



MATHEMATICS LEARNING CENTER

MLC NVDOE/CCSD Collaborations

The conceptual model of the Math Learning Center (MLC) is founded on collaborations (internal, external, and across the P-20 educational front) that operate as a networked community using the disciplined methods and tools of improvement research to generate practice-based evidence to accelerate student improvement. The MLC is charged with identifying specific targeted (and measureable) problems to be solved in the multi-faceted task of developing an effective and efficient framework for college (and career) readiness in mathematics. This includes: 11th grade assessment of mathematical readiness; 12th grade conditions that should be met for readiness for college-level mathematics; successful transition to college study; appropriate and efficient first course placement in mathematics; effective and innovative remedial options for those needing them; meaningful credit-bearing pathway options; and swift attention to successful completion of mathematics requirements in all majors/programs.

NVDOE K-12 is raising standards to ensure that students are better prepared for college and careers. High schools are engaged in using new standards to both accelerate those students who are ready for college-level coursework and to deliver extra support for those students who need it to be college ready by the time they graduate the K-12 system. But K-12 cannot close the gap without higher education's help.

The university has a clear role to play and much to gain by forming stronger partnerships with K-12 schools, especially CCSD, and communicating higher education expectations of K-12 in order to improve the preparation and success rates of incoming students.

In light of this, the MLC has been a partner with K-12 to bring more substantial college readiness supports and interventions into high schools by:

- Identifying precollege interventions and clarifying college readiness measures that can be used in high school to trigger supports and acceleration strategies for students.
- Collaborating with CCSD to design 12th grade bridge courses and support programs based on areas of student need revealed through the college-ready assessments such as EdReady and ALEKS.
- Revising institutional placement policies and practices to honor college-ready achievement on these measures, and place students into appropriate courses and, consequently, on a path toward persistence and completion.
- Providing first-year students who are not yet college ready with co-requisite and

other evidence based remediation opportunities as well as guided pathways to support their success. This includes redesigning first-year experiences to support students' transitions into credit-bearing coursework and reduce time to a degree.

- Working with NVDOE and NSHE leaders and policymakers to adopt statewide policies that encourage these practices.
- Establishing single semester remediation for students that place in Math 95, providing customized and co-requisite “just in time” remediation, improving advising and academic planning, and scheduling classes in more cohesive and convenient blocks that include a small group cohort focus and a modified emporium model.

Key Project Activities of the Mathematics Learning Center that focus on our partnership relationship with NVDOE and CCSD include:

- (1) Consult with NSHE, NVDOE, and CCSD on the development of 12th grade courses for students deemed “nearly ready” for college and career study
- (2) Implement the ALEKS PPL online mathematics placement exam option for 12th grade students to provide for early alert on placement as well as an option for improving initial placement
- (3) Administration and oversight of UNLV’s implementation of NROC/EdReady Mathematics in 12th grade for improved college and career readiness.
- (4) Serve as the Nevada Higher Education Lead on Smarter Balanced Consortium Assessment issues and concerns that focus on the connection and consistency between K-12 mathematics and Higher Education expectations.

In addition, MLC initiatives designed specifically to assist in the transition from high school to initial university experiences in mathematics include:

- (1) Initiate immediate adjustments and continued pursuit of elements of improvement in all aspects of Math 95 & 96
- (2) Create on-going support workshops for PTIs/GAs assigned to teach Math 95 & 96 & entry-level courses
- (3) Create corequisite “stretch” courses for Math 120 & Math 124 to better serve transitioning students
- (4) Collaborate on changes in transition to entry-level, credit-bearing college based mathematics
- (5) Collaborate with the UNLV DMS on the redesign Math 120 to be aligned with Nevada Academic Content Standards and the College and Career demands of various UNLV colleges
- (6) Assist in the redesign of Math 126/127 Precalculus for Engineers for greater relevancy to STEM majors

Prior to the establishment of the MLC, UNLV mathematics education was directly involved with a number of initiatives with CCSD and NVDOE. These included”

Nevada 2006 Mathematics Standards Revision
NSHE Task Force on Remedial Mathematics

Consultant on CCSD “End of Course” mathematics exams
WestEd Nevada College Readiness Team
JumpStart College Prep Project with CCSD

Beyond providing a college readiness indicator, this program also included reports on career choice expectations to give students, parents, and educators more detailed insights to better plan for future success.

