Nebraska Math Readiness Project (NMRP)

What is the Nebraska Math Readiness Project?

Vision: To provide a proven system of best practices for college readiness in mathematics.

Mission: We will provide a proven system of best practices for college readiness in mathematics through statewide collaborative partnerships, comprehensive mastery-based curriculum, and individualized support.

Purpose: To ensure a solid foundation for each student to begin their educational and professional career.

Current Partnering High Schools		
Aquinas Catholic School	Axtell Community School	Blue Hill
Clarkson	Columbus Lakeview	Doniphan-Trumbull
East Butler	Elwood	Fullerton
GI Northwest	Giltner	Grand Island Public Schools
Hastings High	Humphrey	Kenesaw
Lawrence-Nelson	Lexington	Sandy Creek
Silver Lake	Hastings St. Cecilia	St. Paul
Superior		

Ideal Student

NMRP is an intervention after-instruction program. The course is ideal for a student who has attempted Algebra 1, Geometry, or Algebra 2 (or a third year of math). This program is targeted at a senior who is seeking to attend post-secondary school but is lacking the skills or confidence in mathematics. Research shows that completing two levels significantly increases student success in degree-seeking math courses. A student with the motivation to stay on track is ideal.

- Attempted at least two high school math courses
- Qualitative Qualifications:
  - College bound, teacher recommendation, and potential for success
- Quantitative Qualifications:
  - ACT 13-18 (math sub score), MAP 225-239 (math), Math GPA of 2.0-3.25, Overall GPA 3.0 or lower, Accuplacer or other District Assessments

What do our Partners say?

Student: "Being able to work at my own pace was my favorite part about this course. Also being able to skip over what I already knew and focus on other parts was very beneficial."

Teacher: "Based on some excellent training in the summer, I have been able to help students progress through their content misunderstandings in a more direct way than in other class formats."

Administrator: "There are many strengths. The mastery-based approach works well for many students. It allows a pathway to post-secondary opportunities that might otherwise be out of reach due to a mathematics barrier."

Background of the Project

Students entering post-secondary education are required to possess a minimum standard of knowledge. College-ready students have a base of knowledge that supports their educational success as they take college-level courses in their primary program of study. Unfortunately, many students are entering post-secondary education without being college-ready and are required to take developmental coursework upon entry to a post-secondary institution.

- Less than one-third of Nebraska high school juniors met benchmarks according to the 2016 Nebraska ACT scores.
- Of Nebraska high school graduates entering a community college, 25% required a developmental math course before meeting the requirements to enter a college-level math course for their program of study (NCCA study, Fall 2016).
- Nationally, the number of high school graduates who are failing to meet college-level benchmarks has increased by 8% over the last four years.
- This results in over two-thirds of community college students who are required to take developmental coursework. Only 20% who begin with developmental courses successfully finish a college-level math course (Rutschow, Diamond, & Serna-Wallender, 2017).

To increase the number of students who are college-ready upon high school graduation, four of Nebraska's community colleges (Central Community College, Metropolitan Community College, Northeast Community College, and Western Nebraska Community College) are working together to provide a clear path to post-secondary educational attainment. The NMRP establishes a collaboration among the community colleges and fifteen identified high school partners to assist students in achieving their academic goals. The community colleges will work with identified high school partners to communicate expectations of college-readiness, provide a consistent assessment level of what it means to be college-ready, and assist with program implementation.

Upon successful completion of the course, students will not need to take foundations-level math classes in college. Instead, they will be able to directly enter college-credit math classes upon acceptance into a partnering community college. This allows students to pay less tuition, immediately start taking classes that count towards their degree, be eligible for financial aid, and have the ability to finish their degree on time.

What does the research say about the project?

The Nebraska Math Readiness Project (NMRP) has demonstrated exceptional results in enhancing students' preparedness for college-level mathematics. Notably, NMRP has tripled the national math readiness achievement, significantly improving students' skills. Data reveals a consistent trend of high college enrollment rates among NMRP students, with over 74% of students across four cohorts enrolling in college after completing Level I or higher.

Additionally, the program's impact extends to college performance. NMRP students maintain a mean cumulative GPA ranging from 2.63 to 2.96 over one to two years, with Level II (College Ready) students achieving even higher GPAs.

NMRP students also exhibit strong persistence rates, with 56.9% continuing from the first term and 72.5% persisting from the second year. The program's emphasis on math readiness is evident as 70.9% of students took credit-bearing math courses, achieving median grades of B or higher.

