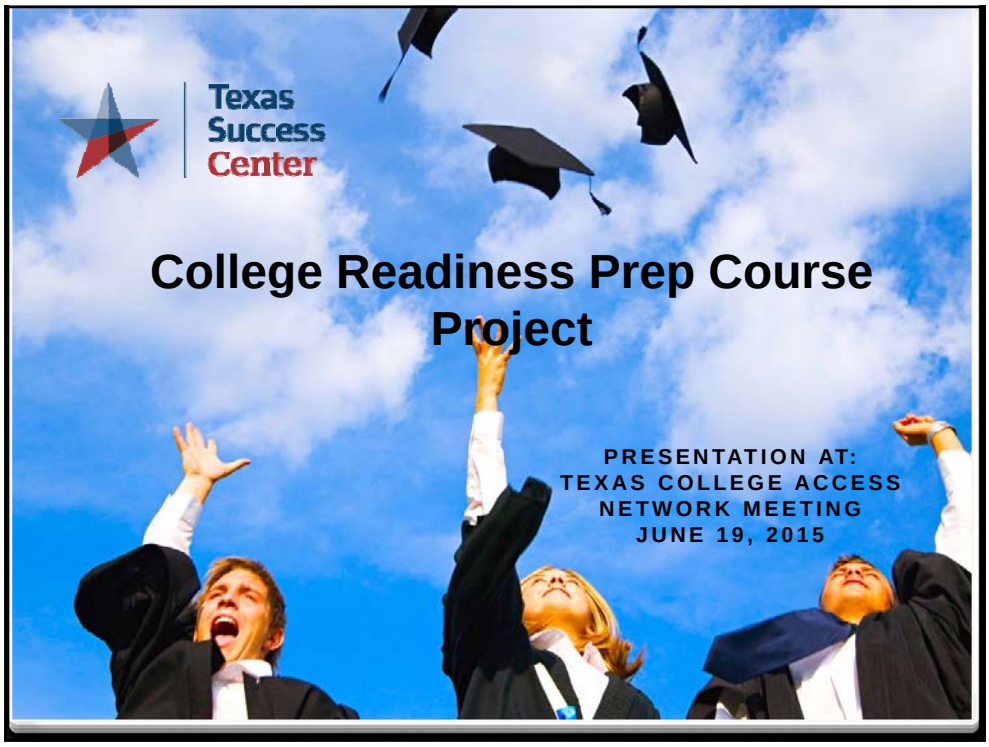

Presentation Overview

- About the TSC
- College Readiness Team Process
- Progress
- Future

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ASSISTANT DIRECTOR, TSC, TACC

STUDENT SUCCESS INITIATIVES IN TEXAS

1. Accelerated Developmental Education Project
2. Achieving the Dream
3. AVID Postsecondary Project
4. Board of Trustees Institute (BOTI)
5. Complete College America
6. Completion by Design
7. Developmental Education Demonstration Projects
8. Early College High Schools
9. Generation Texas (GenTX)
10. Governance Institute for Student Success
11. Graduation Texas (GradTX)
12. Gulf Coast Partners Achieving Student Success
13. Higher Education Intensive Bridging Programs
14. Innovation Challenge Grant
15. Learn and Earn/DOL Initiatives
16. Lumina Latino Success Grants
17. Partners for Postsecondary Success
18. Pathways Project
19. Readiness Project - UT Austin
20. Regional Action Plan for Postsecondary Success
21. Student Success by the Numbers
22. Student Success Leadership Teams
23. Student Success Scale and Data Leadership Team
24. T-STEM Challenge Scholarships
25. Talent Dividend Prize
26. Texas College Access Network (TxCAN)
27. Texas Community College Developmental Education Initiative Project
28. Texas Course Redesign Project
29. Texas Developmental Education Bridges
30. The New Mathways Project
31. Transfer 101
32. Western Governor's University- Texas

How the TSC Works

About the TSC

The Texas Success Center (TSC) benefits from the capacity of TACC to plan and deliver services to its member colleges. To achieve success in our mission, TSC staff, with guidance from the Center's Advisory Board and Leadership Teams, the resources and leadership of our funders, and the support from the Texas Student Success Council, will develop and implement a plan to align success initiatives, accelerate the learning and adoption of proven or evidence-based initiatives, and advocate for policies that support the success agenda in the legislature and relevant state agencies.

TACC

TACC has developed its student success campaign around a 5-point plan based on key policy issues: Workforce and Skills Alignment; Measuring and Funding Success; College Readiness; Transfer and Articulation; and Texans in Community Colleges. By aligning the work on these issues, the TSC will address the most significant and pressing challenges that have been identified as barriers to student success.

Advisory Board

The TSC is advised by a group of highly-regarded educational practitioners and researchers who help to set our strategic vision and direction--and, to provide practical advice on advancing the TSC's efforts.

Funders

The TSC is funded through generous support from the Houston Endowment, Greater Texas Foundation, The Kresge Foundation, the Meadows Foundation, and TG.

Texas Student Success Council

The TSC has engaged in a strategic alliance with the Texas Student Success Council (TSSC), managed by Educate Texas, for policy engagement and advocacy work. The TSSC is composed of key leaders from fields of education, politics, philanthropy, business, and government.

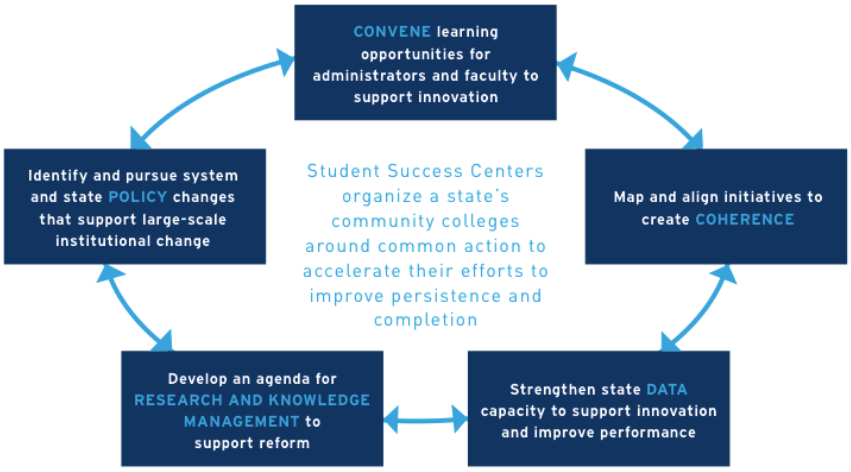
Leadership Teams

Leadership Teams are bringing together key players to reach consensus and identify policy issues for institutional, state, or national policy changes to permit implementation of strategic policy change at scale. Recommendations on issues will be shared with the TSSC and TACC for their consideration and deliberation on steps to advocate for or to enact the necessary policy changes to support the innovation and success strategies identified by the TSC.

