

# **Implementation of Core-Plus Mathematics at Malcolm Price Laboratory School University of Northern Iowa Cedar Falls, Iowa**

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## **Background**

Malcolm Price Laboratory School ([www.pls.uni.edu](http://www.pls.uni.edu)) is a comprehensive preK–12 school located on the campus of the University of Northern Iowa ([www.uni.edu](http://www.uni.edu)). The Laboratory School provides one of the nation's outstanding settings for clinical teacher education and research at the early childhood, elementary, middle, and high school levels. As part of the College of Education, the Laboratory School is a vital part of the University of Northern Iowa. The Laboratory School has a three-part mission to: 1) serve as an integral component of the University of Northern Iowa's teacher education program, 2) engage in scholarly work and service to advance teaching practices and provide resources for teachers in Iowa and beyond, and 3) provide an excellent and innovative education for our early childhood through grade twelve students. Elementary and secondary divisions are both accredited by the North Central Association Commission.

The Laboratory School serves more than 375 students living within the Cedar Falls/Waterloo metro area. For the 2006–07 academic year, 29% of the student body were drawn from diverse cultural and ethnic minority groups. Children from kindergarten through 12<sup>th</sup>-grade are offered a rigorous academic curriculum and comprehensive activity program. Due to the Laboratory School's high commitment to diversity, the instructional program reflects an array of multicultural opportunities and activities. For instructional purposes, elementary and secondary divisions are organized departmentally with each being responsible for the development and delivery of their instructional programs. In addition, the middle level is organized in interdisciplinary teams. The staff of approximately 70 professional educators holds university faculty status including tenure, rank, and salary privileges.

Professional responsibilities of Laboratory School faculty include, but are not limited to, the delivery of the instructional program; management of a clinical laboratory setting for university students enrolled in teacher education programs; original curriculum development and dissemination; research design, development, and publication; and consultation and leadership for the schools of Iowa and the nation. Laboratory School faculty work closely with university colleagues and may teach in university departments.

## **Implementation**

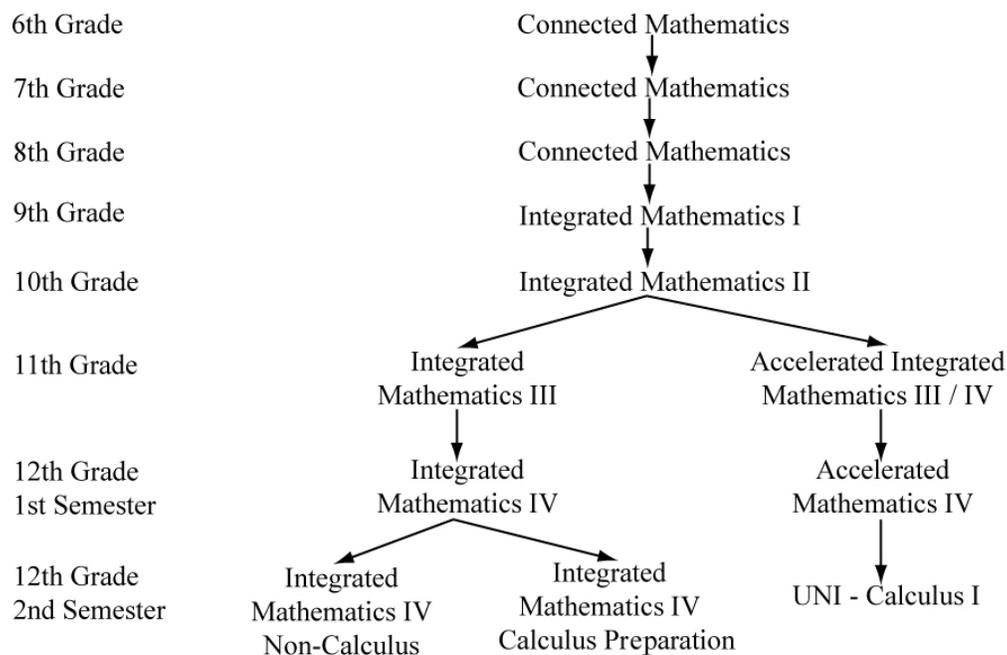
The 1994–95 school year saw the Laboratory School Mathematics Department implement Course 1 of the first edition of *Core-Plus Mathematics*. The department implemented Courses 2–4 sequentially in the following three years. This is the only mathematics curriculum

