



THE
New Mathways
PROJECT

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

Program-of-study brief number 4

Mathematics for social work:

Recommendations from professional organizations and requirements from Texas institutions of higher education

Brought to you by the New Mathways Project, a collaboration of The Charles A. Dana Center at The University of Texas at Austin and the Texas Association of Community Colleges

The state of social work education and careers in Texas

Social workers serve in a wide range of organizations, from agency services and schools to nonprofits and private practices. With rising demand for specialized counseling, health care, and parenting services, the U.S. Bureau of Labor Statistics (2012) expects faster than average job growth for social workers.

National projections anticipate a 19 percent increase in employment among all social work occupations between 2010 and 2020. The BLS expects even stronger job growth nationwide during this timeframe among healthcare social

We provide these briefs to inform institutional discussions about the modernization of mathematics course requirements.

Each brief examines what constitutes relevant math for various majors (thus far, nursing, communications, criminal justice, and social work) by examining professional organization recommendations and Texas institutional requirements.

workers and mental health/substance professionals, projecting 27 and 23 percent increases respectively.

These national trends hold in Texas, where, according to the Texas Workforce Commission, demand for bachelor's level social workers and therapists is expected to grow around 20 percent by 2020 in both careers. Opportunities are expected to be even more abundant for social workers with a master's degree and counselor certification. Of the 27,930 counselors and social workers needed by 2020 to meet projected demand, 63 percent of positions will require a master's degree (Texas Workforce Commission, 2010).

In Texas public institutions of higher education, 2,106 bachelor's degrees in social work were granted in 2013. This represents a 34 percent increase in the number of social work degrees from 2007 (Texas Higher Education Coordinating Board data, 2014).

Professional associations of mathematics suggest—and NMP participants concur—that institutions of higher education should offer multiple mathematics pathways with relevant and challenging math content aligned to specific programs of study.

What constitutes relevant math for various majors, however, is not always clear. This brief takes a look at this question for social work by examining some recommendations of professional organizations and requirements of Texas institutions.

Institutions of higher education should offer multiple mathematics pathways with relevant and challenging math content aligned to specific programs of study.



Recommendations from professional organizations of social work and mathematics

We reviewed reports and recommendations from accrediting organizations, professional associations of social work and of mathematics, and the Texas Higher Education Coordinating Board to identify the mathematics courses or learning outcomes recommended for social work majors. Findings include:

- The Council on Social Work Education serves as an accreditation board for social work programs. CSWE does not recommend specific mathematics or quantitative coursework, but it does identify a number of necessary skills for social workers that correspond to undergraduate quantitative preparation. The Council advises that social workers be versed in “principles of logic, scientific inquiry, and reasoned discernment,” that they be capable as critical and creative thinkers, and that they be able to incorporate quantitative and qualitative research into their practice (Council on Social Work Education, 2012, p. 4).
- The Mathematical Association of America’s Committee on the Undergraduate Program in Mathematics recommends that schools educate students enrolled in non-mathematics-intensive majors (such as social work) to think effectively—including quantitatively and logically. The Committee recommends that rather than taking traditional college algebra, such students take generalist courses—including quantitative literacy, liberal arts mathematics, finite mathematics, college algebra with modeling, and introductory statistics—that enable them to build quantitative and logical reasoning skills while honing analytical communication skills (Committee on the Undergraduate Program in Mathematics, 2004, p. 28).
- *Beyond Crossroads* (2006), a report published by the American Mathematical Association of Two-Year Colleges (AMATYC) recommends that all students develop quantitative literacy. For students in non-mathematics-intensive majors such as social work, developing quantitative literacy requires that they learn mathematical modeling and how to apply mathematics, statistics, and technology skills to evaluate research, and to analyze and solve real-world problems (p. 40).
- A number of master’s of social work programs in Texas require entering students to have taken statistics before enrolling. For example, statistics is the only prerequisite for incoming students in the master’s of social work programs at the University of Texas at Austin, Texas State University, and the University of Texas at El Paso.
- In contrast to the Texas Higher Education Coordinating Board’s approach to other career paths, the Coordinating Board has not developed a field-of-study curricula agreement for social work.



Current status of mathematics requirements for social work in Texas

Dana Center NMP staff reviewed the core mathematics requirements for all 4-year public institutions of higher education in Texas and mapped requirements among the 21 bachelor's of science in social work degrees offered by public universities.^A

21 Public Universities in Texas Offer Social Work Bachelor's Degrees

9	Require at least one specific course	12	Do not require a specific course. Options are available to fulfill core curriculum.
7	Require Statistics (Math 1342*)	7	Offer Statistics (Math 1342*) as an option
1	Requires Contemporary Math (Math 1332)	9	Offer Contemporary Math (Math 1332) as an option
1	Requires College Algebra (Math 1314) and Contemporary Math (Math 1332)	10	Offer College Algebra (Math 1314) as an option

*Math 1342 is the Texas common course number for Elementary Statistical Methods. Math 1342 or its equivalent is the most common statistics course offered, although some institutions offer locally developed statistics courses—often applied courses for particular majors—that are not equivalent to Math 1342.

The table summarizes program curriculum requirements and offerings. Nine programs require or strongly recommend at least one specific course either identified within the degree plan or as part of the core curriculum. Statistics is the most common course required, with six schools requiring Math 1342 and one requiring a local statistics for social science course. One institution requires contemporary mathematics (Math 1332); one requires both contemporary mathematics (Math 1332) and college algebra (Math 1314).

Twelve public university programs do not have specific mathematics course requirements for a bachelor's of social work. Students in these programs must fulfill the institutional core curriculum requirement of 3 or 6 hours of mathematics. Statistics, contemporary mathematics, and college algebra are the most common options with 7, 9, and 10 institutions offering these courses respectively. Ten programs allow for multiple pathways by offering at least two of these options.

^A See the Policy Resources section of the Dana Center website at <http://www.utdanacenter.org/higher-education/higher-education-resources/policy-resources> — in particular

NMP Transfer and Applicability FAQ

<http://www.utdanacenter.org/higher-education/higher-education-resources/nmp-transfer-and-applicability-faq>

The Mathematics Pathways Transfer Resource

http://www.utdanacenter.org/wp-content/uploads/TX_Mathematics_Pathways_Transfer_September_2013.pdf

Conclusion

The mathematics curriculum requirements for social work programs in Texas vary considerably, though there is a trend towards requiring students to complete a statistics course.

The 9 institutions that require specific coursework are better aligned with the recommendations of the Council on Social Work Education and the Mathematical Association of America for practical, relevant coursework for undergraduates in social work programs.

Both the CSWE and MAA recommend learning outcomes addressed in statistics and contemporary math courses.

Among the 12 institutions that do not specify mathematics requirements beyond the core curriculum, it is encouraging that statistics and contemporary mathematics are recommended as common mathematics options. Although college algebra remains the most common course option, just two institutions do not offer statistics or contemporary mathematics as alternatives.

Students seeking a bachelor's in social work from institutions without specific course recommendations may find limited options to fulfill the core mathematics requirement with courses other than college algebra—or they may end up taking college algebra by default if they are not advised toward more relevant coursework.

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Statistics is a core quantitative skill for students of social work.

About this resource

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About the Dana Center

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 focus in particular on strategies for improving student engagement, motivation, persistence, and achievement.

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.

For more information

- about the New Mathways Project, see www.utdanacenter.org/mathways
- about the Texas Association of Community Colleges, see www.tacc.org

In this series of briefs, we provide information on four course programs chosen both for their popularity and for the level of need in Texas:

- Nursing
- Social Work
- Criminal Justice
- Communications

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