TSC Staff

The TSC has a small and highly-dedicated staff, which endeavors to enhance staffing capacity through the use of Leadership Teams composed of expert practitioners and researchers--and, through strategic collaborations with key partners.

Student Success Center Model



Specifics of HB 5 College Prep Course

The courses are:

- **Intended for students who have not yet been designated "college ready" by their fourth year.**
- **Requires MOU between the district and a higher education partner**
- **Results in TSI exempt designation for student upon successful completion**

College Readiness Team Process

- **Launched March 26, 2014**
- **Initial focus was the HB 5 Mandated College-Prep Courses and TSIA Implementation**
- **Convened members for two-day meeting**
- **Framework concept developed**
- **Frameworks posted on TSC website for comment**
- **In August 2014, TSC recommended school districts and IHEs use frameworks in the development of courses**

Standards for Frameworks

Math

- **TCCRS**
- **TSIA**
- **UT Dana Center NMP**
  - **Statistics**
  - **Contemporary Math**
  - **Algebra**

English

- **TCCRS**
- **TSIA**
- **ACGM Learning Outcomes**
  - **INRW**
  - **Composition**

Research and Context of Math Frameworks

- Realities of college algebra as the "safe bet"
  - Local research in Houston
  - Related state and national trends
  - Intended to prepare students for enrollment in *any* entry-level college math course, *including,* but not limited to, College Algebra
- Analysis of relevant mathematics in client disciplines
- Modern mathematics relevant to people today

College Readiness Frameworks

The frameworks are developed to:

- **Help ensure quality and rigor in these courses**
- **Assist ISDs so they don't have to build the courses themselves**
- **Assist community colleges in identifying features of quality course components and/or courses**

College Readiness Frameworks

The frameworks are *not* developed to:

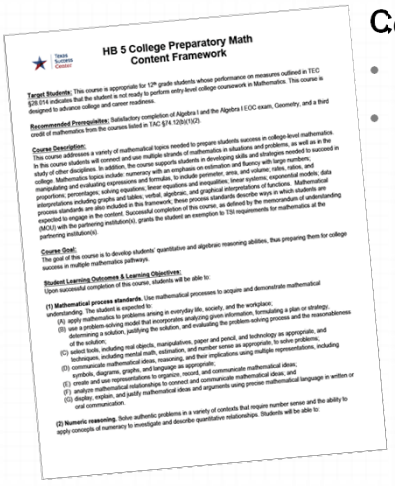
- **Prescribe content for courses that must be implemented in an ISD**
- **Establish "college-readiness" standards based on students' outcomes in the courses**

Supporting Partnerships for Student Success in the College Prep English and Mathematics Courses

February 5, 2015 – Math & April 30, 2015 - English

Anatomy of the Framework

Understanding the architecture and content



HB 5 College Preparatory Math Content Framework

Target Students: This course is appropriate for 12th grade students whose performance on measures outlined in TEC §28.014 indicates that the student is not ready to perform entry-level college coursework in Mathematics. This course is designed to advance college and career readiness.

Recommended Prerequisites: Satisfactory completion of Algebra I and the Algebra I EOC exam, Geometry, and a third credit of mathematics from the courses listed in TAC §74.12(b)(1)(2).

Course Description:
This course addresses a variety of mathematical topics needed to prepare students success in college-level mathematics. In this course students will connect and use multiple strands of mathematics in situations and problems, as well as in the study of other disciplines. In addition, the course supports students in developing skills and strategies needed to succeed in college. Mathematics topics include: numeracy with an emphasis on estimation and fluency with large numbers; manipulating and evaluating expressions and formulas, to include perimeter, area, and volume; rates, ratios, and proportions; percentages; solving equations; linear equations and inequalities; linear systems; exponential models; data interpretations including graphs and tables; verbal, algebraic, and graphical interpretations of functions. Mathematical process standards are also included in this framework; these process standards describe ways in which students are expected to engage in the content. Successful completion of this course, as defined by the memorandum of understanding (MOU) with the partnering institution(s), grants the student an exemption to TSI requirements for mathematics at the partnering institution(s).

Course Goal:
The goal of this course is to develop students' quantitative and algebraic reasoning abilities, thus preparing them for college success in multiple mathematics pathways.

Student Learning Outcomes & Learning Objectives:
Upon successful completion of this course, students will be able to:

(1) Mathematical process standards. Use mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:
(A) apply mathematics to problems arising in everyday life, society, and the workplace;
(B) use a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem-solving process and the reasonableness of the solution;
(C) select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems;
(D) communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate;
(E) create and use representations to organize, record, and communicate mathematical ideas;
(F) analyze mathematical relationships to connect and communicate mathematical ideas; and
(G) display, explain, and justify mathematical ideas and arguments using precise mathematical language in written or oral communication.

