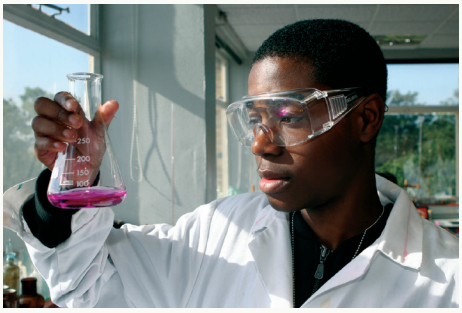
College or Career?

why not both?

82 percent of Advanced Career students see a connection between what they do in their AC classes and potential future studies and a career.

70 percent of Advanced Career students have participated in job shadowing in their AC pathway.



67 percent of Advanced Career students say the AC program has helped them to determine a career goal after high school.

SREB STEM-Based Advanced Career (AC) Pathways Prepare Students for Both College and Career.

SREB | Advanced Career

Why SREB Advanced Career is needed in today's classrooms

High schools are challenged like never before to better prepare students for a wide array of postsecondary options.

Each AC pathway consists of four courses that emphasize state standards for college and career preparation. Seventy-five percent of employers say they want more emphasis on five key areas including: critical thinking, complex problem solving, written and oral communication, and applied knowledge in real-world settings. AC pathways help students develop these skills.

We were very excited about AC's level of rigor and the opportunity AC offers to all high school students — those who are career-tech focused and those who may not be. The option for students to perform this STEM-level work has been very stimulating. Students like the combination of career tech and integrated academics, and that fits very well with the learning experience of high school.

— Dan Stacy, Ohio Department of Education, HSTW Consultant

This AC class prepared me well for my engineering pathway.

— Student

Nine STEM-based AC pathway curricula are ready for your school or system to adopt:

1. Aerospace Engineering
2. Automated Materials Joining Technology
3. Clean Energy Technology
4. Energy and Power
5. Global Logistics & Supply Chain Management
6. Health Informatics
7. Informatics
8. Innovations in Science and Technology
9. Integrated Production Technologies

Advanced Career Pathway Programs

AC Curriculum	Project Essential Questions (Examples)	Student Engagement and Outcomes
Aerospace Engineering	• How do components of aircraft/spacecraft wing design most influence lift and drag? • How do pilots determine flight plans and navigate aircraft in varying weather conditions?	Aerospace Engineering appeals to students who are curious about the design and flight of aircraft and space vehicles. Students learn and apply the engineering design process to building and testing aircraft, space and underwater components.
Automated Materials Joining Technology	• How can designers plan for the design and proper fabrication of composite products? • How can the addition of an integrated vision system to a robotic arm reduce both errors and the time necessary to assemble a product?	Automated Materials Joining Technology appeals to students who want to focus on joining and forming technologies, materials science, computer-aided design and automated systems (key facets of advanced manufacturing) while applying math and science knowledge to design and produce products.
Clean Energy Technology	• How can we design a device to use radiant heat from the sun to heat water in our homes? • How can we design a drip irrigation system to irrigate crops using the least amount of water and energy?	This curriculum interests students who want to tackle global energy needs with a green point of view. Students apply science, math and clean energy principles to photovoltaic systems, biofuel generation, water power, energy harvesting and more.
Energy and Power	• How do we design an efficient centrifugal pump for an industrial application? • How can we design a mini-hydroelectric system for homes and farms?	Energy and Power attracts students who are interested in applying science, math and technical skills to energy problems. Real-world assignments help students to understand the generation, distribution and use of the five energy types: chemical, electromagnetic, thermal, nuclear and mechanical.
Global Logistics & Supply Chain Management	• How can we determine the locations/sites for distribution centers that will provide the best opportunities for a company's success? • How can a business improve its operations by using an information management system?	Global Logistics courses engage students who want to use research and assessment to solve complex spatial problems about how to move people and products. Students collaborate and practice critical thinking skills to solve domestic and international logistics and supply chain problems.
Health Informatics	• How do health informatics professionals analyze health statistics and track diseases in populations? • How can we use health data to reduce medical errors?	Students in Health Informatics are interested in the fastest-growing segment of the health-care field, which combines information science, computer science and health care. Students use information technology, data analysis software and statistics to address common topics in the field.
Informatics	• How can we design and back up a network system that manages inventory accessed by multiple users from different locations? • How can we query insurance companies for data that will provide the company a competitive advantage in the insurance marketplace?	Informatics draws students who seek to explore a career field that combines aspects of software engineering, human-computer interaction, decision theory, organizational behavior and information technology to collect, store, assess and communicate data for meaningful outcomes.
Innovations in Science and Technology	• How can we determine which contaminants impact drinking water quality, and how can we remove them? • How can we best use existing power sources found in the wilderness to create electrical power for modern communication devices?	This curriculum appeals to students who want to solve real-world problems related to the relationship among the physical, biological and social worlds. Students apply science, technology, engineering, mathematics and literacy in this broad STEM curriculum.
Integrated Production Technologies	• How can we design a system to detect defects in a manufactured product and then sort that product by color? • How can we design a sensor-controlled device using an existing circuit board?	This curriculum interests students who want to work with cutting-edge materials and apply physical and biological sciences to create products using advanced technologies in cost-effective ways. Students apply physics, chemistry and biology to imagine and design new and improved products.

