

# Research-Based Curricula and Observation Tools

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

### Ready for High School Courses



**Contact:** [ready@sreb.org](mailto:ready@sreb.org)

**To learn more, visit:**  
[sreb.org/ready](http://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



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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



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**To learn more, visit:**  
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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



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**To learn more, visit:**  
[sreb.org/ac](http://sreb.org/ac)

Co-designed with state leaders, employers, postsecondary educators and master teachers, each of SREB's nine **Advanced Career curricula** 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](mailto: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.

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.