that is offered at the Laboratory School. The same year the department implemented Course 1, it was decided to eliminate tracking and integrate all students into the same mathematics classrooms. Thus, all 9<sup>th</sup>-grade students enrolled in Course 1. The curriculum was differentiated within each classroom, making adjustments for students ranging from resource students to the talented and gifted. The 1995–96 school year saw the implementation of the Connected Mathematics Program in middle school (grades 6 through 8). The major outcome of these implementations was that more students elected to take more high school mathematics courses. The year of the *Core-Plus Mathematics* Course 3 implementation saw *all* students enroll in this junior year course. This was the first time all students took three years of high school mathematics at the school. This happened before any state or school mandates for three years of high school mathematics for all students were implemented. The following year more students enrolled in a fourth year of mathematics than ever before. These trends continue today with the majority of Laboratory School students completing four years of college preparatory mathematics (there have been a few years where all students completed the four years).

The mathematics department added an honors path in Fall 2003 for students in grades 11 and 12. This path compresses *Core-Plus Mathematics* Courses 3 and 4 into three semesters with the students having the option of completing Calculus I in the Department of Mathematics at the University of Northern Iowa (UNI) during their senior year. This option is one any student can choose to complete. During the first four years of the honors program, 17 senior students (15% of seniors) have either successfully completed the UNI calculus course or are currently enrolled.

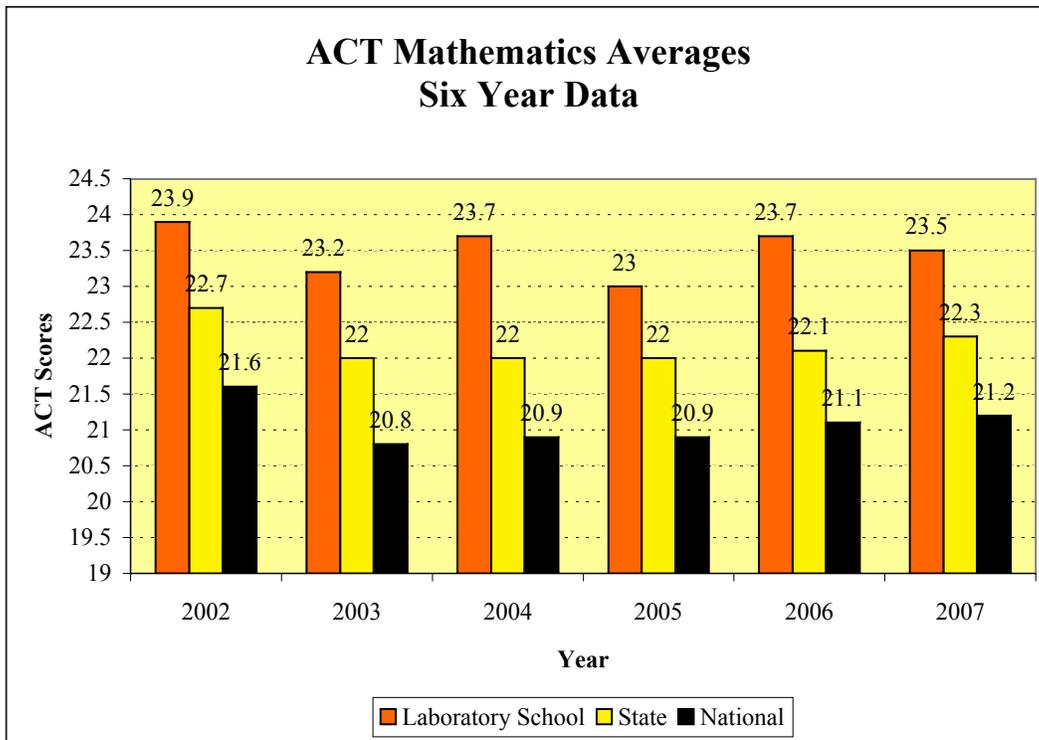
Laboratory School mathematics faculty have been actively involved in the field testing of the 2nd edition of the *Core-Plus Mathematics* curriculum. The department currently uses Courses 1 and 2 of the published 2nd edition and field-test versions of Courses 3 and 4.