Teacher feedback further underscores the program's efficacy, with 97% of Year 5 teachers affirming that NMRP facilitated student math readiness and 93% expressing willingness to teach online classes again.

These outcomes highlight NMRP's comprehensive approach to fostering academic success and readiness for higher education.

NMRP Students Who Enrolled in College (*Updated at Annual Reporting)*

74.8% Of Year 4 NMRP students completing Level I or higher enrolled in college
76.7% Of Year 3 NMRP students completing Level I or higher enrolled in college
75.1% Of Year 2 NMRP students completing Level I or higher enrolled in college
74.0% Of the Year 1 NMRP students completing Level I or higher enrolled in college

NMRP Student Success for Two Years in NE Community College (*Updated in Fall)*

Note: Data aggregated across years of NMRP as of Year 4 (updates Fall 2023 for Year 5)

2.87 was the mean cumulative College GPA
Level II (College Ready) = 3.24; Level 1 = 2.67
2.96 was the 2 Years of college mean cumulative College GPA
Level II (College Ready) = 3.58; Level 1= 2.47
56.9% of the students persisted from the first term/semester
Level II (College Ready) = 71.4%; Level 1 = 21.5%
72.5% of remaining students persisted from the Year 2 first term to further enrollment
Level II (College Ready) = 78.8%; Level 1= 62.9%
42.9% of the students took a credit bearing math in first year at college
Level II (College Ready) = 50.9%; Level 1= 9.3%
70.9% took a credit bearing math course in college
Level II (College Ready) = 78.7%; Level 1 = 55.5%
B was the median grade in mathematics courses if taken first year
Level II (College Ready) = B+; Level 1 = C
B+ was the remaining students' median grade in math courses if taken
Level II (College Ready) = A-; Level 1; C+

NMRP Students Success for One Year at NE Community College (*Updated at Annual)*

Note: Data aggregated across years of the NMRP and will partially use NSWERS in Year 5

2.63 was the mean cumulative College GPA
Level II (College Ready) = 2.98; Level 1 = 2.15
69.8% of the students persisted from the first term to further enrollment
Level II (College Ready) = 81.7%; Level 1 = 50.6%
60.3% of the students took a credit bearing math course in their first year at college
Level II (College Ready) = 72.8%; Level 1 = 53.4%
B was the median grade in mathematics courses if taken first year
Level II (College Ready) = B+; Level 1 = C

Teacher Voice

97% Of Year 5 teachers said the NMRP "facilitated their instruction for student math readiness" (Y4: 100%; Y3: 96%; Y2 pre-COVID: 95%; Y2 During-COVID: 94%; Y1: 100%;)

93% Of Year 5 teachers said they would teach an online class again like the current NMRP (Y4: 91%; Y3: 87%; Y2: 95%; Y1: 100%)

93% Of Year 5 teachers said they "Strongly agree" that they provided a timeline for the course and encouraged students to stay on schedule (Y4: 96%; Y3: 96%; Y2: 100%; Y1: 62%)

Student Voice

75% Of surveyed Year 5 students provided written feedback (Y4: 78%; Y3: 85%; Y2 pre-COVID: 97%; Y2 During COVID: 87%; Y1: 96%)

86% Of surveyed Year 5 students stated instructors provided good help for their college math readiness (Y4: 94%; Y3: 98%; Y2 pre-COVID: 84%; Y2 During COVID: 93%; Y1: 98%)

80% Of surveyed Year 5 students stated the NMRP facilitated their learning (Y4: 79%; Y3: 87%; Y2 pre-COVID: 86%; Y2 During COVID: 83%; Y1: 98%)

71% Of surveyed Year 5 students stated they were able to continue learning with the NMRP program during school shutdowns (Y4: 58%; Y3: 98%; Y2 During COVID: 85%).

Administrator Voice

90% Of surveyed Year 5 administrators stated they fully understood the NMRP purpose (Y4: 100%; Y3: 100%; Y2 pre-COVID 19: 85%; Y2 During COVID: 92%)

100% Of surveyed Year 5 administrators at stated that the NMRP aligned with school goals (Y4: 100%; Y3: 88%; Y2 pre-COVID 19: 90%; Y2 During COVID: 96%)

100% Of surveyed Year 5 administrators stated NMRP teachers were adequately supported (Y4: 100%; Y3: 100%; Y2 pre-COVID 19: 93%; Y2 During COVID: 100%)

Course Descriptions

Level I (equivalent to MATH 0940)

Level I: This course presents basic computational skills for either review or initial mastery by the students. Topics include fractions, decimals, the solutions of ratio, proportion, and percent problems, operations with integers, and basic study skills for mathematics problem-solving and estimation. Topics may also include geometry, measurement, and basic algebraic concepts.