Subsequent to its establishment, the MLC has been engaged with:

Governor’s Task Force on Nevada Academic Content Standards
Nevada Department of Education College and Career Readiness Task Force
NSHE Lead on Smarter Balanced Assessment Consortium
Smarter Balanced College and Career Readiness Task Force
NSHE Complete College America Summit
UNLV Math Day for CCSD High Schools
NSHE eLearning Remedial Mathematics Task Force Member
UNLV NROC/EdReady Lead
NSHE Task Force on Gateway Mathematics
United Way Community/CCSD/NSHE Mission Achieves Task Force
NVDOE End of Course Standard Setting Committee Member
NVDOE Mathematics Performance Test Committee
Use of ALEKS and NROC/EdReady in 11th and 12th grade

The MLC seeks to eliminate, or at the very least, lessen the need for remediation classes.

We are working with NVDOE and CCSD in efforts to identify an 11th grade assessment that will provide specific diagnostic information based on READINESS for credit-bearing coursework as opposed to “likelihood of success during (or at end of)” a credit-bearing course.

For 12th grade students not deemed CCR by their ACT score (or other measures used by NVDOE) it is important that a forward looking perspective be embraced in preparing for CCR rather than relying on a backward looking "repair model" of remediation. “Patching holes” will not make the road ahead smoother. If all of our attention is on what’s behind us, we will not help the student pave the road ahead to success. Consequently, the MLC is working with CCSD and NVDOE to create 12th grade experiences that that will allow for a "certification" of CCR at the end of that experience – as opposed to a collection of experiences with mathematics that may or may not leave the matter of CCR unanswered. The intent here is to improve on the earlier 11th grade assessment of readiness to a point where students, counselors, parents, and university admission officers and advisors will be able to ensure that these students have met UNLV requirements for exemption from remediation.

In that same spirit, the MLC is developing co-requisite gateway mathematics courses that will allow students that are “nearly ready” (as determined by the NVDOE formal assessment and UNLV standards) to take a credit-bearing experience with the

necessary remediation occurring “as needed” rather than spending a semester in a non credit remedial course.

The MLC is also engaged with Nevada Virtual Academy in establishing both an online and a face-to-face 12th grade experience for their students that will culminate in the administration of the UNLV ALEKS PPL Placement Assessment while finishing their senior year. The plan, here, is to use the PPL as both a final exam assessing their growth from 11th grade and as an exemption from remediation when these student enroll in UNLV in the subsequent fall term.

The MLC is providing messages for distribution by high school counselors designed to assist in:

- Creating a college readiness action plan for each student.
- Having students understand impact of the 11th grade ACT score on CCR the importance of a better understanding of what they may need to do in 12th grade to achieve or maintain CCR.
- Keeping students connected to information that includes college majors and potential post-college careers.
- Matching academic profiles and career goals to college opportunities.
- Maintaining rigorous course plans and meeting both graduation and admission requirements.

The MLC is the university lead in the implementation of the ALEKS PPL Mathematics Placement Assessment (now administered to over 3000 students). ALEKS PPL assists the university and the students in:

- Improving transition to college level mathematics
- Distinguishing “unlearned” from “forgotten” knowledge
- Implementing the option of a campus-wide online math assessment
- Providing for effective, accurate, research-based course placement
- Designing targeted individualized remediation options in which students self prepare for desired course placement.
- Stabilizing class rosters by the fifth day of class
- Increasing enrollment in credit-bearing classes
- Decreasing repeat attempts at remediation

The MLC is committed to system alignment of all components of remedial and gateway mathematics—standards, curricula, assessments, and instruction.

The MLC is focused on college readiness for all students - increased exposure to more relevant content and methods to help students achieve greater readiness.

The MLC uses data to inform instruction and create targeted instructional experiences - data and information gathered from assessment results impacts the instructional direction taken by each student – building on the students’ strengths and working through deficiency issues more effectively.