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About the Charles A. Dana Center at The University of Texas at Austin

The Dana Center develops and scales math and science education innovations to support educators, administrators, and policy makers in creating seamless transitions throughout the K–14 system for all students, especially those who have historically been underserved.

We work with our nation’s education systems to ensure that every student leaves school prepared for success in postsecondary education and the contemporary workplace—and for active participation in our modern democracy. We are committed to ensuring that the accident of where a student attends school does not limit the academic opportunities he or she can pursue. Thus, we advocate for high academic standards, and we collaborate with local partners to build the capacity of education systems to ensure that all students can master the content described in these standards.

Our portfolio of initiatives, grounded in research and two decades of experience, centers on mathematics and science education from prekindergarten through the early years of college. We focus in particular on strategies for improving student engagement, motivation, persistence, and achievement.

We help educators and education organizations adapt promising research to meet their local needs and develop innovative resources and systems that we implement through multiple channels, from the highly local and personal to the regional and national. We provide long-term technical assistance, collaborate with partners at all levels of the education system, and advise community colleges and states.

We have significant experience and expertise in the following:

- Developing and implementing standards and building the capacity of schools, districts, and systems
- Supporting education leadership, instructional coaching, and teaching
- Designing and developing instructional materials, assessments, curricula, and programs for bridging critical transitions
- Convening networks focused on policy, research, and practice

The Center was founded in 1991 at The University of Texas at Austin. Our staff members have expertise in leadership, literacy, research, program evaluation, mathematics and science education, policy and systemic reform, and services to high-need populations. We have worked with states and education systems throughout Texas and across the country. For more information about our programs and resources, see our homepage at www.utdanacenter.org.

About the Dana Center Mathematics Pathways

The Dana Center Mathematics Pathways (DCMP) 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

The Dana Center has developed curricular materials for three accelerated pathways—*Statistical Reasoning*, *Quantitative Reasoning*, and *Reasoning with Functions I* and *Reasoning with Functions II* (a two-course preparation for Calculus). The pathways are designed for students who have completed arithmetic or who are placed at a beginning algebra level. All three pathways have a common starting point—a developmental math course that helps students develop foundational skills and conceptual understanding in the context of college-level course material.

In the first term, we recommend that students also enroll in a learning frameworks course to help them acquire the strategies—and tenacity—necessary to succeed in college. These strategies include setting academic and career goals that will help them select the appropriate mathematics pathway.

In addition to the curricular materials, the Dana Center has developed tools and services to support project implementation. These tools and services include an implementation guide, data templates and planning tools for colleges, and training materials for faculty and staff.

Acknowledgments

The development of the Dana Center Mathematics Pathways curricular materials began with the formation of the **DCMP Curricular Design Team**, who set the design standards for the curricular materials for individual DCMP courses. The team members are:

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The Dana Center then convened faculty from each of the DCMP codevelopment partner institutions to provide input on key usability features of the instructor supports in curricular materials and pertinent professional development needs. Special emphasis was placed on faculty who need the most support, such as new faculty and adjunct faculty. The **Usability Advisory Group** members are:

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About the *Statistical Reasoning* Course

Statistical Reasoning, a four-credit course with the option of cutting topics to create a three-credit course, is for students who have completed *Foundations of Mathematical Reasoning* and the co-requisite *Frameworks for Mathematics and Collegiate Learning*. The *Statistical Reasoning* course is designed for students in business, nursing, allied health, and the social and behavioral sciences, and for any student whose college and career path requires knowledge of the fundamentals of the collection, analysis, and interpretation of data.

The *Statistical Reasoning* student learning outcomes were developed as an extension of the earlier work in Statway™¹ and are the result of careful review and revision by the DCMP ***Statistical Reasoning* Course**

Design Team, whose members are:

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The Dana Center also convened a ***Statistical Reasoning* Advisory Team** to review the learning outcomes and lessons. The members are:

<p>Calin Agut, Brazosport College (Lake Jackson, Texas)</p> <p>Edith Aguirre, El Paso Community College (El Paso, Texas)</p> <p>Eddie Bishop, Alamo Colleges–Northwest Vista College (San Antonio, Texas)</p> <p>Miguel Caceres, Lone Star College–Kingwood (Kingwood, Texas)</p> <p>Gustavo Cepparo, Austin Community College (Austin, Texas)</p> <p>Deanna Dick, Alvin Community College (Alvin, Texas)</p>	<p>Roshele Friudenberg, Lee College (Baytown, Texas)</p> <p>Rebecca (Bekki) George, University of Houston (Houston, Texas)</p> <p>Reid Etheridge, South Texas College (McAllen, Texas)</p> <p>Paul Foutz, Temple College (Temple, Texas)</p> <p>Paula Talley, Temple College (Temple, Texas)</p> <p>Lori Thomas, Midland College (Midland, Texas)</p> <p>Ann Thrower, Kilgore College (Kilgore, Texas)</p>
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This *Statistical Reasoning* course was produced in Microsoft Word 2008 and 2011 for the Mac. Version 2.0 is supplied in PDF. The following are some issues to be aware of:

- PDF files need to be viewed with Adobe Acrobat for full functionality. If viewed through Preview, which is the default on some computers, URLs in the content may not render accurately.
- The files are named and organized into folders so that when sorted by name, they are listed in the order listed in the Table of Contents. We recommend you print the Table of Contents as a guide to the electronic files.
- The file names indicate the lesson number and whether the document is Instructor Notes, Student Pages, Resources, or some other component of the course.

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Acknowledgments for Statistical Reasoning Version 2.0

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Statistical Reasoning version 2.0 is adapted from Statway™ and Statistical Reasoning Version 1.0.

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