How Advanced Career Works

AC combines core college-ready academics and technical studies with hands-on STEM- and project-based assignments centered on a defined career focus. Participating high schools are provided:

- ready-to-implement AC course work for students
- access to the tools and technology needed to complete projects
- comprehensive training and professional development for teachers
- counseling for careers orientation
- end-of-course assessments

The AC course is really great! I would recommend this class to a friend too, and I'm really ready for the next two classes.

— Student

AC Takes Career Pathways to a Higher Level

AC challenges students more than traditional career and technical education programs. Curricula draw from the academic core … employ a range of technologies and software … focus on high-skill careers … and use work-related projects to develop students' problem-solving skills.

AC immerses students in a career field by building the habits of mind and skills required by employers.

Best of all, the pathway programs are available to any and all students.

- The courses focus on industry-focused essential questions that student teams must address.
- Real-world projects become more challenging as classes progress.
- Teams of students engage in project management and must research, plan, organize, design, build, evaluate and report findings within a scheduled timeline.
- Teachers facilitate learning. Students manage roles within their respective teams and solve problems on their own. AC develops nimble, flexible, adaptable and dependable teammates and leaders.
- Students interact with and are mentored by industry partners and complete projects that can be utilized by industry and the local community.

AC provides a framework for learning that encourages students to explore, experiment and adapt based on their authentic research. Students learn conflict resolution to advance through their projects as a team. The SREB AC curriculum is more than a simulated work environment; it is a true laboratory where experiments lead to solutions.

— Melinda Isaacs, principal, Clay County High School, Clay, West Virginia

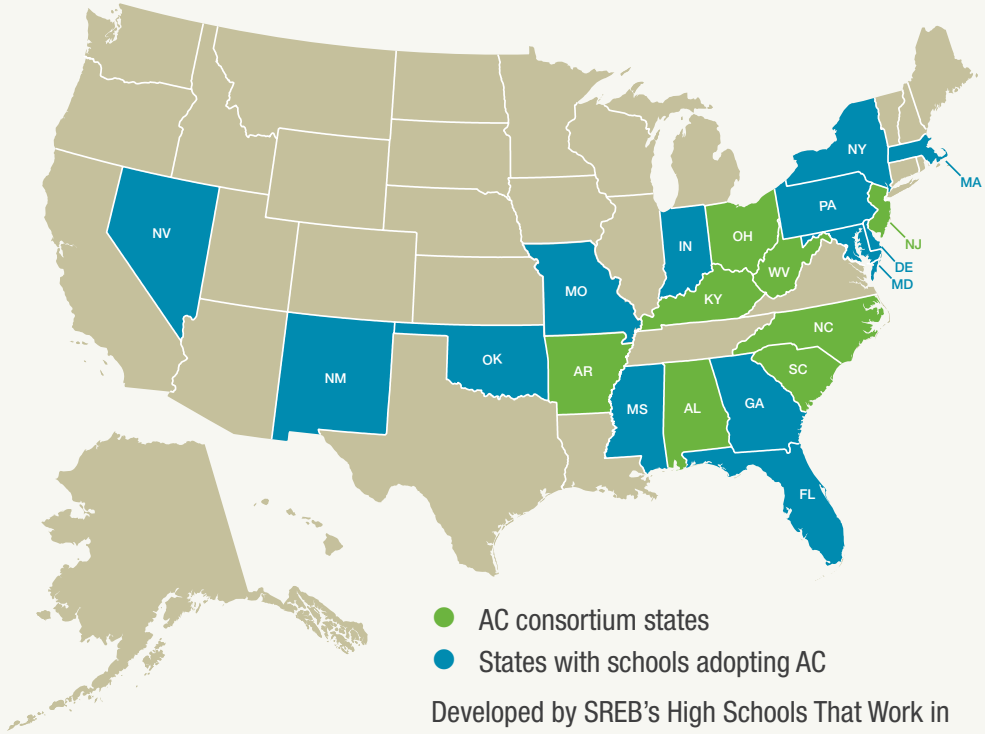
SREB, Industry and Educators Partner to Create Advanced Career

In 2010, the Southern Regional Education Board (SREB) created the Advanced Career (AC) initiative to deepen learning in career and technical education (CTE) and boost students' success after high school.

SREB partnered with Alabama, Arkansas, Kentucky, New Jersey, Ohio, South Carolina, Texas and West Virginia, in a multi-state consortium to develop curricula, assessments, and instructional and teacher/counselor training materials that provide students with relevant and challenging CTE courses that align with the academic standards and workforce needs of partner states.

