



Connecting Classrooms, Careers and College

Guide to High Schools That Work and Other SREB School Improvement Services

SREB

Southern Regional
Education Board

A Message from David S. Spence

The Southern Regional Education Board has grown in remarkable ways since its founding in 1948 with 16 member states. I'm proud to report that our influence now extends from coast to coast, thanks to our strong history of partnering with states, districts and schools to improve K-12 student achievement in preparation for postsecondary education and careers.

In 1987, in partnership with 13 states, SREB launched High Schools That Work, our premier school improvement initiative. SREB today provides schools in more than 35 states with a comprehensive framework of strategies to increase the rigor of academic and technical curricula, instruction and assignments and to encourage students to achieve to their fullest potential.

Through its state partnerships, HSTW grew from a few dozen sites to thousands of schools nationwide. It has also evolved and expanded its state partnerships to include new frameworks for middle grades schools, high schools and technology centers as well as a suite of professional development and coaching services, research-based curriculum designs and special services. SREB now works with whole districts, individual schools or groups of schools whether they adopt one or more school improvement frameworks or choose to address specific needs with targeted solutions. A few highlights:

- The HSTW school improvement framework has given states, districts and schools a blueprint for setting and achieving their college- and career-readiness goals. When schools use HSTW's Design Principles and Key Practices to connect college-preparatory academics with rigorous career pathway programs, more students graduate college ready, career ready or both.
- The Making Middle Grades Work framework helps more students leave grade eight ready for challenging high school studies. In 2018, two new project-based STEM (science, technology, engineering and mathematics) courses will show middle grades students how to use engineering design practices to solve problems.
- The Technology Centers That Work framework of strategies increases academic and technical rigor at shared- and full-time technology centers that prepare students for credentials and careers in high-wage, high-demand fields.
- Designed in partnership with states, SREB's nine four-course Advanced Career pathways feature rich, STEM-intensive projects that help students master the academic, technical, critical thinking and teamwork skills employers prize. AC STEM Pathway Academies allow English, math, science and AC teachers to co-plan lessons.
- The Senior-Year Redesign framework shows schools how to offer college-like experiences that put college-ready students on a fast track to degrees and careers. And SREB's Readiness Courses in literacy and math help struggling eighth- or ninth-graders and seniors get on track for grade-level studies and postsecondary programs.
- Professional development and coaching empower school leaders and teachers of grades three through 12 to align their instruction and assignments with readiness standards. Topics include literacy and math strategies, project-based assignments, counseling for careers and college, and career pathway teacher preparation.
- Special services include data-driven curriculum, instruction and career pathway reviews that help schools identify and own their readiness gaps. Workshops empower school leaders and teachers to design action plans that give teachers the time they need to work in cross-disciplinary teams to plan engaging, standards-driven assignments. Annual convenings bring educators and policymakers together to share best practices.

I am proud of HSTW's legacy and excited about its future. Let us know how we can partner with you to help more young people graduate ready to earn credentials and degrees and embark on fulfilling careers.



David S. Spence
President
Southern Regional Education Board



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About the Southern Regional Education Board

The Southern Regional Education Board works with states to improve education at every level, from early childhood through doctoral education. A nonprofit, nonpartisan organization based in Atlanta, SREB was created in 1948 by Southern governors and legislators to help leaders in education and government advance education to improve the social and economic life of the region. Member states are Alabama, Arkansas, Delaware, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia and West Virginia.

About High Schools That Work and Other SREB School Improvement Services

The pool of jobs available to those with only a high school diploma is shrinking.

About two out of every three jobs now require some postsecondary education and training. And by 2025, demand for individuals with a credential or degree after high school is expected to exceed supply by as many as 11 million, according to the Georgetown University Center on Education and the Workforce.

There is no disputing that young people benefit from connected learning experiences that equip them with the lifelong learning skills required to secure good jobs and a middle-class life.

Connecting Classrooms, Careers and College

For more than 30 years, the Southern Regional Education Board has partnered with states, districts and schools to identify and implement strategies that engage and empower young people to put what they learn in the classroom to work in the real world.

These efforts began in 1987 with High Schools That Work, SREB's premier school improvement framework. HSTW is a proven, comprehensive approach to creating learning environments that encourage youth to identify their goals, embrace hard work, earn credentials and degrees, and embark on careers. Since 1987, SREB has used data to continuously refine its HSTW framework and related services, described on pages 14-21.

Individually, these services address specific needs and areas; when adopted as part of the HSTW framework, they represent a customized, multi-faceted approach to school improvement. Best of all, by putting a strong focus on career pathways, HSTW helps students make the connection between college-ready academics and careers — the personal connection that's needed to engage students fully in their education.

SREB helps districts and schools identify barriers to achieving their college- and career-readiness goals and take ownership of the tools, strategies and solutions they need to increase the percentage of students who graduate college ready, career ready or both.

How We Help States, Districts and Schools

Our approach to school improvement helps schools prepare students for college and careers by:

- Aligning instruction with grade-level college- and career-readiness standards
- Connecting classroom learning with real-world problems
- Using instructional time to meet students' unique needs
- Empowering teachers to co-plan instruction and assignments within and across disciplines
- Offering developmentally appropriate career exploration
- Personalizing learning to reflect students' interests
- Accelerating credential and degree attainment



"All students can succeed when the whole school comes together to create rich, connected learning experiences that help students find a sense of purpose for their studies and their lives and make that extra effort needed to succeed."

Gene Bottoms
Senior Vice President, SREB

We help states, districts and schools...	... meet college- and career-readiness goals...	... by providing a portfolio of tested tools and strategies
<ul style="list-style-type: none"> • Grades three-12 teachers, counselors and school leaders 	<ul style="list-style-type: none"> • Strengthening foundational literacy, math and science skills 	<ul style="list-style-type: none"> • Comprehensive school improvement frameworks
<ul style="list-style-type: none"> • State and district education agency personnel 	<ul style="list-style-type: none"> • Creating career pathways spanning grades nine-14 that help students earn credentials and degrees and secure good jobs 	<ul style="list-style-type: none"> • Professional development and instructional coaching services
<ul style="list-style-type: none"> • Postsecondary partners 	<ul style="list-style-type: none"> • Preparing and supporting effective teachers and school leaders 	<ul style="list-style-type: none"> • Research-based curriculum designs
<ul style="list-style-type: none"> • State policymakers 	<ul style="list-style-type: none"> • Transforming school systems, structures and cultures to improve student achievement 	<ul style="list-style-type: none"> • Special convenings and expert technical assistance

HSTW's Six Design Principles

More than 30 years of research in real school environments has proven the efficacy of the six Design Principles governing High Schools That Work and SREB's related school improvement frameworks — Making Middle Grades Work, Technology Centers That Work, Advanced Career STEM Pathway Academies and the Senior-Year Redesign.

These principles — when properly funded and implemented by school and district leaders and supported with **our related school improvement services** — can help more youth prepare for a full range of postsecondary options.

