UNIVERSITY OF VIRGINIA
COLLEGE OF ARTS AND SCIENCES AND SCHOOLS OF ARCHITECTURE, COMMERCE, AND EDUCATION

Definition of Mathematics/Quantitative Reasoning Competency:

The University of Virginia expects graduates of its College of Arts and Sciences and its Schools of Architecture, Commerce, and Education to have and to understand basic knowledge and skills about mathematics and/or quantitative literacy in order to use it effectively and productively for their own purposes. Specifically, we expect these graduates to be able to apply simple mathematical methods to the solution of real-world problems. We believe a quantitatively literate graduate should be able to:

1. Interpret mathematical models such as formulas, graphs, tables, and schematics, and draw inferences from them.
2. Represent mathematical information symbolically, visually, numerically, and verbally.
3. Use arithmetical, algebraic, geometric, and statistical methods to solve problems.
4. Estimate and check answers to mathematical problems in order to determine reasonableness, identify alternatives, and select optimal results.
5. Recognize that mathematical and statistical methods have limits.[1]

Description of Methodology Used to Gather Evidence of Mathematics/Quantitative Reasoning Competency

In spring 2004, the University administered the "Collegiate Assessment of Academic Proficiency" (CAAP) test in Mathematics/Quantitative reasoning to a random sample of not less than 5 percent of fourth-year undergraduates enrolled in the schools listed above. We believe the American College Testing Service's (ACT) CAAP test for Mathematics/Quantitative reasoning measures the elements in the Mathematics/Quantitative reasoning competency definition given above, and that, therefore, the CAAP test provides a good reading on the extent to which UVa undergraduates are achieving the goals listed. Moreover, results of this test provide information on the competency levels of UVa students in comparison with students at other institutions using the same test.

The results below show the mean test score as well as the percentile ranking of UVa students compared to all other students in the United States who took the same test. The test is scored on a scale of 40 to 80.

Results for spring 2004 assessment of Mathematics/Quantitative Reasoning Competency	College of Arts and Sciences Math Majors Only	College of Arts & Sciences All students except Math Majors	School of Architecture All Undergraduate Majors	School of Commerce All Undergraduate Concentrations	School of Education All Undergraduate majors
Mean Test Score	68	61	60	61	61
Percentile Ranking	99	84	76	84	84

Summary:

The percentile rankings listed above show how well UVa students did in comparison with students at other institutions which gave the CAAP test within the last three years. As expected, mathematics majors performed exceedingly well, in the 99th percentile. The College of Arts and Sciences and Schools of Commerce and Education all had the same mean score, which corresponds to the 84th percentile. The School of Architecture was a bit lower, scoring in the 76th percentile.

[1] This definition is excerpted in part from *Quantitative Reasoning for College Graduates: A Complement to the Standards*, Mathematical Association of America, 1996. http://www.maa.org/past/ql/ql_toc.html.