**Hallmarks: Quantitative Reasoning Foundations (FQ) course:** To satisfy a Quantitative Reasoning Foundations requirement, a course will meet these hallmarks:

1. help students value the relevance and usefulness of quantitative reasoning.
2. include practical quantitative reasoning problems that apply to specific disciplines, daily and civic life, and/or professional settings (i.e., not be purely theoretical).
3. provide opportunities for practice and feedback that are designed to help students evaluate and improve quantitative reasoning skills by including a course component with a 30:1 student to teacher ratio (e.g., a lab/recitation section, Supplemental Instruction sessions, or a class limited to 30 or fewer students).
4. be designed so that students will be able to¹
   a. identify and convert relevant quantitative information into various forms such as equations, graphs, diagrams, tables, words;
   b. make and evaluate assumptions in estimation, modeling, and data analysis;
   c. calculate (including selection of appropriate formulas and correct manipulation of formulas);
   d. make judgments and draw appropriate conclusions based on the quantitative analysis of data, the assumptions made, the limitations of the analysis, and the reasonableness of results;
   e. create logical arguments supported by quantitative evidence; and
   f. communicate those arguments in a variety of formats (using words, tables, graphs, mathematical equations, etc., as appropriate).

**Quantitative Reasoning Definition** The definition is an adaptation of the WASC definition² that was modified based on feedback received from faculty at UH campuses and information from expert sources.

Quantitative reasoning (QR) is the ability to apply mathematical concepts to the interpretation and analysis of quantifiable information in order to solve a wide range of problems, from those arising in pure and applied research to everyday issues and questions. It includes the ability to do the following: apply math skills; judge reasonableness of results; understand and communicate numerical information via variables and equations, graphs and charts, words/sentences; and recognize the limits of mathematical or statistical methods. [Note: quantifiable information can be expressed numerically or graphically]

¹ The statements listed here are adapted from the Association of American Colleges & Universities’ Quantitative Literacy VALUE rubric.
² WASC, the Western Association of Schools and Colleges, published its definition of quantitative reasoning in its 2013 Handbook on Accreditation. See page 52 (Glossary) of the March 2013 edition.