

An Overview of the NMP: Focus on Curricular Tools

The NMP Model

The NMP is a systemic approach to improving student success and completion through implementation of processes, strategies, and structures based on four fundamental principles.

1. Multiple pathways with relevant and challenging mathematics content aligned to specific fields of study
2. Acceleration that allows students to complete a college-level math course more quickly than in the traditional developmental math sequence
3. Intentional use of strategies to help students develop skills as learners
4. Curriculum design and pedagogy based on proven practice

Through a partnership with the Texas Association of Community Colleges, the Dana Center has received the support of all 50 community college districts in Texas to develop the NMP. In addition to close collaboration with college administrators, faculty, and staff, we are working with state-level leaders to make recommendations for coherent policies and practices to support the principles of the NMP. These recommendations specifically address issues such as legislation, placement, articulation, and funding, and include outreach to four-year institutions in Texas. Our work will provide a model for similar initiatives in other states.

The NMP Tools and Services

Implementing sustainable change of this magnitude requires work across an entire system. The Dana Center is charged with developing tools and services to support colleges in this work. These technical assistance resources will utilize multiple delivery methods and will target key stakeholder groups including administration, institutional research, mathematics and student success faculty, and student support services. The tools and services fall into three broad categories:

- Institutional-Level Planning Tools
- Professional Learning Services and Materials
- Curricular Materials

The NMP resources will be available to colleges within and outside of Texas.

The NMP Curricular Materials

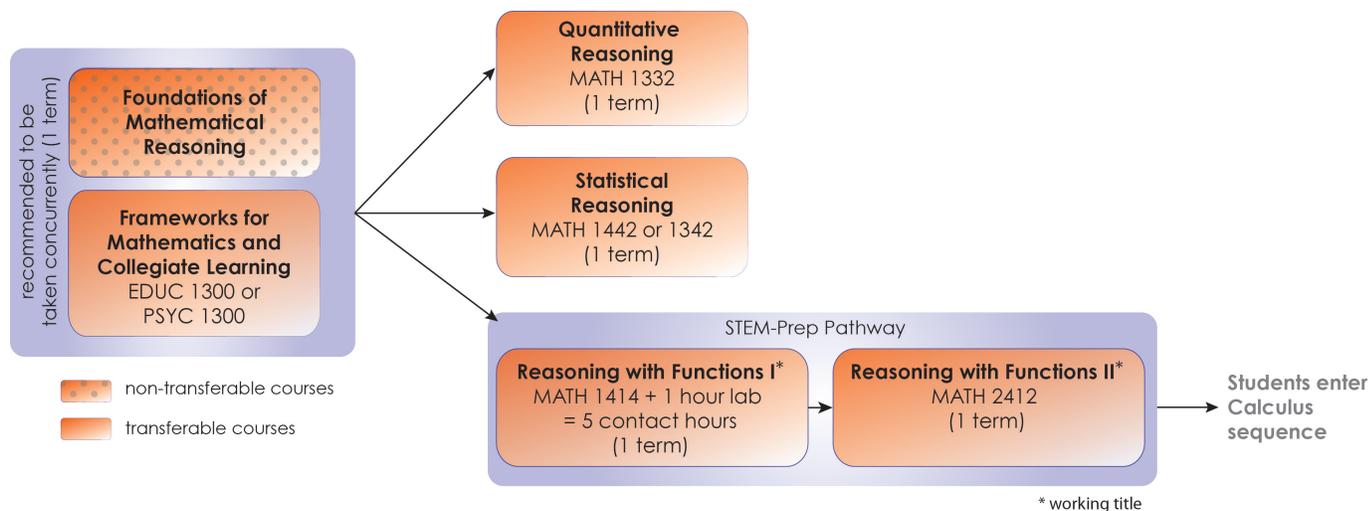
The NMP courses are designed to enable students placed into developmental mathematics to complete a credit-bearing, transferable mathematics course on an accelerated timeline, while building skills for long-term success in college and in life.

Figure 1 shows the structure of the NMP courses. Students who have completed Arithmetic or who are placed at Beginning Algebra level start in *Foundations of Mathematical Reasoning*. This developmental course will help students develop foundational skills and conceptual understanding in the context of college-level course

material. These skills include numeracy, proportional reasoning, algebraic reasoning, descriptive statistics, basic probability, and modeling.

The NMP recommends that students in the *Foundations* course enroll in a co-requisite, college-level learning frameworks course. *Frameworks for Mathematics and Collegiate Learning* teaches concepts from the learning sciences to help students acquire the strategies and tenacity necessary to succeed in mathematics, in other college coursework, and in their future careers. These concepts are applied, practiced, and reinforced in the mathematics courses.

Figure 1: NMP Courses



As an outcome of the *Frameworks* course, students learn about different careers, set academic goals, and create a completion plan, which includes selecting the correct mathematics pathway for their goals. Students then register for the next course in the appropriate pathway.

The two non-STEM options are college-level courses: *Quantitative Reasoning* and *Statistical Reasoning*. STEM majors will take a two-course sequence of *Reasoning with Functions I* and *II*. In Texas, these courses are aligned to existing ones in the Academic Course Guidelines Manual (ACGM) as shown in Figure 1. The NMP will also include a “bridge course” that allows students who start in the statistics or quantitative reasoning pathways to change to the STEM pathway.

The NMP curricular materials are designed for a classroom-based delivery with online materials, available via Pearson Education’s MyLab products, to facilitate classroom activities and out-of-class learning. Learning outcomes, course outlines, and sample lessons for the mathematics courses are posted on the Dana Center website. A free version of the *Frameworks* course is also available on the website.

To learn more about the courses and our work in early college mathematics reform, and to receive updates on the Dana Center’s New Mathways Project, see our website at www.utdanacenter.org/higher-education/ or contact us at mathways@austin.utexas.edu.