

# Quantitative Sciences (QS)

## “QS Snapshot” File *(quick overview)*

- 1) Current QS requirement
- 2) Proposed changes
  - verbatim from committee report
  - brief version
- 3) Proposed learning objectives

# Current QS

"The course either provides instruction in a quantitative skill to achieve proficiency in math, statistics, or computer science  
or  
engages in the application of explicitly quantitative methodology to analyze problems.

Courses designated QS include courses in mathematics, statistics, computer science as well as various individual courses offered in other departments."

# Committee Proposal

“A course satisfying the Quantitative Studies (QS) area of knowledge requirement would be a course in any discipline whose primary focus is quantitative problem solving or modeling and in which the students, upon successful completion, will have met the five objectives listed above. \* To complete the new QS requirement, students would need to successfully complete two QS courses, one of which is in the Mathematics, Statistics, or Computer Science department at or above the level of math 25L, Statistics 101 or Computer Science 6.”

\* **Note:** the “five objectives” are provided on p.5 of this file

# Proposal -- Brief

## **Must complete:**

--2 QS courses

--1 one of these must be

--in the Mathematics, Statistics, or Computer Science department

--at or above the level of math 25L, Statistics 101 or Computer Science 6.

## **Courses satisfying QS:**

--in any discipline

--primary focus:

quantitative problem solving or modeling

# Proposal -- Learning Objectives

## Students able to:

- 1) **Explain** how data analysis, mathematical modeling, or computer programming can be used to solve, or gain deeper insight, into the problem;
- 2) **Demonstrate skill** with data analysis, mathematical modeling, or computer programming to solve, or gain deeper insight, into the problem;
- 3) **Interpret quantitative evidence** and draw appropriate inferences and conclusions from the analysis of the problem;
- 4) **Identify and evaluate the assumptions** used in the analysis and the limitations of any conclusions drawn; and,
- 5) **Effectively present the results** of their analysis. This includes a clear interpretation of the problem, a reasoned description of the methods used to analyze the problem, justification of any inferences drawn and a discussion of the implications and importance of the problem in its larger social, scientific, political, technical or cultural context.