

New Core Foundational Competency in Quantitative Analysis (QA)

Rubric for Evaluating Potential QA Courses

The New Core Subcommittee on QA has grouped the requirements for QA courses into three categories: Foundational Requirements, Quantitative Analysis Requirements, and Technological/Information Literacy Requirements.

The Subcommittee on QA will seek indicators of how the QA requirements will be satisfied as it considers whether to recommend QA approval of a course. Indicators of how each requirement might be satisfied in a given course are listed below. The lists of indicators are not necessarily exhaustive.

QA courses must satisfy all of the requirements, and must be submitted to a regular assessment program in order to monitor whether the requirements continue to be satisfied over time.

Page numbers refer to the APTF Curriculum Report [ADD LINK TO REPORT/CORE PROPOSAL HERE].

Foundational Requirements

1. "... should be introduced ... during their first year ..." (p. 12)

Indicators

- + Minimal prerequisites for the QA course
- + Should be a low-numbered course
- + Should serve as a foundational prerequisite for other courses or curriculum content

2. "... include discussion of ethical argument and ethical use of data." (p. 12)

Indicators

- + Syllabus-level or assignment-level explicit mention of ethical argument and ethical use of data.
- + Bibliographic references in cases when the ethics content is not included in a primary textbook.

Quantitative Analysis Requirements

3. "students ... should develop sufficient analytical skills to **find and pose precise questions** that can be appropriately analyzed by quantitative methods;
draw inference from data;
represent data;
think critically about quantitative statements;
and **recognize sources of error**." (p. 13, emphasis added)

Indicators

- + Syllabus-level and assignment-level QA content, including:
 - Types of **questions** to be found and posed;
 - Specific methods for **drawing inference** from data, such as estimation and testing hypotheses;
 - Analytical tools for **representing data**, such as summary statistics, graphical displays, and mathematical models;
 - Scenarios for **thinking critically** about quantitative statements, including selecting appropriate methods, evaluating the sensibility of calculations and conclusions, consideration of diagnostics, and evaluating published articles and reports that include quantitative information.
- Sources of error** encountered in context, such as sampling error, nonresponse, and bias.

4. "... closely tied to a context, ..." (p. 13)

Indicators

- + Bulletin-level course description identification of the context to which QA will be tied.

5. Three credits (p. 11)

Indicators

- + The equivalent of three credits of QA content explicitly represented in the Bulletin-level course description and at the syllabus level.

Technological/Information Literacy Requirement

6. "... embedded ..." (p. 11)

Indicators

- + Syllabus-level identification of appropriate analysis technology
- + Syllabus-level or assignment-level description of data management content