- 1. Prepare all students for college, careers or both.** All students in all courses receive challenging assignments that align with grade-level readiness standards. Teachers use rich, literacy-based assignments and project-based instruction to challenge students.
- 2. Redefine how time is used to connect academic, career pathway and workplace learning.** Academic and career pathway teachers have time to co-plan instruction and assignments that strengthen students' literacy and math skills and engage them in deeper learning.
- 3. Provide extended time and support for middle grades and high school students to achieve college and career readiness.** Accelerated learning strategies and multiple tiers of instruction help struggling students master the academic, technical, cognitive and personal skills needed to succeed in postsecondary education and the workplace.
- 4. Use career pathways and a redesigned senior year to erase the lines between secondary, postsecondary and workplace learning.** Seniors who meet college-readiness benchmarks can earn up to 30 hours of credit toward an associate or bachelor's degree or advanced industry credential in a high-demand field. Seniors whose 11th-grade assessment scores fall shy of benchmarks take special readiness courses that prepare them for credit-bearing postsecondary studies. Seniors whose assessment scores fall well below benchmarks receive a suite of services that enhance their academic, technical and workplace skills and empower them to make good educational and career choices.
- 5. Provide students with school- and community-based learning experiences that help them set career and educational goals.** Beginning in the middle grades and continuing throughout high school, students and parents have many opportunities to learn about their interests and aptitudes. Caring business and community partners work with schools to offer ongoing work-based learning experiences that allow students to explore careers in a safe environment. No later than the eighth grade, students and parents begin working with teachers and counselors to develop and revise personalized programs of study that reflect their evolving goals and include one or more years of postsecondary study.
- 6. Make school and instruction work for students.** Schools provide all teachers with ongoing professional development and time to work in interdisciplinary teacher teams to co-plan assignments. Schools also create organizational structures and schedules that allow them to find the time needed to:
 - Organize instruction around students' interests and abilities and create engaging, standards-driven assignments.
 - Personalize learning through greater use of technology and other strategies.
 - Empower teachers to become effective facilitators of student learning.

Related Services

- Literacy and math professional development
- Project-based learning
- CTE teacher preparation
- Counseling for careers and college
- Principal leadership
- Readiness courses
- Middle grades STEM courses
- Career pathway curricula
- Career pathway reviews
- Career pathway design services
- Curriculum reviews
- Classroom observation tools
- Special convenings and services

Learn more on pages 14-21.

Why Partner With Us?

SREB is trusted. Thousands of schools have adopted HSTW to transform teaching and learning. SREB's professional development providers, instructional coaches and content specialists have successfully led school reforms or served long tenures as classroom teachers.

SREB has deep expertise in policy. SREB helps districts and schools collect and use data to meet state accountability goals, provide well-rounded academic and technical studies, and offer effective career counseling and teacher professional development. Our experts help districts design career pathways that align with rising workplace requirements.

SREB is affordable. SREB is a nonprofit, and some of our services can be offered at no cost through grant funding.



The New High Schools That Work Framework

When high school students complete a challenging academic core and a sequence of engaging, career-preparatory courses, they are not only more likely to achieve readiness benchmarks in reading, math and science, but also more likely to develop a plan for the future.

Launched in 1987, SREB's evidence-based **High Schools That Work school improvement framework** is grounded in the belief that when states, districts and schools create personalized, meaningful learning experiences and encourage students to succeed, students will make the effort needed to master complex academic and technical concepts. Further, schools that shift their school and classroom practices by adopting HSTW's **six Design Principles** (see page 3) and **nine Key Practices** (see the next page) can increase the percentage of students who graduate ready for college and careers to 80 percent or more.

As HSTW grew from 28 schools in 13 states to more than 4,000 schools in 36 states, SREB has partnered with state, district and school leaders, teachers, parents and communities to continuously improve the HSTW framework to reflect rising workplace requirements and place a stronger emphasis on connecting academic and career pathway courses to postsecondary credentials and good jobs.

HSTW can be adapted to suit districts of any size, from large urban and suburban districts to small rural districts or districts serving just one high school. Whatever the setting, SREB's experienced staff collaborate with district and school leaders to deliver a suite of curriculum products, professional development and instructional coaching services.

HSTW Sets Bold Goals for Student Achievement

No matter what career field students pursue, nearly all of today's middle- and upper-income jobs require an advanced industry credential or a postsecondary certificate, credential or degree. Leading employers convened by the Business Roundtable also agree that success in the workforce requires a broad mix of skills, including:

- *Personal skills* – dependability and professionalism
- *People skills* – the ability to function on a team and communicate well
- *Workplace skills* – the ability to plan, organize and make decisions carefully and use tools and technologies with ease
- *Applied knowledge* – the foundational literacy, math, science and critical-thinking skills needed to adapt in a changing workplace

With HSTW's **proven tools, strategies and structures**, schools create cultures of high expectations in which rigorous, real-world assignments that cultivate these essential skills are the norm in every classroom.

“Learning happens when students are given something to do, not something to learn. That’s the spirit of HSTW.”

HSTW helps teachers and school leaders design challenging assignments that motivate students to go the extra mile.”

Gene Bottoms

Senior Vice President, SREB

What's new in HSTW?

- ✓ Stronger focus on career pathways
- ✓ Stronger connections between academic and career pathway courses
- ✓ Stronger emphasis on helping students secure and maintain a middle-class life

Meet Bold Goals for Student Achievement With HSTW

SREB encourages middle grades schools, high schools and technology centers to use HSTW's six Design Principles and nine Key Practices to set and meet bold goals like these:

- Empowering 90 percent of students to enter ninth grade ready for high school
- Empowering 95 percent of students to graduate on time
- Empowering 80 percent of students to graduate college ready, career ready or both
- Empowering 60 percent of students to earn a credential or degree of value by age 25



HSTW Spotlight School

By embracing HSTW, Georgia's Meadowcreek High School broke down barriers between academic and career pathway teachers and community partners. More students are performing at Level 3 or better in the school's expanded array of AP and Advanced Career courses.

“Meadowcreek has helped me change my mind about my potential and what I can do.”

Meadowcreek Student

What Makes It Work – HSTW's Nine Key Practices

1. Schools provide students with access to **intellectually demanding career pathway programs of study** that:
 - Connect **at least four pathway courses with a college-ready core** of English, math, science and social studies. All students complete four years of math courses tailored to their career goals. Students pursuing credentials and degrees in STEM (science, technology, engineering and math) fields take Algebra II and higher math. Students pursuing credentials and degrees in non-STEM fields take Algebra I, geometry and two career-related math courses.
 - Include **four or more career pathway courses** in which a high percentage of students report completing rigorous assignments, like Advanced Career courses. Alternatively, students may complete three AP courses in STEM or the humanities or three International Baccalaureate career diploma courses.
 - Connect three stages of learning — high school, postsecondary education and the workplace — through a **redesigned senior year** that includes dual enrollment courses and work-based learning opportunities.
 - Connect to **high-skill, high-wage, high-demand jobs** that help students secure a middle-class life.
 - Organize high school curricula around **career academies** that provide common planning time for academic and career pathway teachers to co-plan instruction, assignments and connected learning experiences for students.
 - Connect grade-level readiness standards with **rigorous instruction and assignments** in career pathway courses.
2. Schools provide teachers with the **ongoing professional development** they need to help students master the literacy (reading, writing and oral communication) and math skills that promote success in postsecondary education and the workplace.
3. Schools **extend learning time and provide personalized supports** to students who need help mastering foundational academic, technical, technological, cognitive and workplace skills.
4. Schools offer **specialized literacy and math readiness courses** (see page 18) to eighth- and ninth-graders who do not meet readiness benchmarks for high school and to seniors who do not meet readiness benchmarks for postsecondary certificate, credential and degree programs or entry-level jobs in high-skill, high-wage career fields.
5. Career pathway teachers draw on real-world problems to create **project-based assignments** (see page 17) that:
 - Incorporate grade-level college- and career-readiness standards in literacy, math and science.
 - Feature the use of technology, such as coding or learning new software.
 - Encourage students to work both independently and as part of a team.
6. With the support of caring employers and community partners, students participate in a series of **structured work-based learning experiences** — like worksite tours, job shadows, internships and capstone projects — that help them make the connection between their academic and technical studies and the world of work. Employers and schools co-develop work-based learning plans.
7. Teachers and counselors deliver **academic and career counseling and exploratory experiences** (see page 17) that help students and parents achieve a deeper understanding of their interests, aptitudes and opportunities and set postsecondary and career goals. Teachers and counselors work with students and parents to develop **personalized programs of study** that prepare students for a double purpose — college and careers. These plans span high school and at least the first year of postsecondary studies, if not more.
8. During a **redesigned senior year** (see pages 12-13), eligible students can earn up to 30 college credits by pursuing an early college program, an early advanced credential program or both. Struggling students take readiness courses that help them master literacy and math skills.
9. Schools cultivate a **culture of continuous improvement** in which teachers and leaders share the goal of helping at least 80 percent of students graduate college ready, career ready or both — with 60 percent of graduates earning a credential or degree of value by age 25.