Representatives from industry and postsecondary institutions shaped curricula designs and technical content. Serving as an expert panel, they continue to collaborate with secondary educators, state education agency staff and SREB to identify authentic learning experiences for students.

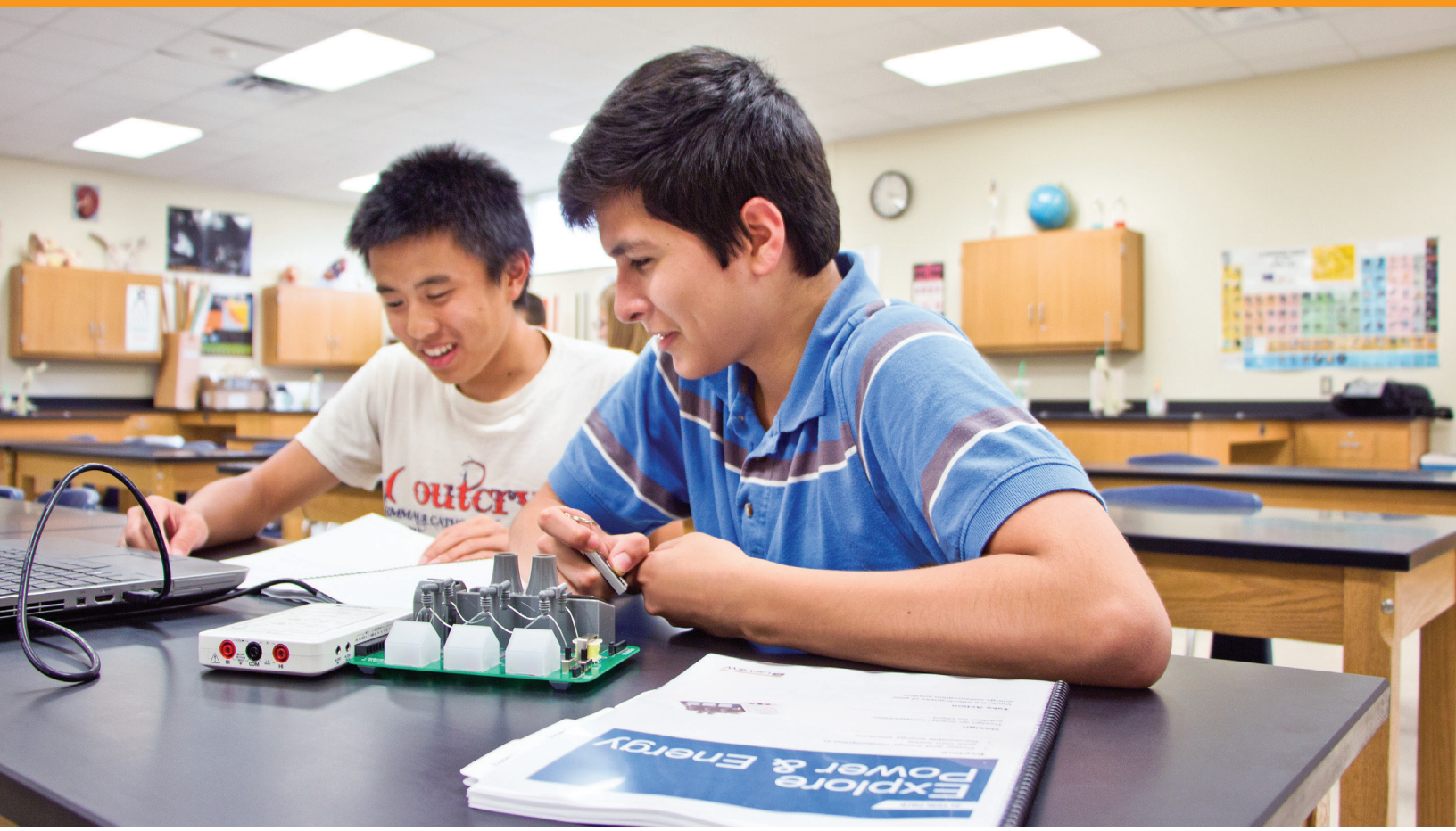
States Adopting AC High School Curricula



Developed by SREB's High Schools That Work in partnership with states and industry **SREB.org/AC**

— A new approach to strengthen education in your school or district and better prepare students for more options after high school.

Explore SREB Advanced Career Curricula



Talk with SREB's High Schools That Work professionals about how you can adopt AC and help improve student outcomes in your school.

- Email **AdvancedCareer@SREB.org**.
- Call Gene Bottoms or Jim Berto at (404) 875-9211.
- Visit **SREB.org** to view AC course syllabi and project units.

The New Approach

SREB Advanced Career

A rigorous and relevant blend of technical and academic skills in authentic projects

- **Advanced Training**
- **Community/Technical College**
- **Jobs** *(more options)*
- **College**

The Old Approach

COLLEGE TRACK → College

OR

CAREER TRACK → Jobs, Training

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