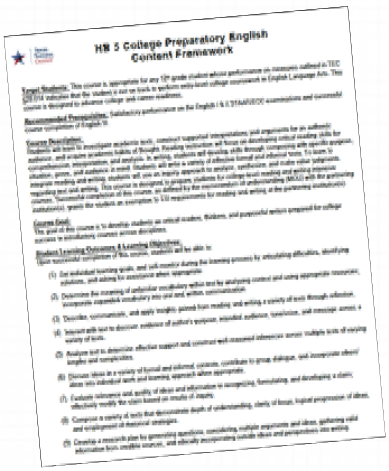
(2) Numeric reasoning. Solve authentic problems in a variety of contexts that require number sense and the ability to apply concepts of numeracy to investigate and describe quantitative relationships. Students will be able to:

College Prep Math Framework

- Reflects modern mathematics
- Organized around student learning goals and objectives
  - Applying mathematical processes
  - Numeric reasoning
  - Proportional reasoning
  - Algebraic reasoning
  - Probabilistic reasoning
  - Quantitative reasoning

Anatomy of the Framework

Understanding the architecture and content



HB 5 College Preparatory English Content Framework

College Prep English Framework

- Organized around student learning goals and objectives
- Provides an Outline of Instruction for:
  - Writing
  - Reading
  - Communication Skills
  - Research

Moving Forward

- Continued professional development thoughout the state, either in person or through the use of the Virtual College of Texas and STARLINK
- Continue to gather comments on framework
- Modify framework based on recommendations
- Share revisions and promising practices
- Gather information/data (students' college readiness) from pilots
- Pilot different types of implementations
  - UT Dana Center
  - TEA and/or voluntary partnerships
- Provide resources for different size K-12 campuses

Statewide MOU

- Local and Regional MOUs allow a student to be designated college-ready at their local IHEs
- The Statewide MOU is an attempt to facilitate an agreement among Texas community colleges to allow the portability of the courses across the state.
- The MOU may also serve as a way to instill promising practices in the development and implementation of the course.

BRINGING YEAR ONE ACTIVITIES TOGETHER INAUGURAL PATHWAYS TO PROGRESS INSTITUTE

The Texas Success Center and Texas Completes are hosting the 2015 Pathways Summit in Houston, Texas, November 17-18, 2015. The 2015 Pathways Summit builds on the 2013 Student Success Summit hosted by Texas Completes, and the 2014 Pathways to Progress Institute, co-hosted by the Texas Success Center and Texas Completes.

The program will begin with an evening awards ceremony on November 17, honoring math pathway exemplar colleges. On November 18, teams will hear from national speakers and participate in sessions led by experts all focused on community college student success and completion.

Each community college president in Texas is invited to bring a team of three to five faculty and staff. Please visit the Texas Success Center's website at http://www.tacc.org/pages/texas-success-center/news-and-events to register.

HB 5 College Preparatory English Content Framework

Target Students: This course is appropriate for any 12th grade student whose performance on measures outlined in TEC §28.014 indicates that the student is not on track to perform entry-level college coursework in English Language Arts. This course is designed to advance college and career readiness.

Recommended Prerequisites: Satisfactory performance on the English I & II STAAR/EOC examinations and successful course completion of English III.

Course Description:
Students will learn to investigate academic texts, construct supported interpretations and arguments for an authentic audience, and acquire academic habits of thought. Reading instruction will focus on developing critical reading skills for comprehension, interpretation, and analysis. In writing, students will develop skills through composing with specific purpose, situation, genre, and audience in mind. Students will write a variety of effective formal and informal texts. To learn to integrate reading and writing, students will use an inquiry approach to analyze, synthesize, and make value judgments regarding text and writing. This course is designed to prepare students for college-level reading and writing intensive courses. Successful completion of this course, as defined by the memorandum of understanding (MOU) with the partnering institution(s), grants the student an exemption to TSI requirements for reading and writing at the partnering institution(s).

Course Goal:
The goal of this course is to develop students as critical readers, thinkers, and purposeful writers prepared for college success in introductory courses across disciplines.

Student Learning Outcomes & Learning Objectives:
Upon successful completion of this course, students will be able to:

(1) Set individual learning goals, and self-monitor during the learning process by articulating difficulties, identifying solutions, and asking for assistance when appropriate.

(2) Determine the meaning of unfamiliar vocabulary within text by analyzing context and using appropriate resources; incorporate expanded vocabulary into oral and written communication.

(3) Describe, communicate, and apply insights gained from reading and writing a variety of texts through reflection.

(4) Interact with text to discover evidence of author's purpose, intended audience, tone/voice, and message across a variety of texts.

(5) Analyze text to determine effective support and construct well-reasoned inferences across multiple texts of varying lengths and complexities.

(6) Discuss ideas in a variety of formal and informal contexts, contribute to group dialogue, and incorporate others' ideas into individual work and learning approach when appropriate.

(7) Evaluate relevance and quality of ideas and information in recognizing, formulating, and developing a claim; effectively modify the claim based on results of inquiry.

(8) Compose a variety of texts that demonstrate depth of understanding, clarity of focus, logical progression of ideas, and employment of rhetorical strategies.

(9) Develop a research plan by generating questions, considering multiple arguments and ideas, gathering valid information from credible sources, and ethically incorporating outside ideas and perspectives into writing.

(10) Plan investigations, collect and interpret data, and effectively communicate findings in a variety of formats.

(11) Collaborate with peers throughout the reading and writing process to build upon ideas, investigate a problem, explore complexities of issues, and improve writing.

(12) Revise writing to increase continuity of ideas, academic tone, accuracy of communication, and clarity of purpose.

Outline of Instruction:

I. Writing
- (A) Determining effective approaches, forms, and rhetorical techniques to communicate purpose to an audience.
- (B) Generating ideas and gathering information.
- (C) Evaluating relevance, quality, sufficiency, and depth of preliminary ideas and information.
- (D) Formulating a thesis.
- (E) Recognizing the importance of revision as the key to effective writing.
- (F) Edit writing for proper voice, tense, and syntax.

II. Reading
- (A) Making complex inferences, and supporting inferences with text evidence.
- (B) Understanding and incorporating new vocabulary and academic concepts.
- (C) Analyzing and evaluating information within and across texts and genres.
- (D) Connecting literary and other texts to personal experience and historical circumstances.

III. Communication Skills
- (A) Understanding formal and informal communication.
- (B) Developing effective speaking styles for group and one-on-one situations.
- (C) Applying listening skills in a variety of settings.

IV. Research
- (A) Formulating research questions.
- (B) Exploring research topics.
- (C) Developing a research plan.
- (D) Gathering relevant sources.
- (E) Evaluating validity and reliability.
- (F) Synthesizing and organizing information.
- (G) Designing and presenting.
- (H) Using source material ethically.

