

Quantitative Literacy (Q) Designation

Definition of Quantitative Literacy

Quantitative Literacy (QL) is a 'habit of mind' competency, and comfort in working with numerical data. Individuals with strong QL skills possess the ability to reason and solve quantitative problems from a wide array of contexts. They understand and can create sophisticated arguments supported by quantitative evidence and they can clearly communicate those arguments in a variety of formats (using words, tables, graphs, mathematical equations, algorithms, etc., as appropriate). (adapted from AACU)

The following page contains the Quantitative Literacy Value Rubric.

BS Graduation Requirement

The WOU requirement for students seeking a **bachelor of science** degree is completion of a combined total of 11-12 credit hours in mathematics, computer science, and/or a designated quantitative literacy course (Q) course. A minimum of one course in mathematics at the level of MTH 111 or above and one course in computer science is required. The remaining required credit hours may be from either discipline or designated quantitative literacy courses in other disciplines. CS 101 may not be used to meet any portion of this 11-12 credit requirement. Quantitative literacy courses used to complete this requirement carry a special Q designation in the schedule of classes and on the transcript.

Goal of Quantitative Literacy Requirement

The goal of Quantitative Literacy (Q) courses at WOU is to expose students to the wide range of applications of quantitative literacy in various disciplines and to produce students who are proficient in a core set of quantitative literacy competencies (e.g. interpretation, representation, calculation, application/analysis, assumptions and communication).

In a Q course, college level quantitative literacy concepts will be developed and used as an integral part of the course. The course should provide ongoing opportunities for the student to develop the quantitative literacy skills and investigate the role, application, and limitations of the specific quantitative literacy concepts in the relevant discipline. It is highly recommended that MTH111 is a prerequisite for a Q course.

Guidelines for Q approval

To be approved for a "Q" designation, courses must:

- 1. Expressly include opportunities for students to demonstrate both statements below* (Note these statements are adopted from the Calculation and Application/Analysis features of the Quantitative Literacy Value Rubric).**
 - Student attempts calculations that are essentially all successful and sufficiently comprehensive to solve the problem.
 - Student uses the quantitative analysis of data as the basis for competent judgments, drawing reasonable and appropriately qualified conclusions from this work.

AND

Expressly include opportunities for students to demonstrate at least two of the statements below* (Note these statements are adopted from the

Interpretation, Representation, Assumptions and Communication features of the Quantitative Literacy Value Rubric).

- Student provides accurate explanations of information presented in mathematical forms. (e.g., equations, graphs, diagrams, tables, words, algorithms)
- Student competently converts relevant information into an appropriate and desired mathematical portrayal.
- Student explicitly describes assumptions and provides compelling rationale for why assumptions are appropriate.
- Student (predominantly) effectively uses quantitative information in connection with the argument or purpose of the work.

**Faculty may wish to use more simplified language in their objective statements. Objectives need not be presented verbatim as listed above, but must be unmistakably aligned.*

2. Incorporate activities that provide students the opportunity to engage with “Q” concepts in regular, frequent, assessable, and meaningful (i.e. discipline-specific) ways.

3. Assesses students’ ability to achieve the “Q” objectives in such a way that:

- In the aggregate, “Q” related assessments amount to at least 75% of the course grade

OR

- Requires students to complete a significant project (worth at least 33% of the course grade) that involves the application of quantitative literacy concepts.

Note: Courses designated as Q can also be taught without that designation.

Process for obtaining Q designation for a course

The Faculty Senate’s General Education Committee recommends to the Curriculum Committee the Q designation for courses based on statements and syllabi submitted by individuals or departments. A completed Q form should be attached to the e-form curricular request. Include a syllabus and supporting documents to facilitate the process. Useful supporting materials are anything that could help the committee determine the level of quantitative literacy content and percent of course grade dependent on quantitative literacy. Examples include copies of exams, the table of contents from a course textbook, detailed project guidelines and scoring rubrics, etc.

Q Designation form

This form is on the following page.

Quantitative Literacy (Q) Course Designation Form (2016)

www.wou.edu/facultysenate/

Information to include with your e-form curricular request for a Q designation

Course Prefix/Number

Course title

- See www.wou.edu/facultysenate/committees/general-education/ for the Guidelines for Q Approval
- Attach a document with the answers to the questions below to your curriculum e-form Q request
- Attach a syllabus and supporting documents for your proposed Q course to your curriculum e-form Q request
 - Useful supporting materials are anything that could help the committee determine the level of quantitative literacy content and percent of course grade dependent on quantitative literacy. Examples include copies of exams, the table of content of books used in the course, detailed project guidelines and scoring rubrics, etc.

1. What are the quantitative literacy topics to be covered in this course?
2. Describe how the quantitative literacy topics relate to the discipline.
3. Describe the learning outcomes expected¹.
4. Describe the types of assignments that will be used for assessing the students' knowledge of the learning outcomes listed in question 3. If there will be a major project involved, please describe.
5. Describe the type of feedback the student will receive on their quantitative literacy assignments, which meet the learning outcomes listed in question 3.
6. What percentage of the course grade is based on assessment of the quantitative literacy content? How is this determined?

¹ Learning outcomes must align with the objective statements in the "Guidelines for Q Approval" at www.wou.edu/facultysenate/committees/general-education/