Course Objectives

Level I:

1. Perform all operations of mathematics using fractions and decimals.
2. Solve problems that involve ratio and proportion.
3. Understand percent notation and its relationship to decimals and fractions, and solve percent equations and their common applications.
4. Perform operations with integers.

**This course is not transcribed.

Level II (equivalent to MATH 1130)

Level II: This course is for students who need to learn basic and intermediate algebra skills. Topics include positive and negative real numbers, solving linear equations and inequalities, applications of linear equations, integer exponents, operations with polynomials, factoring, rational expressions, equations of lines, and graphing of equations and inequalities.

Course Objectives

Level II:
1. Add, subtract, multiply, and divide positive and negative real numbers.
2. Solve linear equations and linear inequalities.
3. Solve application problems requiring linear equations with one variable.
4. Perform operations using integer exponents.
5. Add, subtract, multiply, and divide polynomials.
6. Factor polynomials and solve quadratic equations by factoring.
7. Reduce, multiply, and divide rational expressions.
8. Graph linear equations and write equations of lines.

Upon successful completion, MATH 1130 will appear on a transcript as CR "credit received"

Tech Math (equivalent to MATH 1120)

Tech Math: This course presents a through curriculum of technical skills needed for the machine trades and construction trades. Topics include operations with real numbers, ratios, proportions, percents, measurement, unit conversions, algebraic expressions and equations, practical plane geometry, solid figures, and trigonometry.

Course Objectives

Level Tech Math:
1. Perform operations with fractions and decimals.
2. Solve problems that involve ratio, proportion, and percent.
3. Solve problems involving measurement, unit conversion, and scientific notation.
4. Simplify algebraic expressions and solve equations.
5. Study practical plane geometry involving angle measurement, perimeter, area, and polygons.
6. Study conic sections and trigonometry.
7. Solve application problems involving construction and machine trade techniques.

Upon successful completion, MATH 1120 will appear on a transcript as CR "credit received"

Level III (equivalent to MATH 1140)

Level III: This course presents advanced algebra topics to further prepare students for College Algebra. Topics include linear equations, functions, absolute value equations, systems of linear equations, factoring, rational expressions and equations, radical expressions and equations, complex numbers, and quadratic functions.

Course Objectives

Level III:
1. Graph equations and functions in two variables.

2. Solve systems of equations and inequalities in two and three variables.
3. Factor polynomials and solve quadratic equations by factoring.
4. Study rational expressions and solve rational equations.
5. Study radical expressions and solve radical problems, including complex numbers.
6. Solve quadratic equations using the quadratic formula.

Upon successful completion, MATH 1140 will appear on a transcript as CR "credit received"

How does CCC record my progress?

This course is not for dual credit. Students don't need to register with the college for the class, and they won't receive a CCC grade. To record progress, students must have an active CCC account. When a student successfully completes a level, it will be recorded on their transcript as "credit received." All communication regarding progress recording is between the NMRP Coordinator, high school teacher, counselor, and CCC Registrar.

Want to learn more about Benefits?

School Benefit:

Autonomy: Schools enjoy autonomy in program implementation tailored to meet the unique needs of their students.

Proven Curriculum:

A research-backed curriculum, proven to be triple the national average.

CCC Coordinator Support: Our CCC Coordinators will conduct school visits, offering assistance in student recruitment, program support, and guidance.

College Readiness:

We are dedicated to enhancing college readiness through NMRP.

Teacher Benefit:

Professional Development: In-person training, ongoing professional development, and resources to facilitate effective implementation.

Personalized Support: One-on-one support with NMRP coordinators, ensuring teachers have the guidance they need.

Resources: Provided timelines based on student progression, aiding teachers in planning and delivery.

Collaborative Platform: A platform for NMRP teachers to communicate seamlessly across CCC services, fostering collaboration and shared insights.

Student Benefit:

Mastery-Based Learning: Students experience improved learning and confidence through a mastery-based curriculum.

Post-Secondary Success: Research affirms success in post-secondary education after completing two levels of the curriculum.

Academic Recognition: "Credit Received" acknowledgment on CCC transcripts for completed coursework.

Time and Cost Savings: Students can save both time and money, earning up to 6 credit hours based on level completion.

Contact Information:

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