### Price Laboratory School 6-12 Mathematics Course Sequence



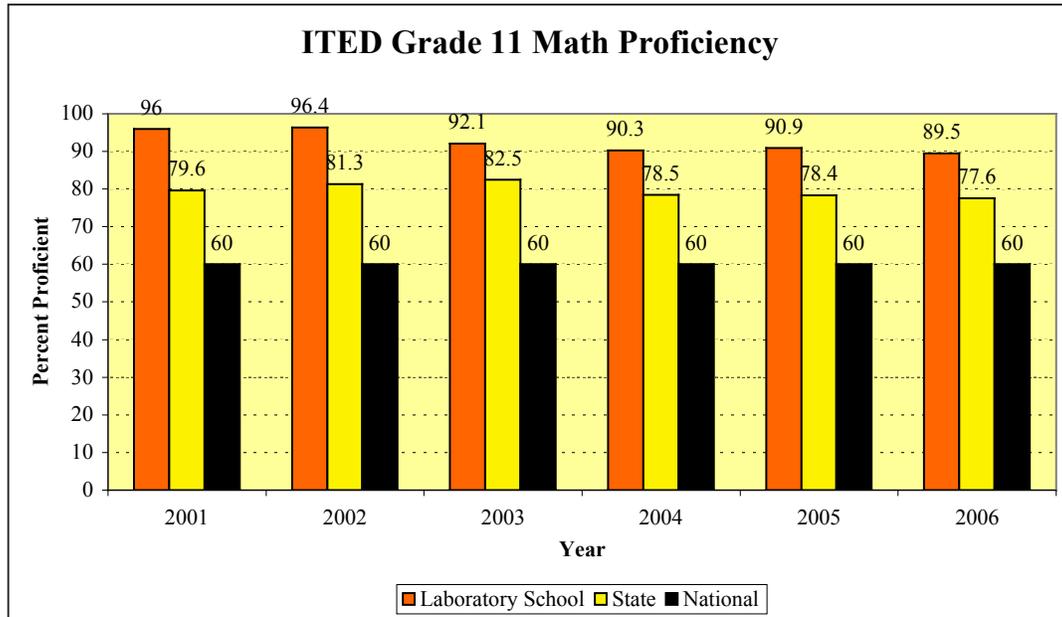
### ACT Mathematics Scores

ACT Mathematics scores at the Laboratory School have historically fluctuated throughout the years (given the small sample size), with most averages since 1990 above the state average. This has been accomplished with a much larger percentage of Laboratory School students taking the test than the state average. The Iowa state average has approximately 60% of graduating seniors taking the ACT Test, while at the Laboratory School 90–100% of graduating seniors take the test. In the past six years, Laboratory School students' scores have exceeded the state average.



## ITED Scores

Iowa Test of Educational Development math scores at the Laboratory School have improved since 1999. During the past six years approximately 90% or more of the 11<sup>th</sup>-grade students were proficient in mathematics according to the ITED. This is approximately 10 to 20 percentage points above the state average, depending upon the year. Laboratory School students outscored the average of other Iowa schools in every major category on the math exam.



## Summary

In brief, the implementation of the Core-Plus Mathematics Program at the University of Northern Iowa's (UNI) Malcolm Price Laboratory School has resulted in more students taking more elective mathematics courses. At the same time, their performance on the ACT Mathematics and on the ITED Grade 11 Proficiency Test has exceeded state and national averages. Additionally, 15% of the seniors from classes 2005–07 successfully completed a UNI calculus course while still in high school.