Rigorous assignments engage students in:

Real-world projects	Technology
Research	Technical skills
Planning	Teamwork
Applied academics	Feedback
Problem solving	Revision



Learn more.

Email: hstw@sreb.org

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Making Middle Grades Work

Combining Middle Grades and High School Improvement Efforts — Why It Makes Sense

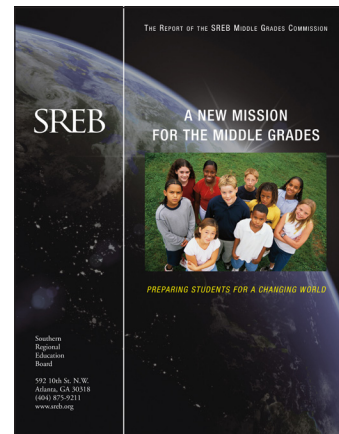
For many youth, the middle grades are a make-or-break time in their education and social and emotional development. At present, however, less than 35 percent of students leave eighth grade with the literacy and math skills they need to complete a college-ready core.

In a groundbreaking report on middle grades education, *A New Mission for the Middle Grades*, SREB makes the case that preteens and young teens flourish when their studies are challenging, meaningful and personally relevant.

SREB's **Making Middle Grades Work** school improvement framework supports middle grades schools in their efforts to advance student achievement by:

- Providing students with accelerated learning experiences that prepare them to leave eighth grade on track to meet state readiness benchmarks.
- Identifying students who need extra help as early as the sixth grade and finding time for teachers to provide special supports to these students.
- Offering exploratory experiences that empower students to make the connection between their studies, their interests and potential careers.

MMGW tools and strategies help schools keep students engaged by tapping into their passions and interests. As a result, more students leave eighth grade prepared for what's next — challenging high school studies, college and careers.



Meet Bold Goals for Student Achievement With MMGW

SREB encourages middle grades schools to use the MMGW framework to set and meet bold goals for student achievement. MMGW can empower more students to:

- Enter ninth grade ready for college-preparatory academic courses and challenging career pathway courses.
- Enter ninth grade with the literacy skills needed to read, analyze and comprehend texts in all subject areas.
- Enter ninth grade having successfully completed Algebra I or ready for college-prep math.
- Earn enough credit as first-time ninth-graders to enter 10th grade.

MMGW's Eight Key Practices

Middle grades schools that redesign their curricula around MMGW's eight Key Practices offer accelerated learning opportunities that help students master foundational literacy, math and science skills.

1. Schools teach all students using engaging assignments connected to grade-level standards.

MMGW teachers receive professional development and instructional coaching that support their ability to align readiness standards with assignments that motivate students to eagerly invest the effort required to produce quality work.

2. Schools use literacy strategies to advance students' literacy and subject-area achievement.

MMGW professional development and onsite and electronic coaching strengthen teachers' capacity to develop literacy-based assignments that engage students in reading grade-level texts in all content areas and expressing their understanding of those texts orally and in writing. Teachers learn how to teach close reading strategies and writing strategies that help students read challenging source materials, organize information, support their ideas with evidence and master content knowledge and writing skills at the same time.

- ### 3. Schools take a balanced approach to teaching math concepts, procedures and reasoning skills that helps students view math as an essential tool for understanding and solving real-world problems.
- MMGW professional development and coaching services deepen teachers' math knowledge and ability to adopt ready-to-use math strategies. MMGW's balanced approach to math instruction advances students' procedural fluency while building their understanding, reasoning and ability to apply math knowledge and skills to solve multi-step problems.



Literacy and math strategies, pages 16-17



- 4. Laboratory-based learning experiences introduce students to the complexity of scientific research.** MMGW professional development supports teachers and school leaders in offering lab-based science instruction that engages students in conducting scientific studies, using equipment, recording data, analyzing results and discussing their findings. Students also learn how to collaborate effectively with others, take personal responsibility for their work, assume different roles and accept feedback.
- 5. Rich STEM (science, technology, engineering and mathematics) learning experiences awaken students' natural curiosity about the world and introduce them to exciting STEM careers.** Each of SREB's middle grades STEM courses, available in the fall of 2018, are designed around projects that introduce students to the principles of scientific inquiry and the engineering design process. Students work collaboratively with peers to solve real-world problems from fields like computer science and biotechnology. All projects involve conducting research, preparing written designs and reports, developing prototypes, using data to test prototypes and presenting their work.
- 6. Schools take early steps to identify students who are not on a graduation path and provide them with accelerated learning supports connected to grade-level readiness standards.** MMGW's accelerated learning program provides struggling students with the additional time they need to complete challenging assignments and meet readiness benchmarks while also addressing any attendance or behavioral problems they may have. SREB's **Ready for High School Literacy and Math courses**, offered in the eighth grade, increase the percentage of students who enroll and succeed in college-preparatory Algebra I, science, English and social studies courses in the ninth grade.
- 7. Schools help students explore their interests, aptitudes and career and educational goals through in-school and out-of-school learning activities.** MMGW works with district and school leaders to implement a comprehensive, curriculum-based counseling system in which students in every grade engage in developmentally appropriate career exploratory lessons. Students and parents are paired with teacher-advisers who meet with them regularly to create, review and revise their personalized programs of study for high school and beyond.
- 8. School leaders receive the support and resources they need to advance school improvement initiatives, strengthen teachers' understanding of effective curriculum and instructional strategies, and help good teachers become great teachers.** MMGW helps school leaders establish a shared vision, mission and goals for school improvement by creating consensus among faculty and staff. Leaders focus their time and energy on empowering teachers to improve teaching and learning and advance student achievement. School leaders also share leadership responsibilities in ways that enhance teachers' capacity to plan instruction and assignments within and across disciplines.



Middle grades STEM courses, page 19



Readiness courses, page 18



Counseling for careers and college, page 17



Learn more.

Email: mmgw@sreb.org
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Technology Centers That Work

The nation's 1,000+ shared- and full-time technology centers serve a valuable purpose — to offer accelerated preparation leading to advanced credentials and degrees that are too expensive for most home high schools to offer.

The nation's technology centers also face unique challenges — to not only prepare students to meet labor market demand for individuals with advanced credentials and degrees, but also ensure those students can adapt and thrive in a workplace marked by rapid technological advances.