Resources:

TASA on iTunes U: The Texas Association of School Administrators (TASA) announces the expansion of digital resources in TASA on iTunes U® to now include content that school districts may use to satisfy the college preparatory course requirements in House Bill 5. Building upon the existing resources available in TASA on iTunes U®, TASA engaged experienced teachers, content specialists, and higher education faculty to create a collection of digital resources that are aligned with the Texas College and Career Readiness Standards and the TEKS. Districts can rely on this vetted compilation of interactive, online content to develop–in consultation with their higher education partner–their own college preparatory courses in responding to this HB 5 requirement.

Southern Regional Educational Board: Literacy Ready: The SREB's college readiness courses were developed by a team of state representatives from K-12 through higher education from the first five partner states — Arkansas, Georgia, Kentucky, North Carolina, and Tennessee. This diverse team worked together for two years to develop the courses and build consensus around how to prepare students for postsecondary work. Representatives from the additional partner states assisted in reviewing and revising of the courses before publication. The initial classroom version of the SREB Readiness Courses are available for any state, district, school or teacher to download online, free of charge, as of November 2013. SREB plans to update future versions of the courses based on feedback from classroom teachers.

With the help of Apple Inc., SREB is also building online versions of the courses for increased flexibility for states and schools. These courses will be available in spring 2014 on a new SREB iTunes U page. SREB plans to work with states to ensure a process for measuring the extent to which students emerge from these courses college-ready; and evaluate course effectiveness. This course teaches students strategies for reading and truly understanding specific kinds of complex texts in all subjects — reading a biology textbook, for example, is different than reading short stories or history research articles. Students learn to develop and defend ideas from the text and write about them in different college-level formats.

College Readiness Assignments for Texas: College Readiness Assignments for Texas (CRAfT) is a project based at The University of Texas at Austin and is supported by a generous grant from the Texas Higher Education Coordinating Board (THECB). As part of the CRAfT project, high school and college educators collaborated to develop College Readiness Assignments (CRAs) aligned to the Texas College and Career Readiness Standards (CCRS).

SA Ready: College—Career—Life: SA Ready is a free platform that gives teachers access to high quality lesson plans and teaching resources. Developed in partnership between Generation TX San Antonio and Educational Policy Improvement Center (EPIC), SA Ready is aligned with Texas College and Career Readiness Standards (CCRS) and helps prepare teachers to implement college-and career-ready lessons.

This framework for the HB 5 College Preparatory Course in English language arts is the result of a collaborative process organized by the Texas Success Center (TSC) at the Texas Association of Community Colleges (TACC). A committee consisting of content experts from both Higher Education and K-12 educators worked collaboratively to develop and revise this framework, seeking input from educators across the state. This feedback, along with the Learning Outcomes in the Lower-Division Academic Course Guide Manual (ACGM), the Texas College and Career Readiness Standards (CCRS), and other relevant materials informed the committee's work. The HB 5 College Preparatory Course framework development is an ongoing, rigorous process designed to be inclusive of voices from multiple stakeholders with the goal of producing exceptional course materials. If you wish to contribute feedback that would benefit the continued development of this framework, please email HB5ELAR@tacc.org.

Frequently Asked Questions – HB 5 College Preparatory Courses
Pursuant to §28.014
Texas Success Center (TSC)

1. What are the College Preparatory course frameworks and how were they developed?

The House Bill 5 College Preparatory course frameworks in English and mathematics are the result of a collaborative process organized by the Texas Success Center (TSC) at the Texas Association of Community Colleges (TACC). This work is guided by a steering committee comprised of educational leaders, community organizations, and regional entities that helps to oversee the framework development process and provide guidance and recommendations for the implementation of these courses.

The preliminary content frameworks consist of course descriptions, recommended prerequisite courses, and student learning outcomes. Content committees, including both higher education and K-12 educators, worked collaboratively to develop preliminary frameworks to be released in time for use in the first year of implementation. As these preliminary frameworks are not a final product, the TSC will seek input from educators across the state and use this feedback to revise and enrich the documents. The framework content is guided by the learning outcomes in the Lower-Division Academic Course Guide Manual (ACGM), the Texas College and Career Readiness Standards (CCRS), and the Texas Essential Knowledge and Skills (TEKS). Educators are invited to contribute feedback that will benefit the continued development of the frameworks.

2. What is the purpose of the College Preparatory courses?

House Bill 5, passed by the 83rd Legislature, amended §28.014 of the Texas Education Code to require local school districts to develop and offer college preparatory courses in both English language arts and mathematics to high school students whose academic performance indicates the student is not yet ready for college-level coursework. The statute requires districts to partner with at least one institution of higher education to develop and provide the college preparatory courses designed for students at the twelfth grade level. The purpose of the HB 5 College Preparatory courses is to provide high school students an opportunity to gain and demonstrate the necessary college readiness in English language arts and/or mathematics to be successful in college-level, credit-bearing courses without the need for remedial or developmental coursework.

3. Are high schools required to offer a college prep course?

Under §28.014 of the Texas Education Code, each school district is required to partner with at least one institution of higher education to develop and provide college preparatory courses in English language arts and mathematics. However, each high school within the school district is not required to offer these courses. *(Source: Texas Education Agency)*

4. Who should take the College Preparatory courses?

§28.014 of the Texas Education Code states that the courses must be designed for students at the 12th grade level whose coursework, college entrance examination scores, or Texas Success Initiative (TSI) assessment scores indicate that a student is not ready to perform entry-level college coursework. Furthermore, the course must be designed to prepare students for success in entry-level college courses. The statute also states that the course must be designed for students whose performance on an end-of-course assessment instrument does not meet college readiness standards. However, the THECB "College Readiness" indicators were measures on the Algebra II and English III EOC exams, which are not currently administered and will be optional beginning in the 2015-2016 school year. The THECB College Readiness indicators do not currently exist for Algebra I or English I & II. Thus, the College Preparatory courses described in §28.014 are not designed to provide any type of remediation for Algebra I or English I & II.

5. What end-of-course assessment instrument would indicate that a student does not meet college readiness standards for purposes of Texas Education Code, §28.014?

There is no longer a state assessment that would meet this purpose. The local development process may decide to use an assessment as part of the course, but is not required to do so. *(Source: Texas Education Agency)*

6. What does it mean for a student to successfully complete the College Preparatory course for HS credit and TSI exemption?

