

Mathematical Reasoning or Quantitative Analysis Requirement

Criteria

Courses satisfying the requirement in Mathematical Reasoning or Quantitative Analysis would be expected to meet the following criteria:

1. Courses should address the following learning outcome:

Students should be able to apply a quantitative technique (mathematical, graphical, algebraic, or statistical), an algorithmic method, or a formal logical analysis to solve a defined problem or body of problems.

2. In such courses, at least 50% of the final grade must be based on evaluated quantitative exercises.
3. Such courses must require students to do a substantial amount of quantitative or mathematical work distributed over the course of the term.
4. Courses satisfying this requirement must provide explicit instruction in quantitative methods and quantitative reasoning. Exercises in these courses might take the form of:
 - Symbolic proofs (either logical or mathematical)
 - Statistical or graphical analysis of numerical data
 - Problem solving using mathematical methods
 - Implementation of computer algorithms.

Faculty who believe that a particular course or set of courses fulfills the expectations of the requirement without conforming precisely to the listed criteria may petition the Committee on Instruction for approval. The committee will make determinations on a case by case basis.

Mathematical Reasoning or Quantitative Analysis Course Proposal

Date: _____

Name of Instructor: _____

Department: _____

Course Number and Title: _____

Term & Year of first offering (if a new course): _____

Frequency: _____ every term _____ yearly _____ alternate years

_____ other (please explain) _____

Enrollment limit: _____ Typical enrollment: _____

1. How will your course address the learning outcome stated above?
2. What are the goals and purposes of your course? How will mathematical reasoning or quantitative analysis assignments enhance the goals or purposes of your course?
3. What type or types of quantitative/mathematical work will you assign? Briefly describe each assignment and indicate how performance will be assessed.
4. What type of guidance/instruction in mathematical reasoning or quantitative analysis will you offer as an instructor?
5. What percentage of the final course grade is based on quantitative/mathematical reasoning work? How will feedback on quantitative/mathematical work be given?

- If you have taught a version of this course before, please attach a copy of the course syllabus and, when available, send a revised syllabus.
 - For new courses, please send a copy of the syllabus after the first offering of the course. Please also include, if available, copies of handouts that illustrate the types of assignments you use.
6. In order to build a set of resources for other instructors, we would like to collect sample materials. Do we have your permission to share your materials with others? ____ yes ____ no
7. Will this course be offered in the current or next academic year? ____ yes ____ no