

Equivalency Standards for Mathematics **(Category 3)**

The equivalency standards address 1) comparability of content, 2) level of learning material indicative of academic work (sample texts), and 3) extent of writing experience (minimum number of words).

Over the course of several meetings, the subcommittee of TAOC for the area of Natural Sciences and Mathematics has agreed to the following broad equivalency standards:

Course Titles:

Calculus I
Precalculus
Elementary Statistics
College Algebra
Foundations of Mathematics

To be considered equivalent, significant course overlap is necessary and only through the examination of the courses within the guidelines listed below can the extent of the overlap between courses be determined. Following the standards accepted by the Humanities and Fine Arts subcommittee, we have drafted the four guidelines listed below. These guidelines must act as the basis for the professional judgment of the committee when determining course equivalencies.

Similar Course Prerequisites

To be equivalent courses should have the prerequisites that are of a similar level and which may include assessment testing, completion of two years of high school algebra, or the completion of the appropriate developmental mathematics coursework.

Similar Course Goals or Learning Outcomes

Courses should provide students with the same broad learning outcomes and performance indicators to provide the proficiency for advancement to the next level even if the content of the courses are different. The focus of the mathematics being taught must be distinct from what is being taught in a high school algebra course.

The following mathematical skills and concepts are introduced or make significant use of:

- Manipulation of mathematical expressions;
- Functions and their various forms of expression (algebra, graphic, numeric);
- Problem solving using mathematics – methods are applied to find solutions to real world problems; and
- Quantitative literacy (provides a clear foundation experience from which student draws for subsequent coursework).

Comparable Course Level

A foundation-level course is most likely not equivalent to an advanced (300 – 400) level course regardless of similar names and course descriptions.

Similar Course Descriptions & Syllabi

Course descriptions are important to review but they do not necessarily capture the degree to which two courses overlap. Examination of the course syllabi, including textbooks and other resources, can bring additional clarity.

Chain equivalency—If $A=B$ and $B=C$ then $A=C$

Although chain equivalency is a useful concept for seeing similarity, there was concern that blindly following chain equivalency could lead to courses that were not significantly alike being viewed as such.