House Bill 5 amended §51.3062 of the Texas Education Code to state that a student who successfully completes a college preparatory under §28.014 is exempt from TSI requirements with respect to the content area of the course. Also, an exemption to TSI is not the same as completing TSI requirements. Therefore, this exemption applies only at the institution of higher education that partners with the school district in which the student is enrolled to provide the course. The commissioner of higher education has ruled that the exemption shall be in place for one year after the student graduates. Also, the commissioner has ruled that institutions of higher education may enter into agreements with one another if they wish to extend exemptions to students who earned the exemption at an institution of higher education other than the partnering institution.

It is recommended that the memorandum of understanding (MOU) between the school district and partnering institution specify course content and expectations, as well as assessment strategies. "Successful completion" is not defined by statute and is to be agreed upon by the ISD and IHE partners as a part of the MOU. It is not recommended that students be required to take TSI assessment as a method for determining successful completion because this negates the possibility of earning an exemption. Finally, measures of successful completion may be different for the school district and partnering institution. In this case, it is recommended that the partnership agreement clearly specify measures that indicate successful course completion that grants a TSI exemption as well as measures that indicate successful course completion for high school credit requirements

7. Is a student required to take the TSI to determine college readiness and placement in a College Preparatory course?

No. A district may use performance on coursework, a college entrance examination, or the TSI to determine that the student is not ready to perform entry-level college coursework. *(Source: Texas Education Agency)*

8. Can high schools offer College Preparatory courses to students who are not in the 12th grade?

There is not a specific requirement that a student must be in 12th grade to take a college preparatory course. However, a student may not earn credit for the college preparatory math course until after the student has completed the three mathematics credit requirements for the Foundation High School Program. *(Source: Texas Education Agency)*

9. If a district chooses to use TSI to determine college readiness and placement in a College Preparatory course, must a district pay for the TSI for students?

The course required under TEC, §28.014 must be available free of charge to students. Students may qualify for the course based on performance on coursework, a college entrance examination, or the TSI. If the district chooses to use only the TSI to enroll students, it cannot require payment for access to the course. *(Source: Texas Education Agency)*

10. Is a student required to take the TSI to determine successful completion of a College Preparatory course?

State law does not explicitly require or prohibit the use of testing to determine successful completion of a college prep course described in TEC, §28.014. Whether a particular test is required, whether it is required only for the purpose of awarding dual credit, or whether there is no test at all is part of the flexibility HB5 provided to each school district in working with an institution of higher education. *(Source: Texas Education Agency)*

11. If a district chooses to use TSI to determine successful completion of a College Preparatory course, must a district pay for the TSI for students?

Yes. If the district chooses to use only the TSI to determine successful completion of the course, it cannot require payment for the TSI. If other standards involving grades or other exams are used, and TSI is not required for completion of the course, the district is not required to administer or pay for the TSI. *(Source: Texas Education Agency)*

12. How does successful completion of a College Preparatory course "place" a student in college?

Upon successful completion of a College Preparatory course, the student may enter entry-level college credit-bearing courses in the corresponding content at the partnering institution without remediation and without having to satisfy TSI requirements in the content area. This exemption to TSI exists for a period of one year after the student graduates from high school. By commissioner's ruling, IHEs may enter into agreements to allow for the acceptance of exemptions at other IHEs. There are currently conversations among IHEs to create regional or possibly a statewide MOU to extend the recognition of exemptions gained from College Preparatory courses among signatories.

13. What happens if a student is unsuccessful in a College Preparatory course?

As previously stated, measures of successful completion for a College Prep course may be different for the school district and partnering institution. In this case, it is recommended that the partnership agreement clearly specify measures that indicate successful course completion for high school credit requirements, as well as measures that indicate successful course completion that grants a TSI exemption. If the MOU defines two different measures of success, there are two possible scenarios related to students not meeting those measures:

- If a student successfully completes measures indicated for high school course completion, but **does not** successfully complete measures indicated for college readiness defined by the MOU, he/she will receive the designated high school credit, but will not gain the TSI exemption.
- If a student fails to successfully complete measures for high school course completion **and** fails to successfully complete measures indicated for college readiness defined by the MOU, he/she receives neither the high school credit nor the exemption to TSI.

14. How do credits earned in the College Preparatory Math and ELA courses apply to high school graduation plans?

The College Prep Math course will count as a fourth credit in mathematics for students on the new foundation high school plan. The College Prep ELA course will count as an advanced English credit for students on the foundation. These courses alone will not satisfy graduation requirements for students on the current (MHSP/RHSP/DAP) graduation plans and will serve as elective credits.

There are provisions under which students on the current (MHSP/RHSP/DAP) graduation plans may elect to switch to the new foundation graduation plan. In this case, the college prep courses alone will satisfy graduation requirements. However, it is important to note that many districts have chosen to counsel current juniors and seniors to remain on the (MHSP/RHSP/DAP) graduation plan due to concerns about college admissions requirements. While the Texas Uniform Admissions policy reflects changes resulting from HB 5 for public institutions in Texas, other private and out-of-state IHEs may not yet have admissions policies that are inclusive of some of the changes resulting from HB 5, such as the inclusion of computer programming to satisfy foreign language or expanded course options to satisfy the credit fourth credit in English language arts.

15. Can a student who remains on the current Recommended High School Program (RHSP) or the Distinguished Achievement Program (DAP) earn credit for a College Preparatory course?

No. Administrative rules do not allow for these courses to satisfy credit requirements for students on the RHSP or DAP. However, a student on the Foundation High School Program who successfully completes a college preparatory course may use the credit earned to satisfy an advanced mathematics credit or an advanced English credit. *(Source: Texas Education Agency)*

During the transition from the current (MHSP/RHSP/DAP) to the new foundation graduation plans, school districts may elect to embed the College Prep courses within courses that satisfy graduation requirements for the current graduation plans. Examples of this practice include embedding the College Prep Math course into the Independent Study in Mathematics course or embedding the College Prep ELA course into English IV. For ISDs electing to embed the College Prep courses, it is the legal responsibility of the school district to ensure that the resulting course meets the course requirements specified by the State, as well as the content requirements specified in the agreement(s) with their partnering institutions(s).

Furthermore, to ensure that it is appropriately noted on the student's transcript and to allow for student performance data tracking, it is recommended that students receive transcribed credit using the appropriate PEIMS service identification numbers upon successful completion of the College Preparatory English language arts course (CP110100: CPELA) and the College Prep mathematics course (CP111200: CPMAT).

