Building Math Pathways to Programs of Study

TPSE
December 5, 2015

Jenna Cullinane, Ph.D.
Jenna.cullinane@austin.utexas.edu
The Dana Center’s Vision

Four Principles of Reform at All Levels of the System

1. Multiple pathways aligned to specific fields of study
2. Acceleration that allows most students to complete a college-level math course in one year or less
3. Intentional use of strategies to help students develop skills as learners
4. Curriculum design and pedagogy based on proven practice

utdanacenter.org
What is the “Right Math”?

Community College Student Enrollment into Programs of Study

- Require Calculus: 20%
- Do not require Calculus: 80%

Four-Year Student Enrollment into Programs of Study

- Require Calculus: 28%
- Do not require Calculus: 72%

The Dana Center’s Pathways

MODERN MATHEMATICS PATHWAYS CONNECTED TO PROGRAMS OF STUDY

STATISTICS PATHWAY
Designed for students seeking a college-level statistics course as a part of their general education requirement for majors in the fields including:
- Nursing
- Social Work
- Criminal Justice

DEGREE PLAN COURSES with embedded student success strategies

QUANTITATIVE REASONING PATHWAY
Designed for students pursuing a field of study in which general education math is a requirement. These fields include majors in:
- Communications
- Graphic Design
- Paralegal

DEGREE PLAN COURSES with embedded student success strategies

STEM-PREP PATHWAY
Designed for students seeking a STEM or mathematics-intensive major in fields including:
- Petroleum Engineering
- Computer Science
- Chemistry

DEGREE PLAN COURSES with embedded student success strategies

COLLEGE COMPLETION GOALS

DEGREE

CERTIFICATE

LICENSE

4-YEAR TRANSFER
Scaling the NMP Model in Texas

<table>
<thead>
<tr>
<th>Year</th>
<th>Colleges engaged in training and coaching</th>
<th>Colleges implementing the NMP model</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>2013</td>
<td>21</td>
<td>23</td>
</tr>
<tr>
<td>2014</td>
<td>31</td>
<td>34</td>
</tr>
<tr>
<td>2015</td>
<td>40</td>
<td>124</td>
</tr>
</tbody>
</table>
State Mobilization

Other state-level engagement
Arkansas
Michigan
New Mexico
Oklahoma
Texas

State Math Task Forces
Colorado
Georgia
Indiana
Missouri
Montana
Nevada
Ohio