
PROGRAM-LEVEL OUTCOMES (GS courses must meet at least one program-level outcome)

Students can:

- 1) Evaluate information appropriate to the task;
- 2) Apply principles of critical thinking to demonstrate integrative learning;
- 3) Communicate effectively in spoken form;
- 4) Communicate effectively in written form;
- 5) Analyze cultural issues within a global context.
- 6) Evaluate in context significant concepts relating to democracy.

III. DISTRIBUTION

(Distribution courses must meet learning outcome #1 and a majority of the remaining outcomes in their respective category.)

Analytical & Quantitative Thought outcomes

Students can:

- 1) Articulate the relevance of the Analytical & Quantitative Thought course to their general education.
- 2) Express formal relationships using various forms of analytical reasoning.
- 3) Define problems using techniques appropriate to the discipline.
- 4) Solve problems using techniques appropriate to the discipline.
- 5) Draw appropriate inferences from data in various forms.
- 6) Evaluate analytical results for reasonableness.

ASSESSMENT INSTRUMENT

Because of the diversity of the A&Q courses, the assessment instrument may vary. A generic instrument follows that addresses learning outcomes 2 – 6 through a problem or exercise and then learning outcome 1 in an essay portion. In this manner, the essay portion only could be completed to address the pilot study to be performed in spring 2013. The problem/exercise could be added in later to comply with meeting the majority of learning outcomes 2 – 6.

GENERIC INSTRUMENT

The students are given a problem or exercise that is reflective of the majority of learning outcomes 2 - 6. A critical thinking essay portion is then given to the students to reflect on how this is important to their general education. The essay portion links back to learning outcome 1.

Problem/exercise:

- Student analyzes and then executes the A&Q problem/exercise
- Student collects and evaluates the results appropriately

Essay portion (no more than 800 words):

- Introduction
 - o Describes an A&Q problem/exercise or issue
- Body
 - o Reflects on the problem/exercise or issue and how this relates to society and/or industry
- Conclusion
 - o Ends by writing about the importance of this problem/exercise or issue in relation to a student's general knowledge base.

Revisions to the generic instruments follow to cover all learning outcomes:

Essay/writing instrument meets A&Q #1.

Problem/exercise/exam for A&Q #2 – #6:

- Student is given a complex problem.
- Student has to analyze the problem to figure out the best way to solve. (#2, #3)
- Student solves the problem using analytical techniques learned during the class. (#3, #4)
- Student is asked to present problem-solving steps and hand in an appropriate result. (#5, #6)

Analytical & Quantitative Thought: Distribution Courses Rubric

This rubric addresses the following **General Studies (GS)** learning outcomes: **GS 1**: Evaluate information appropriate to the task; **GS 2**: Apply principles of critical thinking to demonstrate integrative learning; **GS 4**: Communicate effectively in written form and **Analytical & Quantitative Thought (AQ)** Outcomes: **AQ 1**: Articulate the relevance of the A&Q Thought course to their general education; **AQ 2**: Express formal relationships using various forms of analytical reasoning; **AQ 3**: Define problems using techniques appropriate to the discipline; **AQ 4**: Solve problems using techniques appropriate to the discipline; **AQ 5**: Draw appropriate inferences from data in various forms; **AQ 6**: Evaluate analytical results for reasonableness as well as GS program level outcomes

Evaluators are encouraged to assign a Does not meet criteria to any work sample that does not meet Beginning level performance.

Indicator	Does not meet Criteria	Beginning	Developing	Proficient	Advanced
Articulate relevance to general education AQ 1 GS 1; GS 4	Cannot articulate why the A&Q discipline is relevant.	Limited articulation of why the A&Q discipline is relevant.	Articulates in general why the A&Q discipline is relevant.	Articulates in <i>satisfactory detail</i> why the A&Q discipline is relevant.	Demonstrates a <i>thorough</i> understanding of the A&Q discipline and its relevance.
Express formal relationships using various forms of analytical reasoning AQ 2	Cannot express the formal relationships using various forms of analytical reasoning	Limited ability to express formal relationships using various forms of analytical reasoning	In a general way expresses the formal relationships using various forms of analytical reasoning	Satisfactorily expresses the formal relationships using various forms of analytical reasoning	Thoroughly expresses the formal relationships using various forms of analytical reasoning
Define problems using techniques appropriate to the discipline AQ 3 GS 1; GS 2	Unable to define problems using techniques appropriate to the discipline	Limited ability to define problems using techniques appropriate to the discipline	In a general way defines problems using techniques appropriate to the discipline	Satisfactorily defines problems using techniques appropriate to the discipline	Thoroughly defines problems using techniques appropriate to the discipline
Solve problems using techniques appropriate to the discipline AQ 4	Unable to solve problems using techniques appropriate to the discipline	Limited ability to solve problems using techniques appropriate to the discipline	In a general way solves problems using techniques appropriate to the discipline	Satisfactorily solves problems using techniques appropriate to the discipline	Has a thorough understanding of and solves problems using techniques appropriate to the discipline
Draw appropriate inferences from data in various forms AQ 5 GS 2	Unable to draw appropriate inferences from data in various forms	Limited ability to draw appropriate inferences from data in various forms	In a general way can draw appropriate inferences from data in various forms	Satisfactorily draws appropriate inferences from data in various forms	Has a thorough understanding of and is able to draw appropriate inferences from data in various forms
Evaluate analytical results for reasonableness AQ 6 GS 2	Unable to evaluate analytical results for reasonableness	Limited ability to evaluate analytical results for reasonableness	In a general way can evaluate analytical results for reasonableness	Satisfactorily evaluates analytical results for reasonableness	Has a thorough understanding of and is able to evaluate analytical results for reasonableness