TCTW Helps Centers Meet Readiness Goals

SREB is committed to helping states, districts and center leaders meet these challenges by adopting HSTW's six Design Principles and the new TCTW framework of Key Practices. With TCTW, center students:

- Have equitable access to **structurally guided career pathways** that lead to advanced industry credentials and postsecondary certificates, credentials and degrees in high-demand career fields.
- Master a **broad mix of academic, technical and workplace skills and personal qualities** by completing project-based assignments that reflect the real problems faced by industry professionals. Unlike short-term assignments that focus on a single task or set of skills, challenging long-term projects foster academic, technical and workplace skills that transfer across work settings.
- Earn **an advanced credential or pursue postsecondary degrees and credentials.**

The New TCTW Framework of Key Practices

- Intellectually demanding **career pathways** align with great jobs in emerging fields and connect with a college-ready core.
- **Challenging instruction and assignments** strengthen students' literacy and math skills.
- **Literacy and math readiness courses** help struggling students get on track for postsecondary education and training.
- **Extended learning time** supports students in mastering foundational skills.
- **Project-based assignments** use real-world problems to deepen understanding.
- **Work-based learning** introduces students to careers under the guidance of adult mentors.
- **Career counseling** helps students and parents plan for the future.
- Eligible seniors can **earn up to 30 credits** toward an advanced industry credential or degree.
- Leaders and teachers commit to **continuous improvement.**

Meet Bold Goals for Student Achievement With TCTW

SREB encourages technology centers, high schools and districts to use the TCTW framework to set and meet bold goals like these:

- Empowering 95 percent of center students to graduate on time
- Empowering 80 percent of center students to graduate college ready, career ready or both
- Empowering 60 percent of center students to earn a credential or degree of value by age 25

Supports for TCTW Leaders and Teachers

TCTW professional development and instructional coaching services strengthen the capacity of center leaders and teachers to design standards-driven, intellectually demanding instruction and assignments in partnership with home high schools, postsecondary faculty and employer partners. TCTW also works with state, district and center leaders to create the time needed for students to earn an advanced credential by:

- **Redesigning the senior year** to allow students to study full time at the center or at a community and technical college.
- **Extending the school year or the school day** at the center.
- Creating **13th-year advanced credential programs.**
- **Designing structured career pathway programs** that enable students to earn an advanced credential or degree at a partnering community and technical college.



Senior-year redesign, pages 12-13

TCTW's Proven Tools and Strategies

Technology Centers That Work's professional development and instructional coaching services help centers use proven tools and strategies to **align curriculum, instruction and assessments** with rising workplace requirements.

TCTW helps centers find the resources to support **full-time literacy and math teachers** who can:

- Advance struggling students' literacy and math skills by adopting **literacy and math readiness courses**. Entering 11th-graders who do not meet literacy and math benchmarks on 10th-grade assessments would take these courses in shortened class periods over a two-year span.
- Work with career pathway teachers to **embed literacy and math standards and strategies** in project-based assignments that challenge students to apply a mix of academic, technical, technological and cognitive skills to solve authentic workplace problems.
- Enable students to **earn English and math credits** that count toward graduation while remaining at the center longer each day.

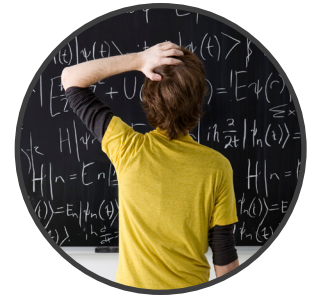
TCTW supports center leaders' capacity to recognize and support **effective teaching practices**, like how to conduct **classroom observations**, provide feedback, offer professional development and instructional coaching, and use data to assess whether students are prepared to secure high-skill, high-wage jobs or earn a credential or degree in a high-demand field.

Center leaders also learn how to support teachers in designing **challenging, project-based assignments** that align with grade-level academic and industry standards. Such assignments build the knowledge and skills that employers value — personal skills, people skills, workplace skills and applied academic knowledge.

TCTW works with center leaders, home high schools, postsecondary educators and employer partners to **design career pathways** leading to credentials and careers in high-demand fields.

Technical assistance services include curriculum and instruction and career pathway reviews, teacher and student surveys, and data-driven site development workshops that cultivate climates of continuous improvement.

TCTW-affiliated centers also participate in **special convenings** like the National TCTW Leaders' Forum, described below. Other convenings are described on page 20.



Literacy and math strategies,
pages 16-17



Project-based learning,
page 17



Readiness courses, page 18

National TCTW Leaders' Forum

Each year, SREB convenes leaders from shared-time and full-time technology centers at the National TCTW Leaders' Forum, at which leaders advance their leadership skills, improve the quality of teaching and learning, and build strong pathways to credentials, degrees and careers.

Teachers who attend the Forum explore tools and strategies for aligning their assignments with rising workplace requirements.



Learn more.

Email: tctw@sreb.org
sreb.org/tctw

Advanced Career STEM Pathway Academies

High schools and technology centers are being challenged like never before to prepare youth for their next steps after graduation, whether those steps include earning a credential or degree or securing a good job right away.

Co-designed with state leaders, postsecondary educators, employer partners and master teachers, each of SREB's **nine Advanced Career pathways** consists of four courses that help students master readiness standards and cultivate the critical thinking, problem-solving, communication and applied academic skills employers value.

AC courses introduce students to exciting careers in varied STEM (science, technology, engineering and mathematics) fields. All AC courses are taught in the context of a college-ready academic core and include fully developed lesson plans, assessments, projects and supplies.

Career Academies — A Proven Strategy for Engaging Students

Research shows that **career academies** — small learning communities in which students take academic and technical courses as a cohort with dedicated academy teachers — not only help students transition to college, but also improve their labor market outcomes, according to studies conducted by MDRC.

In career academies that meet national standards for best practices, teachers and counselors integrate career exploration and advisement into daily or weekly lessons. Community and employer partners offer experiential learning opportunities that allow students to apply what they learn in the classroom in different real-world settings, try out careers, gain hands-on experience and build communication and teamwork skills.

The AC STEM Pathway Academy Network

High schools and technology centers that join SREB's **AC STEM Pathway Academy Network** find that career academies naturally complement their existing efforts to improve instruction and engage students. SREB has also found that AC academies can serve as a catalyst for organizing other programs around an academy design in schools that have not yet adopted a comprehensive school improvement framework.

SREB customizes AC academy designs to suit the unique needs of comprehensive high schools, shared-time regional technology centers and community and technical colleges that adopt AC.

With SREB supports and related services (see pages 14-21), network schools design one or more college- and career-preparatory pathways for students in grades nine through 14 or 16 that are grounded in these design principles:

- AC courses and assessments align with a college-ready core.
- Academies follow the 10 key features described on the following page, which align closely with National Career Academy Coalition National Standards of Practice.
- Schools assemble an AC Support Team for AC STEM Pathway Academies that includes an assistant principal, a counselor, and literacy, mathematics and science teachers.
- Academic and career pathway teacher teams share common planning times and cohorts of students.
- AC academies partner with postsecondary institutions and business and industry leaders.

Network schools also ensure that students complete the four-course AC sequence; provide access to high-quality dual enrollment courses and industry certifications; and strive to deliver instruction in varied settings — including at the high school, at a technology center or at an area college.

Nine Advanced Career Pathways

- Aerospace Engineering
- Automated Materials Joining Technology
- Clean Energy Technology
- Energy and Power
- Global Logistics & Supply Chain Management
- Health Informatics
- Informatics
- Innovations in Science and Technology
- Integrated Production Technologies



“Managers from Toyota Motor Manufacturing West Virginia who have visited my AC Integrated Production Technologies class say this is the first time they’ve seen this level of advanced manufacturing instruction in a high school technical center.”

West Virginia IPT Teacher



The Origins of Advanced Career

SREB's 2009 report, *The Next Generation of School Accountability*, challenged educators to broaden the definition of academic rigor to include career pathway programs that connect college-ready academics with a sequence of rigorous career and technical education courses in which meaningful problems, projects and assignments encourage students to explore careers and master literacy and math skills.

SREB and its state partners used this report as a blueprint for creating **Advanced Career**, which helps young people transition to postsecondary programs and the workplace.

