gathered and considered in order to help students engage first in effective objective analysis rather than supporting an argument solely with data that favors their position.

The skills necessary to arrive at credible conclusions concerning ones own and others ideas include careful observation, collection, analysis, and use of appropriate data, as well as perception of relevant ambiguities. The outcomes aim to structure the process of developing these skills. Outcome #1, therefore, requires that the student engage with, and understand, the ideas in the work of others. Outcome #2 requires the student to explore by formulating questions and answers to develop ideas of their own. Outcome #3 is directed specifically toward teaching the student to recognize and collect evidence that both supports and opposes their ideas and those of others in order to arrive at conclusions characterized, in so far as possible, by objective realities. Outcome #4 asks the student to go further in the process of arriving at conclusions characterized by objective realities by learning to evaluate and weigh the evidence or data collected. Such habits are established by sustained practice and develop as students progress through the curriculum.