16. Can the student earn college credit for a College Preparatory course?

There is language in HB 5 to suggest that a student may earn college credit for a College Prep course. However, per amendments to TAC Chapter 4 adopted by the THECB, this course cannot be offered as dual credit. While students may not earn college credit for the College Prep courses alone, ISD and partnering IHEs may have a college-credit bearing "trailer course" added to the end of the College Prep course. An example of this practice is a semester-long College Prep Math course leading into a dual credit College Algebra course. It is important to note that the College Prep courses are high school courses that must be taught by instructors holding the appropriate content-area state certification for high school.

Texas Success Center

17. Can the College Preparatory courses be offered online?

House Bill 5, §28.014 (b)(2), mentions that the College Preparatory course may be offered through distance learning or as an online course provided through an institution of higher education with which the school district partners.

18. Must the College Preparatory English course be a full-credit course?

No. In accordance with TAC, §74.12(b)(1), the college preparatory English course may be a half-credit course that, when paired with another half-credit from the list of allowable advanced English courses, may satisfy the advanced English requirement for graduation. *(Source: Texas Education Agency)*

19. Must the College Preparatory mathematics course be a full-credit course?

Yes. In accordance with TAC, §74.13(e)(4), the college preparatory mathematics course must be a full-credit course. However, in accordance with TAC §74.26, in accordance with local district policy, students who are able to successfully complete only one semester of a two-semester course can be awarded credit proportionately. Consequently, a student may be awarded a half credit for successful completion of half of the College Preparatory math course. This half credit, when paired with another half credit from the list of allowable advanced mathematics courses, may satisfy the advanced mathematics requirement for students pursuing an endorsement. *(Source: Texas Education Agency)*

20. Are there student fees associated with a college preparatory course, pursuant to TEC §28.014?

No. Per TEC §31.001, instructional materials selected for use in the public schools shall be furnished without cost to the student. Our recommendation is to offer the course and supplies free of charge to students to ensure widespread access and enrollment. We encourage IHE-district partnerships to develop or use courses that rely on open source instructional materials. Recommended open source resources for the College Preparatory courses include:

- TASA at iTunesU (http://www.tasanet.org/itunesu)
- Southern Regional Education Board: LiteracyReady and MathReady courses (http://www.sreb.org/page/1508/sreb_readiness_courses.html)
- College Readiness Assignments for Texas (http://craftx.org)

21. Who will evaluate the courses?

It is recommended that ISDs and their partnering IHEs examine student performance data on summative assessments, as well as in entry-level credit-bearing courses in the corresponding content areas.

22. How do ISDs offer the course if they do not currently have a working relationship with an IHE?

House Bill 5, §28.014, requires that each district partner with at least one institution of higher education to develop and provide courses in college preparatory math and English language arts. It is recommended that ISDs work with an IHE in or near a local community college service area. If an ISD does not currently have a partner, it is recommended that they contact one of the following organizations for assistance with finding an institution with which to partner:

- TACC - Texas Success Center (http://www.tacc.org/pages/texas-success-center)
- Regional College Readiness Special Advisors (http://www.thecb.state.tx.us/index.cfm?objectid=23403FC7-F256-BE0D-70B1A9660148DAA7)
- Texas Regional Education Service Centers (http://www.tea.state.tx.us/regional_services/esc/)
- TACC Texas Community College Service Districts Map (http://www.tacc.org/documents/CTCSer_000.pdf)

23. What will training/professional development look like?

It is recommended that Education Service Centers, school districts, and IHEs collaborate to develop and deliver appropriate professional development for the College Preparatory courses. During the 2014-2015 school year, the Texas Success Center will be collecting feedback from ISDs, IHEs, and educational partners to recommend topics and potential sources of professional development to aid in the implementation of the College Preparatory courses.

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HB 5 College Preparatory Math Content Framework

Target Students: This course is appropriate for 12th grade students whose performance on measures outlined in TEC §28.014 indicates that the student is not ready to perform entry-level college coursework in Mathematics. This course is designed to advance college and career readiness.

Recommended Prerequisites: Satisfactory completion of Algebra I and the Algebra I EOC exam, Geometry, and a third credit of mathematics from the courses listed in TAC §74.12(b)(1)(2).

Course Description:
This course addresses a variety of mathematical topics needed to prepare students success in college-level mathematics. In this course students will connect and use multiple strands of mathematics in situations and problems, as well as in the study of other disciplines. In addition, the course supports students in developing skills and strategies needed to succeed in college. Mathematics topics include: numeracy with an emphasis on estimation and fluency with large numbers; manipulating and evaluating expressions and formulas, to include perimeter, area, and volume; rates, ratios, and proportions; percentages; solving equations; linear equations and inequalities; linear systems; exponential models; data interpretations including graphs and tables; verbal, algebraic, and graphical interpretations of functions. Mathematical process standards are also included in this framework; these process standards describe ways in which students are expected to engage in the content. Successful completion of this course, as defined by the memorandum of understanding (MOU) with the partnering institution(s), grants the student an exemption to TSI requirements for mathematics at the partnering institution(s).

Course Goal:
The goal of this course is to develop students' quantitative and algebraic reasoning abilities, thus preparing them for college success in multiple mathematics pathways.

Student Learning Outcomes & Learning Objectives:
Upon successful completion of this course, students will be able to:

(1) Mathematical process standards. Use mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:

- (A) apply mathematics to problems arising in everyday life, society, and the workplace;
- (B) use a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem-solving process and the reasonableness of the solution;
- (C) select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems;
- (D) communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate;
- (E) create and use representations to organize, record, and communicate mathematical ideas;
- (F) analyze mathematical relationships to connect and communicate mathematical ideas; and
- (G) display, explain, and justify mathematical ideas and arguments using precise mathematical language in written or oral communication.

(2) Numeric reasoning. Solve authentic problems in a variety of contexts that require number sense and the ability to apply concepts of numeracy to investigate and describe quantitative relationships. Students will be able to:

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(A) Engage in problem-solving which demonstrates operation sense and communicates verbally and symbolically with real and complex numbers.

