MATHEMATICS AND FORMAL REASONING (MF)

One 5-credit course or equivalent

# GE Description

Courses that carry the MF GE designation emphasize university-level mathematics, computer programming, formal logic, or other material that stresses formal reasoning, formal model building, or the application of formal systems.

These courses generally focus on one of the following:

1. mathematical reasoning and proof (at least MATH 3 pre-calculus or equivalent)
2. formal logic
3. computer programming
4. other formal systems (e.g., generative grammars, economic models, formal music theory)

Whichever particular approach is used, ***these classes aim to teach students to think with rigor and precision, using formal or mathematical models to teach the value of logical reasoning and dispassionate analysis***

# Educational goals/outcomes

Students will:

* Develop an ability to reason clearly within a formal system. This ability may be developed through courses that develop the ability to manipulate and reason about symbolic information, rules of inference, validity, and so on.
* Courses may also consider the ways in which our prior emotions and beliefs tend to distort or bias reasoning

# QUESTIONS

1. Which of the above approaches to addressing the MF GE does this course offer? Enter all that apply: Practice, A, B, C, or D (see the GE Description above).
2. Please identify the assignments that will develop in students an ability to reason in formal systems. Then explain *how* these assignments are designed to develop this formal reasoning ability in students. Please do not refer reviewers to the syllabus.
3. Please describe how the student’s satisfaction of the educational objective for this GE requirement will be assessed.