Services for AC STEM Pathway Academy Network Schools

All AC STEM Pathway Academy Network schools receive professional development, coaching and technical assistance designed to help them adopt these 10 key features:

1. **Design career pathway programs of study in STEM** in which the four AC courses offered in high school align with postsecondary programs leading to an associate degree or higher.
2. **Ensure that the college-ready academic core** is taught through intellectually demanding, standards-driven assignments that connect with AC course projects, where appropriate. The college-ready academic core includes four courses each of college-prep English and math and at least three lab-based science courses.
3. **Partner with local postsecondary institutions** to offer at least the third and fourth courses in each four-course AC sequence as dual credit to students who meet readiness benchmarks.
4. **Identify industry sponsors** who can review student work and provide a range of work-based learning experiences for each AC STEM pathway.
5. **Establish a master schedule** that allows students to take classes as a cohort and gives AC teachers and dedicated math, science and English teachers time to co-plan lessons that connect academic and technical standards and align with AC projects.
6. **Select the best teachers to teach AC pathway courses.** SREB has found that the best AC teachers can come from any discipline; what they share in common is a passion for teaching, a knack for technology and a willingness to learn.
7. **Design a system of counseling for careers and college** that complements AC pathways. In this system, students and parents participate in orientation sessions about available AC pathway programs and learn about career opportunities related to those pathways. Students regularly engage with professionals in the field.
8. **Build district- and building-level support** for AC teachers to ensure that they have the supplies, technology, lab space and classroom space needed to teach AC courses.
9. **Use end-of-project and end-of-course summative assessments, frequent in-project formative assessments and student survey data** to continuously improve instruction.
10. **Require AC teachers to participate in AC's two-week Summer Teacher Training Institute.** Master AC teachers engage new AC teachers in completing class projects and understanding the academic and technical content, technology and project-based pedagogy of each course. Ongoing support includes coaching, webinars, tech support, assessment reports and networking opportunities.

What Students Say About AC

Students love AC. In 2017 surveys, nearly 90 percent of students agreed that AC projects are intellectually demanding and require them to use math to complete. About 80 percent reported they liked AC's hands-on projects and wanted to take all four courses in the AC sequence. And nearly three-quarters said that AC helped them form a career goal.

"Students are more interested in mastering academic content when they can use it to solve real problems that relate to their own lives. Authentic projects are the key to showing students how to apply what they learn in the classroom to new situations."

Gene Bottoms

Senior Vice President, SREB



Learn more.

Email: advancedcareer@sreb.org
sreb.org/ac

Senior-Year Redesign

When coupled with college-ready academics, career pathways have the power to move students into good, higher-paying jobs — and into the middle class. The new High Schools That Work school improvement framework transforms high schools by using career pathways to connect secondary and postsecondary studies and workplace learning.

In many schools, the last year of high school finds students stuck in a holding pattern — eager to take their first steps into the adult world of careers and college but held back by academic deficiencies, graduation requirements or institutional barriers that prevent them from getting a head start on a credential or degree or launching their careers.

The **Senior-Year Redesign**, a key feature of the new HSTW framework, reclaims this critical year and transforms it into an opportunity to bolster students’ readiness for postsecondary studies or employment when they graduate — and to accelerate credential or degree attainment for students who already meet readiness benchmarks.

With the Senior-Year Redesign, every senior can gain college-like experiences before graduation — and potentially earn up to 30 semester hours of credit toward an associate or bachelor’s degree or an advanced credential.

“Schools that adopt the Senior-Year Redesign can ensure that their students graduate fully prepared for their next steps — whether that involves earning an industry credential or a two- or four-year degree or climbing the first step on the career ladder.”

Gene Bottoms

Senior Vice President, SREB

How the Senior-Year Redesign Works

The Senior-Year Redesign offers four options — each designed in partnership with local colleges, universities, community leaders and employers — that suit students of all abilities. **In one option**, seniors who meet readiness benchmarks on 11th-grade assessments take college-level dual enrollment courses at their home high school or on a college campus. **Three other options** serve students who need extra help meeting readiness benchmarks. In all options:

- Dual enrollment courses are taught on the college schedule and use college syllabi, exams and materials; extra time is provided for labs, internships or capstones.
- High school career pathway courses and college courses are taught by qualified high school teachers or college faculty and offered at the high school, at the college or online.
- Academic and career pathway teachers collaborate to integrate project-based instruction and assignments.

Junior Year	Senior Year – Four Options		
<p>All students take a state-approved college- and career-readiness assessment — like the ACT, SAT or other approved college placement exam — to gauge their preparedness for college-level studies.</p>	<p>OPTION 1</p> <p>Seniors who meet literacy and math readiness benchmarks complete graduation requirements plus dual enrollment courses that equal up to 30 college credits toward an advanced industry credential or an associate degree at a community college (Accelerated Option) or a bachelor’s degree at a four-year college or university (Accelerated+ Option).</p>	<p>OPTION 2</p> <p>Seniors who aren’t quite ready for college-level studies — for example, those whose literacy and math scores fall no more than a few points below benchmarks on a state-approved readiness assessment — enroll in a double-block of readiness courses during their first semester.</p> <p>In their second semester, seniors who meet benchmarks complete graduation requirements plus dual enrollment courses that equal up to 15 college credits toward a postsecondary credential or degree.</p> <p>OPTION 3</p> <p>Seniors who do not meet readiness benchmarks after the first semester of readiness courses complete graduation requirements while also taking community college or other developmental education courses.</p>	<p>OPTION 4</p> <p>Seniors whose assessment scores fall well below readiness benchmarks receive a suite of services designed to enhance their foundational academic, technical and workplace skills while empowering them to make informed educational and career choices.</p> <p>Students receive intensive instruction in literacy and math along with their core academic and career pathway courses. Students also receive career counseling, take aptitude and interest inventories, attend time management and study skills workshops, and engage in work-based learning experiences that help them build skills, gain confidence and prepare to enter the workforce or pursue a credential.</p>



Senior-Year Redesign Services

SREB supports states, districts and schools in redesigning the senior year to:

Meet graduation requirements. Under some state academic graduation requirements, selected college English and math courses could substitute for a fourth high school English or math course. SREB can share how other states have made policy changes that allow eligible seniors to satisfy graduation requirements with challenging college courses.

Connect high school and postsecondary studies. Accreditation organizations set criteria for the kinds of courses that can be offered for college credit and where and by whom they can be taught — for example, by postsecondary faculty versus by high school teachers who meet guidelines. SREB can share how other states have worked with two- and four-year colleges and universities to streamline credit transfer policies and identify the conditions under which high school teachers may offer college courses.

Create time for accelerated learning. More seniors will choose accelerated learning options if they know they can also continue to participate in sports, clubs and other meaningful activities at their home high schools. SREB can help create schedules that balance accelerated learning with time for important senior-year milestones.

Address funding concerns. Extending postsecondary education to high school seniors carries financial implications — from tuition and full-time equivalents to transportation to and from college campuses, technical centers or work sites. SREB can share how other school districts and postsecondary institutions have negotiated funding agreements that honor each institution's contribution to students' education.

Offer postsecondary and experiential learning. As more seniors engage in work-based or experiential learning activities, schools need to ensure that both students and employers or community partners are protected from harm. SREB can share how other states are leveraging available resources to offer real-world learning opportunities and identifying the policies needed to insure students and limit employers' liability if a student is injured during a work experience.



Learn more.

Email: senioryear@sreb.org
sreb.org/senioryearredesign

District Partnerships — Why They Matter

Our school improvement services share a common goal — to give districts the tools and strategies they need to help students achieve college and career readiness.

School turnaround initiatives succeed when district personnel — from school board members and the superintendent to central office staff, teachers and principals — come together to develop and articulate a shared vision and goals for school improvement and adopt proven practices and accountability measures that help principals and teachers achieve those goals.

Our school improvement frameworks and services give districts a way to streamline their many college- and career-readiness efforts into a single, integrated strategic plan. We align with districts' plans instead of adding to what schools already do.

HSTW works for all districts, from large urban and suburban districts to rural districts and districts with just one high school. HSTW staff have spent more than three decades partnering with superintendents, chief academic officers, board members and others to transform schools. Our professional development providers, instructional coaches and content specialists have led school reforms and served long tenures as classroom teachers.