For example: Predict the effects of multiplying a number by a number between 0 and 1. Represent real numbers on a number line and complex numbers on the complex plane. Use the order of operations to simplify expressions, to solve problems, and to identify errors in a spreadsheet. Perform operations on real and complex numbers and connect operations on real numbers to operations on complex numbers.

(B) Engage in problem-solving which demonstrates an understanding of rational numbers in the form of fractions, decimals, and percentages by representing quantities in equivalent forms, comparing the size of numbers in different forms and interpreting the meaning of numbers in different forms.

For example: Write a fraction in equivalent decimal form and vice versa. Compare growth expressed as a fraction versus as a percentage. Interpret the meaning of fractions and percentages. Interpret the meaning of percentages greater than 100% and justify whether such a percentage is possible in a given context.

(C) Solve problems involving calculations with percentages and interpret the results.

For example: Calculate a percentage rate. Explain the difference between a discount of 30% and two consecutive discounts of 15%. Calculate relative change, represent it graphically, and explain how it differs from absolute change.

(D) Demonstrate an understanding of large and small numbers by interpreting and communicating with different forms (including words, fractions, decimals, standard notation, and scientific notation) and compare magnitudes.

For example: Compare large numbers in context, such as the population of the US compared to the population of the world. Calculate ratios with large numbers such as water use per capita for a large population. Interpret a growth rate less than 1%.

(E) Use estimation skills, and know why, how, and when to estimate results.

For example: Identify and use numeric benchmarks for estimating calculations. Identify and use contextual benchmarks for comparison to other numbers. Check for reasonableness using both types of benchmarks.

(F) Solve problems involving measurement including the correct use of units.

For example: Identify the appropriate units for perimeter, area, and volume. Calculate the amount of paint needed to paint a non-rectangular surface.

(G) Use dimensional analysis to convert between units of measurements and to solve problems involving multiple units of measurement and know why and how the process works and when to use it.

For example: Convert between currencies. Calculate the cost of gasoline to drive a given car a given distance. Calculate dosages of medicine.

(H) Read, interpret, and make decisions about data summarized numerically (e.g., measures of central tendency and spread), in tables, and in graphical displays (e.g., line graphs, bar graphs, scatterplots, and histograms).

For example: Critique a graphical display by recognizing that the choice of scale can distort information. Explain the difference between bar graphs and histograms. Explain why the mean may not represent a typical salary.

(3) Proportional reasoning. Represent and solve authentic problem situations using proportional reasoning with ratios, rates, proportions, and scaling. Students will be able to:

(A) Model real-world situations using ratios in a variety of forms (including percentages, fractions, and decimals).

For example: Interpret a rate of change within a context using appropriate units. Interpret a percentage as a number out of 1,000. Compare risks expressed in ratios with unequal denominators (e.g., 1 in 8 people will have side effects versus 2 in 14).

(B) Determine whether a proportional relationship exists based on how the change in one value influences the change in the other, using various representations.

For example: Simple versus compound interest. Analyze whether an estimated percentage is reasonable based on proportions. Analyze the effects of scaling and shrinking that are proportional and non-proportional (e.g., the impact of changing various dimensions on perimeter, area, and volume).

(C) Analyze, represent, and solve real-world problems involving proportional relationships, including indirect measurement, with attention to appropriate use of units.

For example: Use individual water-use rates to predict the water used by a population. Use the Consumer Price Index to compare prices over time. Use a scale to calculate measurements in a graphic.

(4) Algebraic reasoning. Investigate problems that facilitate the transition from specific and numeric reasoning to general and abstract reasoning. Use the language, symbols, and structure of algebra to investigate, represent, and solve those problems. Students will be able to:

(A) Demonstrate understanding of the meaning and uses of variables as unknown quantities in real-life situations, in equations, in simplifying expressions, and as quantities that vary, and use that understanding to represent quantitative situations symbolically.

For example: Understand the different uses of variables and the difference between a variable and a constant. Be able to use variables in context and use variables as placeholders, as in formulas. Write an algebraic expression to represent a quantity in a problem. Use algebraic properties, concepts, procedures (including factoring), and algorithms to combine and transform absolute value, polynomial (2nd, 3rd, and 4th degree polynomial expressions), radical, and rational expressions. Determine whether different expressions are equivalent. Use notation with variables (e.g., exponents, subscripts) in simple and moderately complex expressions.

(B) Analyze real-world problem situations, and use variables to construct and solve equations involving one or more unknown or variable quantities. Be able to use a variety of representations to justify whether different equations are equivalent.

For example: Construct and solve linear, absolute value, and polynomial (2nd and 3rd degree polynomial functions), radical, and rational equations. Demonstrate understanding of the meaning of a solution. Write a spreadsheet formula to calculate prices based on percentage mark-up. Solve a formula for a given value. Identify when there is insufficient information given to solve a problem.

(C) Express and interpret relationships using inequality symbols; solve algebraic inequalities.

For example: Use inequalities to express the relationship between the probabilities of two events or the size of two groups. Interpret a histogram based on intervals expressed with inequality symbols. Write and solve inequalities that represent constraints in contextual situation, including linear and absolute value inequalities; demonstrate an understanding of the difference between the solution to an equation and the solution to an inequality.

(D) Determine and justify whether a situation represents multiplicative or additive change, or neither. Use various representations, such as verbal descriptions, tables, and graphs, to compare and contrast the effect of multiplicative or additive change.

For example: Compare and contrast the rate of change and/or behavior of a linear and an exponential relationship in context. Recognize that a multiplicative change is different from an additive change. Explain how the rate of change of a linear relationship differs from an exponential rate of change, as well as the ramifications of exponential change (growth can be very slow for a time but then increase rapidly).

(E) Recognize, understand and analyze features of a linear, exponential, quadratic, rational, or radical function. Justify whether a problem situation represents a linear, exponential, quadratic, rational, or radical relationship (or none). Represent such models using a variety of representations.

For example: Given a set of data, make an informal, intuitive evaluation of the applicability of a particular mathematical model. Given an initial value and information about change, create a table, graph, and/or algebraic model. Given an algebraic model, create a table of values. Recognize the limitations of the model and identify an appropriate domain or range for which the model might be used to make accurate predictions. (Note: Students are not required to use the formal vocabulary of domain and range.)

(F) Construct and use linear and piecewise linear mathematical models to solve problems from a variety of contexts and to make predictions/decisions.

