

Tools for Thought Learning Outcomes:

Overarching Outcomes:

At the end of the course, students will have developed the ability to:

1. Develop, explain, and make predictions from data through mathematical models
2. Analyze controversial issues through readings and mathematical analysis
3. Develop unique logical arguments based on analysis of texts and data
4. Compare, contrast, evaluate, and/or reconcile conflicting points of view
5. Write college-level papers that integrate mathematical components with analytical and argumentative strategies
6. Engage in intellectual discussion of current social and environmental issues
7. Understand the importance of data in considering issues
8. Understand and control, meta-cognitively, their own reading, writing, and thinking processes
9. Make connections between ideas that initially seem unrelated, and incorporate these ideas into their writing and thinking
10. Respond to college-level academic requirements, use institutional, technological, and peer resources available to them, and recognize their own ability to persevere and succeed in college

Overarching outcomes (above) achieved through the following focused outcomes for individual integrative assignments:

Essay # 2 (Salmon)

The student incorporates data, a mathematical model they developed, and a discussion of the significance of their model into a causal analysis that requires synthesis of ideas from a number of textual sources. (1, 2, 3, 5, 6, 7, 10)

Essay #3 (Equality)

The student integrates data and a mathematical model he or she created into a definition essay, developing connections between ideas not obviously related on a topic that may present emotional barriers to acceptance of the implications of the mathematical model.

(1, 2, 3, 5, 6, 7, 9, 10)

Essay#4 (AIDS)

The student critiques and make judgments about essays expressing contradictory opinions on a controversial topic discussed in both American and global terms, reconciling those judgments with his or her own mathematical model. The model is based on data questioned in one of the readings. (1, 2, 3, 4, 5, 6, 7, 10)

Essay #5 (Wolves)

The student constructs a focused and detailed argument, on a controversial, real-life issue, that incorporates a mathematical model and demonstrates an understanding of factors that may affect or limit that model. (1, 2, 3, 4, 5, 6, 7, 9, 10)

Essay #6 (A Mathematician's Apology)

The student constructs a specific and personal response to a reading that focuses on abstract and unfamiliar ideas about the purpose of mathematics. (6, 7, 8, 9, 10)