School turnaround initiatives succeed when district personnel come together to develop a shared vision and goals for school improvement and adopt **proven practices** that help principals and teachers achieve those goals.

HSTW's Proven Practices

- School improvement frameworks
- Professional development and instructional coaching services
- Research-based curricula
- Special convenings and services

Learn more on pages 16-21.

Districts Can Meet Bold Goals for Student Achievement With HSTW

SREB encourages districts and schools to use the HSTW framework to set and meet bold goals like these:

- Empowering 90 percent of students to enter ninth grade ready for high school
- Empowering 95 percent of students to graduate on time
- Empowering 80 percent of students to graduate
- Empowering 60 percent of students to earn a credential or degree of value by age 25

Ten Ways Districts Can Use HSTW and Other SREB School Improvement Services to Achieve Their Goals

1. We offer districts the **research-based school improvement frameworks** (see pages 4-13) they need to meet state and federal guidelines for improving challenged schools. SREB helps districts design strategic plans to achieve their school improvement goals through curriculum products, staff development, technical assistance, communications and assessment services.
2. We work with districts to design **structurally guided career pathways** that are taught in conjunction with a college-ready core and lead to postsecondary programs and good jobs.
 - Pathways consist of **four or more rigorous career pathways courses** that are aligned with readiness standards and lead to postsecondary programs and good jobs; or **at least three AC, AP or IB courses** in STEM or in the humanities. Instruction and assignments challenge students to apply academic, technical, technological, cognitive and workplace skills to solve real-world problems.
 - **The college-ready core includes English, math, science and social studies.** SREB advocates that high school students benefit from four years of rigorous math courses. Whereas many students may benefit from taking Algebra II and higher math — especially those interested in credentials and careers in STEM fields — others may benefit from taking four math courses that include algebra, geometry, statistics and higher math related to a non-STEM career field.
3. We offer guidance that helps districts and schools **build partnerships with postsecondary institutions, community organizations and employers** and develop career pathways leading to postsecondary credentials and degrees and good jobs in fields that matter to the regional and state economy.



AC academies, pages 10-11



Career pathway reviews and development, page 21

4. We work with districts to transform high schools into **personalized learning environments** in which students' interests drive curriculum and instruction. This involves:
 - Organizing high schools around **career academies** in which students take their courses as a cohort with a dedicated team of academic and career pathway teachers, an assistant principal and a counselor (see pages 10-11).
 - Ensuring that **school schedules** give academic and career pathway teachers the time they need to co-plan challenging assignments within and across disciplines.
 - Redesigning **the senior year** to allow eligible students to earn up to 30 college credits toward an advanced credential, certificate or degree (see pages 12-13).
 - Offering **ninth- and 12th-grade readiness courses** that help struggling students master foundational literacy and math skills and meet readiness benchmarks.

5. We show district and school staff how to design **counselor-led, curriculum-based career counseling systems** in which teachers and counselors help middle grades and high school students and their parents identify their interests, explore jobs and design and revise personalized programs of study. Students take career exploration courses and meet regularly with a dedicated teacher-adviser to discuss their educational and career options.

6. We partner with districts to deliver robust **teacher induction, professional development and instructional coaching services** that help good teachers become great teachers and help principals become true instructional leaders. Professional development empowers teachers at all stages of their careers to make instructional shifts that advance student achievement. Principals learn how to use classroom observation rubrics to provide instructional feedback that supports school improvement goals. Such services include:
 - Preparing academic and career pathway teachers to **use literacy strategies** that engage students in reading, understanding, writing and speaking about grade-level texts in all subject areas. Students learn how to conduct research, identify and define problems, and develop plans to complete project-based assignments.
 - Preparing math teachers to **use math practices and formative assessment lessons** that engage students in completing assignments that advance their math understanding and reasoning skills and their ability to apply math concepts to multistep abstract and real-world problems.
 - Preparing academic and career pathway teachers to **design standards-driven, project-based assignments** that require students to think creatively, work in teams and apply academic, technical, technological and soft skills. Teachers also receive support for integrating technology in their instruction.
 - Preparing **new and early career teachers from business and industry backgrounds** to design standards-driven, project-based instruction and assignments, engage students, manage classrooms and assess learning.

7. We work with districts to **develop recruitment and retention strategies** that promote and reward effective educators. We also help districts **sustain and deepen school improvement efforts in the face of change** by identifying and developing individuals who can replace departing leaders.

8. We help districts provide access to the **equipment, hardware, software and technologies** career pathway students need to master industry-driven technical and workplace readiness standards.

9. We help districts **align their budgets** and **use available time, tools and resources** to meet student achievement goals. Districts find time for teachers to engage in a full day of professional development every month while certified personnel cover their classes with learning and enrichment activities tailored to students' unique needs.

10. We support districts in **defining academic college readiness and academic and technical career readiness**; measuring achievement at each grade level and at the end of grades five, eight, 10 and 11; and creating long-term plans for annually improving the percentage of students who graduate college ready, career ready or both.



Readiness courses, page 18



Counseling for careers and college, page 17



Classroom observation tools, page 19



Literacy and math strategies, pages 16-17



Project-based learning, page 17

Professional Development and Instructional Coaching Services

Our professional development and instructional coaching services are grounded in the belief that the principal is the most influential individual in the school — and when principals possess the competencies needed to lead teachers to classroom success, middle grades schools, high schools and technology centers can ensure that 80 percent or more of all students graduate college ready, career ready or both.

Principal Leadership Development



Contact: LCLP@sreb.org
To learn more, visit:
sreb.org/LCLP

SREB's **Learning-Centered Leadership Program** develops current or aspiring principals' capacity to serve as highly effective instructional leaders who understand how to use data to locate readiness gaps and find ways to close them.

We show leaders of middle grades schools, high schools and technology centers how to work with **teacher focus teams** to identify **accelerated learning strategies** that increase the percentage of students who meet readiness benchmarks at critical transition points — such as from grades five to six, eight to nine, and 12 to 13. School leaders and teams learn how to:

- Use **literacy-based assignments** in all classes to advance students' literacy and content achievement.

- Use **powerful math practices, assignments and formative and summative assessments** to advance students' math fluency, understanding, learning and ability to use math to solve complex problems.
- Design **standards-driven assignments** that engage students in learning experiences that connect high school, postsecondary studies and the workplace.
- Organize the school around career pathways and **career academies** in which academic and career pathway teachers co-plan engaging assignments.
- Create a **high-performing, highly supportive learning culture**.
- Conduct **focused classroom observations** to support teachers with actionable feedback that helps them engage students in deeper learning.
- Create **school schedules** that provide time for professional development and planning within and across disciplines.
- **Redesign the senior year** into a college-like learning experience in which students prepare for work and postsecondary studies.
- Design a **program of counseling for careers and college** that helps students plan a personalized program of study.

Literacy Professional Development



Contact: Idc@sreb.org
To learn more, visit:
sreb.org/literacy

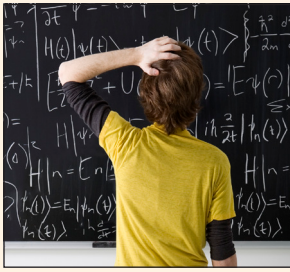
Many students — especially young men — graduate without the foundational literacy skills required for success in postsecondary education and the workforce. Teachers urgently need help to reverse this trend.

Our literacy professional development shows academic and career pathway teachers how to create **literacy-based assignments** that engage students in reading grade-level texts in all subject areas and expressing their deep understanding of those texts orally and in writing.