For example: Describe the rate of change (slope) using appropriate units. Determine the contextual meaning of the slope and of the x- and y-intercepts. Use the understanding of linear functions to analyze and construct piece-wise linear functions, including absolute value functions.

(G) Construct and use exponential mathematical models to solve problems from a variety of contexts and to make predictions/decisions.

For example: Describe the rate of change using appropriate units (average rate of change over an interval). Determine the contextual meaning of the x- and y-intercepts, if any. Examples include: Given a statement of

how the balance in a savings account grows at different interest rates, construct a table of months and balances and then write a mathematical model that provides the balance for a given month. Compare simple and compound interest.

(H) Construct and use quadratic models to solve problems from a variety of contexts and to make predictions/decisions.

For example: Solve quadratic equations using a variety of methods, including the zero product property (factoring) and the quadratic formula. Use contextual applications such as the Pythagorean Theorem and projectile motion to set up and solve quadratic equations.

(I) Construct and use rational models to solve problems from a variety of contexts and to make predictions/decisions.

For example: Use algebraic properties (such as factoring) to simplify rational expressions. Use contextual applications such as indirect variation to set up and solve rational equations. Analyze situations modeled by rational functions to solve real world problems.

(J) Construct and use square root models to solve problems from a variety of contexts and to make predictions/decisions.

For example: Use algebraic properties to simplify radical expressions and solve contextual and mathematical radical equations. (Restrict equations to those of the form $\sqrt{ax + b} = c$.) Analyze situations modeled by square root functions to solve real world problems.

(5) Probabilistic reasoning. Use counting principles and probability to quantify uncertainty in a variety of real-world contexts; students will understand and critically evaluate statements that appear in the popular media (especially in presenting medical information) involving risk and arguments based on probability. Students will be able to:

(A) Build a finite sample space to model the outcomes of real-world events by determining the nature and number of elements using counting techniques.

For example: Make lists, tables, and tree diagrams to represent all possible outcomes in determining specifics of the sample space. Determine the number of ways an event may occur using the Fundamental Counting Principle.

(B) Compute and interpret the probability of a real-world event; and compute the probability of its complement and interpret its meaning.

For example: Conduct an experiment or simulation to compute the empirical probability of an event and its complement. Compute and interpret the theoretical probability of a simple event and its complement.

(C) Compute and interpret the probability of conditional and compound events.

For example: Determine whether real-world events are independent or dependent. Explain the meaning of conditional probability and know when to use it. Compute conditional and joint probabilities from a given table of data.

(D) Interpret statements about chance, risk, and probability that appear in everyday media (including terms like unlikely, rare, impossible).

For example: Interpret statements such as "for a certain population the risk of a particular disease is 0.005". Compare incidences of side effects in unequal group sizes.

(E) Identify common pitfalls in reasoning about risk and probability.

For example: Identify inappropriate risk statements, such as when the size of reference groups is unknown (e.g., California, 2009, 88% of motorcycle accident fatalities were helmeted, 12% unhelmeted).

(F) Interpret in context marginal, joint, and conditional relative frequencies in context for data summarized in a two-way table and identify which relative frequency is appropriate to answer a contextual question.

For example: Distinguish between reported relative frequencies that are marginal, joint, or conditional. Choose the relative frequency that is the most informative for a given purpose. Choose the appropriate direction of conditioning for a given context (the chance of cancer given a positive test result is not the same as the chance of a positive test result given cancer).

(G) Demonstrate understanding of absolute risk and relative risk (percentage change in risk) by describing how each provides different information about risk.

For example: Interpret the different information conveyed when comparing the magnitude of the absolute risks and percentage change in risk (e.g., an 80% increase in risk associated with taking a particular medication could mean a change in risk from 0.001 to 0.0018 or from 0.1 to 0.18).

(6) Quantitative Reasoning in Everyday Life. Understand, interpret, and make decisions based on financial information commonly presented to consumers; Students will understand that quantitative information presented in the media and by other entities can sometimes be useful and sometimes be misleading. Students will be able to:

(A) Demonstrate understanding of common types of consumer debt and explain how different factors affect the amount that the consumer pays.

For example: Calculate the interest paid on credit card debt based on a credit score; explain how the length of the pay-off period affects the total interest paid; demonstrate the relationship between a percentage rate and the amount of interest paid; define basic terminology such as principal, interest rate, balance, minimum payment, etc.

(B) Demonstrate understanding of compound interest and how it relates to saving money.

For example: Demonstrate the different impacts of the saving period and the amount saved on the accumulated balance; use a given formula to calculate a balance; demonstrate an understanding of the meaning of a compounding period and use the appropriate terminology for different periods (e.g., quarterly, annually, etc.).

(C) Identify erroneous or misleading information in advertising or consumer information.

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For example: Explain why statements about "average" benefits of a product such as a weight loss plan are misleading; identify misleading graphs that create an appearance of greater impact than is warranted.

(D) Use quantitative information to explore the impact of policies or behaviors on a population. This might include issues with social, economic, or environmental impacts.

For example: Calculate the effects of a small decrease in individual water use on the amount of water needed by a large population over time; determine if the minimum wage has kept pace with inflation over time.

(E) Identify erroneous, misleading, or conflicting information presented by individuals or groups regarding social, economic, or environmental issues.

For example: Explain how two statements can be both contradictory and true (e.g., the "average" amount of a tax cut expressed in terms of the mean and the median); identify how two pie charts representing different populations can be misleading.

This framework for the HB 5 College Preparatory Course in mathematics is the result of a collaborative process organized by the Texas Success Center (TSC) at the Texas Association of Community Colleges (TACC). A committee consisting of content experts from both Higher Education and K-12 educators worked collaboratively to develop and revise this framework, seeking input from educators across the state. This feedback, along with the Learning Outcomes in the Lower-Division Academic Course Guide Manual (ACGM), the Texas College and Career Readiness Standards (CCRS), and other relevant materials informed the committee's work. The HB 5 College Preparatory Course framework development is an ongoing, rigorous process designed to be inclusive of voices from multiple stakeholders with the goal of producing exceptional course materials. If you wish to contribute feedback that would benefit the continued development of this framework, please e-mail HB5Math@tacc.org.