

Career and Technical Education Curriculum Framework Course of Study



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Mountain Brook Schools
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PREFACE

The *Mountain Brook Curriculum Framework Course of Study: Career Technical Education, Science, Technology, Engineering, and Mathematics* provides the framework for Grades 6-12 science, technology, engineering, and mathematics (STEM) instruction in Mountain Brook schools. Content standards in this document are minimum and required (Code of Alabama, 1975, §16-35-4), fundamental and specific, but not exhaustive. When developing local curriculum, school systems may include additional content standards to reflect local needs and philosophies and may add implementation guidelines, resources, and activities.

In developing the minimum required content for STEM education, the 2019-2020 Career and Technical Education Course of Study Committee and Task Force made use of previous Alabama career and technical education courses of study as well as national standards documents and certification standards.

In addition, Committee and Task Force members reviewed information found in professional journals, Internet sites, and similar documents from other states. The Committee and Task Force attended state and national conferences, listened to and read suggestions from interested individuals and STEM industry advisors throughout Alabama, considered suggestions from independent reviewers, sought input from advisory councils, and thoroughly discussed each issue and standard among themselves. The Committee and Task Force reached consensus and developed what members believe to be the best Science, Technology, Engineering, and Mathematics Course of Study for students in Alabama's public schools.

2020 Curriculum Framework Course of Study: Career and Technical Education

GENERAL INTRODUCTION

The Career and Technical Education programs empower students with the workplace-readiness skills necessary for success in the 21st Century. As a result, students are productive citizens who are prepared with the necessary knowledge and skills for postsecondary education and employment. Career and technical education provide opportunities for students to combine core academic content with rigorous and relevant technical knowledge and skills.

The 2020 *Mountain Brook Curriculum Framework Course of Study: Career and Technical Education* is intended for all students in Grades 6-12. The career and technical education programs promote students' career awareness through engaging career exploration and development activities. Career and Technical Education programs focus on providing students with the knowledge and skills that reinforce attainment of academic core content through hands-on experiential learning. These programs are organized into the **sixteen national career clusters** identified by the United States Department of Education, which arrange instruction into groups of similar occupations. Within the sixteen national career clusters, separate course content standards have been developed for more than fifty career pathways.

The Career and Technical Education programs are designed to keep abreast of the rapid changes in business and industry and be responsive to the current and future workforce demands. Rigor in each course of study is derived from core academic content and industry-specific knowledge and skills required for students to achieve, maintain, and advance in employment in a particular career pathway. The level of academic and workplace rigor determines the degree to which each Alabama Career and Technical Education program prepares students for high-skill, high-wage, and in-demand careers. For each career and technical education program, industry recognized credentials of value and certifications have been established that validate the rigor of the curriculum to students, parents, and members of business and industry. In addition, articulation agreements, in partnership with the Alabama Community College System, are developed to allow for a seamless transition for students to further their education.

Alabama's growing economy has created the demand for more highly-skilled workers. The Career and Technical Education programs, through the implementation of each career cluster's course of study, equip students with the employability skills and technical knowledge necessary to meet current and future workforce demands by preparing them for lifelong learning.

2020 Curriculum Framework Course of Study: Science, Technology, Engineering, and Mathematics (STEM)

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