- We have also designed **classroom observation tools and rubrics** (see page 19) that help principals, local trainers and teachers assess whether they are effectively using literacy-based strategies that show students how to:
- Make the connection between reading, researching, understanding, discussing and writing.
 - Develop a line of thought that argues, persuades or informs.
 - Construct a written product using an appropriate style and structure.
- Our **five-element approach** to onsite and virtual professional development cultivates teachers' capacity to create literacy-based instruction and assignments. SREB works with districts and schools to:
- Prepare teacher-leaders.
 - Develop local trainers.
 - Conduct classroom observations and provide teacher feedback.
 - Work toward schoolwide and districtwide implementation of literacy strategies.
 - Support principals as instructional leaders.

We also offer special literacy professional development to principals and teachers of grades three through five. Designed and field-tested by elementary educators, these literacy strategies help children gain reading, comprehension and vocabulary skills as they read, write and talk about grade-level texts in different subject areas.

Math Professional Development



Contact: mdc@sreb.org
To learn more, visit:
sreb.org/mathematics

Our **math professional development** helps teachers shift their instruction from a procedural, test-prep approach to a balanced approach in which students learn how to apply math concepts to solve complex abstract and real-world problems.

In this approach, math teachers use **formative assessment lessons and strategies** to enhance students' procedural fluency and ability to apply math knowledge and reasoning skills.

With support, math teachers learn how to:

- Ask relevant assessment questions.
- Analyze and address major misunderstandings.
- Adopt a student-centered approach that creates substantial gains in math achievement.
- Design re-engagement lessons that help students understand and master math concepts.

In addition to onsite professional development, we offer online coaching, professional learning communities, webinars and video conferences.

We also offer special professional development to **principals and math teachers of grades three through five**. These math strategies enhance young children's math procedural fluency, helping them solve grade-appropriate problems.

Project-Based Learning in Career Pathways



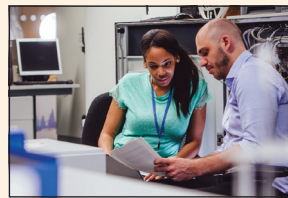
Contact: pbl@sreb.org
To learn more, visit:
sreb.org/pbl

In the modern labor market, employers require individuals to possess a mix of academic, technical, technological and personal skills.

With HSTW support, career pathway teachers learn how to create **project-based assignments** that encourage students to think critically and apply academic, technical and workplace know-how to solve problems. Project-based learning helps students meet readiness benchmarks.

We offer professional development, job-embedded coaching and virtual support to academic and career pathway teacher teams in middle grades schools, high schools and technology centers.

Teaching to Lead – Career Pathway Teachers



Contact: t2l@sreb.org
To learn more, visit:
sreb.org/teaching-lead

The **Teaching to Lead (T2L)** teacher preparation program helps professionals from business and industry become great teachers.

T2L builds new and early-career teachers' capacity to plan instruction, engage students, manage classrooms and design standards-driven assessments.

T2L teachers receive 200 hours of professional development – two weeks in the first summer, three two-day sessions in the first year, and two weeks in the following summer.

Districts may adopt third- and fourth-year summer trainings on seven-element math lessons, literacy ladders and project-based assignments.

Counseling for Careers and College



Contact: c4cc@sreb.org
To learn more, visit:
sreb.org/c4cc

The **Counseling for Careers and College (C4CC)** program closes the gap between students' interests and the opportunities available to them — and helps students find a purpose for their lives.

C4CC workshops, materials and coaching show counselors and teachers how to create curricula and experiences that awaken students to their potential and introduce them to opportunities to which they may never have been exposed.

Starting in the middle grades, students and parents work with teachers and counselors to set goals and design personalized career pathway programs of study that include at least one year of postsecondary education.

We help schools:

- Design counseling systems that introduce students and parents to career options.
- Offer developmentally appropriate exploratory courses, lessons and experiences in grades eight-12.

- Design teacher advisement systems that allow teachers to work with students across all four years of high school.

- Schedule annual meetings with students and parents to review and revise students' personal programs of study.

- Advise students, parents and teachers about financial aid and postsecondary supports.

- Develop school capacity to cultivate employer and community partnerships.

- Plan field trips, career fairs, job shadows and internships.

Literacy and Math Readiness Courses for the Middle Grades and High School

Ready for High School Courses



Contact: ready@sreb.org

To learn more, visit:
sreb.org/ready

By the end of eighth grade, only about one-third of students have the literacy and math skills they need to take a college-preparatory academic core in high school, according to 2015 National Assessment of Educational Progress data.

When offered as part of the Making Middle Grades Work framework, SREB's **Ready for High School courses** use proven strategies to help struggling middle grades students master the literacy and math skills they need to complete a college-ready academic core and pursue rigorous career pathways.

With SREB support, middle grades schools identify rising eighth-graders who are not on track to meet readiness benchmarks in reading or math and provide them with access to two courses:

- In **Ready for High School Literacy**, students read, write about and engage with complex texts in different disciplines.
- Students in **Ready for High School Math** learn how and why to use math formulas to solve complex abstract and applied problems instead of merely memorizing formulas.

High schools may also opt to enroll rising ninth-graders in a double block of Ready for High School courses in their first semester of high school.

SREB provides teachers who offer these courses with onsite and web-based professional development and coaching support.

Ready for College Courses



Contact: ready@sreb.org

To learn more, visit:
sreb.org/ready

Analyses of 2016 ACT data show that less than 40 percent of students in SREB states are meeting readiness benchmarks — just 41 percent met ACT's benchmark of readiness in reading and 35 percent in math. And just 21 percent of ACT-tested students in SREB states met all four of ACT's readiness benchmarks in English, reading, math and science.

When offered as part of the Senior-Year Redesign framework, SREB's **Ready for College courses** help struggling seniors master literacy and math skills before they transition from high school to post-secondary education and the workplace.

SREB works with schools to use state-approved readiness assessments to identify seniors whose scores fall within a few points of benchmarks and enroll them in a double block of one or both readiness courses.

- In **Literacy Ready**, seniors develop and defend ideas from texts in diverse subject areas and write about those ideas at a college level.
- **Math Ready** develops critical thinking and math reasoning skills and engages seniors in applying math to real-world problems.

Teachers receive onsite and virtual development and coaching support. SREB also works with districts to adapt Literacy Ready to count as a 12th-grade English credit.

Middle Grades STEM Courses



Contact: mmgw@sreb.org

To learn more, visit:
sreb.org/mmGW

Skills in STEM (science, technology, engineering and mathematics) are essential to many of today's jobs, but too many students lack opportunities to explore these jobs and understand the academic skills, credentials and degrees needed to secure them.

Early learning experiences are key to introducing students to rewarding STEM degrees and careers. In a 2011 survey of students and parents commissioned by Microsoft, nearly four in five STEM college students said they decided to study STEM in high school or earlier; one in five decided in the middle grades or earlier.

SREB is designing **Middle Grades STEM courses**, available in the fall of 2018, that introduce students to the principles of scientific inquiry and the engineering design process.

Each course consists of hands-on projects that require students to draw upon a full range of academic, technical, technological, cognitive and personal skills to complete. All projects require students to work in teams to conduct research, develop and test prototypes, analyze data and make presentations.

SREB recommends adopting the courses as part of the MMGW framework.

Whether taught as yearlong courses or as stand-alone projects, each project deepens students' understanding of STEM concepts and practices.

Project topics include:

- Manufacturing – 3D Imaging
- Materials Science
- Engineering
- Computer Science
- Logistics
- Renewable Energy
- Food Science
- Health Science
- Aerospace Engineering
- Biotechnology
- Energy and Power
- Informatics

Advanced Career Curricula



Contact:

AdvancedCareer@sreb.org

To learn more, visit:
sreb.org/ac

Co-designed with state leaders, employers, postsecondary educators and master teachers, each of SREB's nine **Advanced Career curricula** (see pages 10-11) consists of four courses featuring fully developed lesson plans, projects and assessments.

As complete programs of study, all of AC's college-preparatory, STEM-intensive pathways are taught in the context of a college-ready academic core.

The nine AC pathways are:

- Aerospace Engineering
- Automated Materials Joining Technology
- Clean Energy Technology
- Energy and Power
- Global Logistics & Supply Chain Management
- Health Informatics
- Informatics
- Innovations in Science and Technology
- Integrated Production Technologies

SREB works with districts and schools to select the right teachers to offer AC courses.

AC teachers participate in a two-week Summer Teacher Training Institute in which they learn the academic and technical content, technology and project-based pedagogies associated with their course.

Ongoing professional development, coaching and support is offered both onsite and through virtual professional learning communities, webinars and other activities.

Literacy and Math Classroom Observation Tools



Contact: hstw@sreb.org

SREB's specially designed **classroom observation tools** empower teachers and school leaders to better integrate literacy and math strategies in their classrooms (see *Professional Development and Instructional Coaching Services*, pages 16-17).

As instructional leaders, principals are essential to the success of initiatives that impact teaching and learning. SREB shows principals how to use classroom observation tools to identify effective instructional strategies and provide teachers with timely, helpful feedback.

Principals also learn how to create, monitor and sustain professional learning communities so that teachers can support their peers in the use of SREB's literacy and math tools and strategies.

Special Convenings and Support Services

Annual High Schools That Work Staff Development Conference



Contact:

summerstaffdev@sreb.org

To learn more, visit:

sreb.org/summerconference

The annual **HSTW Staff Development Conference** provides a platform for teachers and school leaders from middle grades schools, high schools, technology centers and community colleges from across the country to share best practices for advancing students' readiness for college and careers and more deeply implementing the Design Principles and Key Practices of SREB's school improvement frameworks.

At the conference, over 4,000 attendees learn how academic and career pathway teachers, counselors and school leaders prepare students with the broad mix of skills needed to succeed in postsecondary programs and the workplace.

Attendees include teams of academic and career pathway teachers, middle grades and high school administrators and technology center leaders, district staff and community college faculty. State sharing sessions bring attendees together to learn from other schools and districts.

Over 300 sessions address:

- Designing engaging learning experiences.
- Creating systems of career counseling and exploration.
- Developing principals as instructional leaders.
- Advancing students' literacy and math skills.
- Building career pathways that span high school, postsecondary education and high-demand careers.
- Cultivating cultures of continuous improvement.
- Supporting diverse learners.
- Transforming schools.

Annual College- and Career-Readiness Standards Networking Conference



Contact:

summerstaffdev@sreb.org

To learn more, visit:

sreb.org/networkingconference

Students need strong literacy and math skills to earn advanced credentials and degrees and thrive in a rapidly changing, technology-driven economy. Teachers are under great pressure to help students prepare for college and careers.

SREB's **College- and Career-Readiness Standards Networking Conference** focuses on literacy and math tools and strategies that advance achievement, break down disciplinary barriers and create environments that foster student discovery.

Over 200 sessions address:

- Creating literacy-based assignments.
- Deepening math understanding, reasoning and problem solving.
- Embedding literacy and math strategies in daily instruction.
- Building leadership capacity across schools and districts.
- Promoting collaboration.
- Personalizing learning.

Attendees from middle grades schools, high schools and technology centers share how these tools and strategies lead to higher student achievement.

Educational leaders share how they are spreading and sustaining literacy and math practices across classrooms, schools and districts.

Attendees leave with a set of tools and strategies for using disciplinary literacy strategies to empower students to take ownership of their learning and for engaging students in a productive struggle with math.

The College- and Career-Readiness Standards Networking Conference is offered in conjunction with the HSTW Staff Development Conference.

Annual State Leaders' Forum



Contact: hstw@sreb.org

To learn more, visit:

sreb.org/leadersforum

SREB's annual **State Leaders' Forum** convenes teams of legislators, policymakers, state board members, secondary and postsecondary education leaders, and workforce development agency representatives to explore policies and practices that help more young adults graduate from high school with a head start on the postsecondary credentials and degrees they need to secure well-paying jobs.

During the Forum, state teams share promising policies and practices for designing and implementing career pathways leading to fulfilling careers.

Topics discussed include:

- Reorganizing low-performing schools around pathways.
- Aligning career pathways with labor market demand.
- Redesigning the senior year to accelerate credential attainment.
- Offering AC pathways and project-based curricula.

- Supporting student transitions from the middle grades and high school to postsecondary education.
- Increasing credential and degree attainment in fields like computer science, information technology, cybersecurity and health care.

Participating state leaders leave the Forum with action plans for achieving their readiness and attainment goals. SREB provides follow-up technical assistance to attending states.

Curriculum and Instruction Reviews



Contact: hstw@sreb.org

Available to middle grades schools, high schools, technology centers or entire districts, our **curriculum and instruction reviews** help schools better connect instruction and assignments with college- and career-readiness standards.

We customize reviews to suit the unique context of the state, district or school. All reviews seek to ensure that at least 80 percent of students graduate college ready, career ready or both.

School-level reviews typically involve two days of onsite observations and student and teacher surveys. Prior to the visit, SREB staff conduct desktop reviews of key data and stakeholder interviews.

Reviews include such issues as:

- Student readiness
- Alignment of curricula with standards
- Quality and rigor of assignments
- Career pathway participation
- Quality and rigor of academic and career pathway courses

- Quality and availability of professional development
- Opportunities to accelerate credential attainment
- College-ready core participation
- Availability of career exploration, advisement and work-based learning

The goal of these reviews is to enable schools to identify and take ownership of the problems they face and the actions they must take to advance students' college and career readiness.

Site Development Workshops



Contact: hstw@sreb.org

Districts and schools can use results of our curriculum and instruction reviews as the basis for **site development workshops** that target gaps between current school practices and student achievement.

In two-day workshops, teams of teachers, counselors and school leaders examine data, identify problems and create focus teams that are charged with studying those problems and developing plans to address them.

School plans could address how to:

- Connect assignments with readiness standards.
- Design schedules that allow academic and career pathway teachers to co-plan assignments.
- Find time to support struggling students.
- Redesign the senior year to accelerate readiness and credential attainment.

- Offer readiness courses.
- Provide career exploratory experiences in the school, community and worksites.
- Use data to improve practices.

We offer follow-up professional development, coaching and scheduling tools that help schools create time for teacher planning and special supports and interventions.

Career Pathway Reviews



Contact: hstw@sreb.org

Available to states, districts, high schools, technology centers and community colleges, **career pathway reviews** examine whether existing pathways align with opportunities for students to earn credentials and degrees in high-demand fields. Career pathway reviews can be combined with curriculum and instruction reviews.

Pathway reviews collect student and program data, labor market data, related legislation and policies, and student and teacher surveys.

Issues addressed include:

- Student completion of a pathway and a college-ready core
- Quality and rigor of academic and pathway courses and assignments

- Availability of dual credit, work-based learning and counseling
- Postsecondary and labor market alignment

In **career pathway development workshops**, we work with states, districts and schools to design pathways that allow students to get a jump start on a good job or a postsecondary credential.

Career Pathway Development Workshops



Contact: hstw@sreb.org

Our **career pathway development workshops** help states, districts and schools use the results of career pathway reviews to develop new or redesign existing pathways to meet labor market demand in industries like advanced manufacturing, aerospace, health care and IT.

We work with secondary, postsecondary and employer partners to ensure that all pathways include:

- Robust curricula like AC
- A college-ready core
- Work-based learning
- Career counseling
- Readiness courses

- Opportunities for students to earn up to 30 credits toward an advanced credential or degree
- Quality staff development
- Time for academic and pathway teachers to plan connected learning experiences
- Alignment with postsecondary programs and well-paying jobs

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