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PROGRAM CONCENTRATION: Government & Public Safety
CAREER PATHWAY: JROTC – Air Force
COURSE TITLE: Aerospace Science: Survival

Air Force Junior ROTC Curriculum

The Georgia Performance Standards for the Air Force Junior ROTC curriculum are designed to provide students with the knowledge and skills necessary to “develop citizens of character dedicated to serving their community and nation.” **McREL** Standards and Benchmarks were used for all AFJROTC courses except Astronomy, Survival, and Global and Cultural Studies. Supported by contracts with the U.S. Education Department, Office of Educational Research and Improvement, **McREL** is one of ten Regional Educational Laboratories at the forefront of research, practice, and evaluation related to standards-based education and it has been awarded standards-based classroom instruction as its national leadership area within the regional educational laboratory network. Global and Cultural Studies used the **National Council on Social Studies** (NCSS) correlation, a nationally recognized source for social studies standards. Astronomy and Survival were correlated to the Georgia Performance Standards. All AFJROTC courses were compared to the **Georgia Performance Standards** for Social Studies, Math, Language Arts, and Science, and specific correlations were listed following each AFJROTC standard where applicable. Technology is infused into all AFJROTC curriculum.

All McREL Standards and Benchmarks are available for AFJROTC instructors and authorized users at https://owa.afjrotc.net/cybercampus_prod/default.aspx in the Library under Curriculum, McRel Standards and Benchmarks. Additional national education standards are referenced in this copyrighted cybercampus information. Georgia AFJROTC instructors should reference both the Georgia and McREL standards to meet both AFJROTC and Georgia student education requirements.

Course Description:

Survival introduces students to the physical and mental needs individuals must satisfy during varied survival situation. Students learn about survival preparedness, conditions affection survival, individual survivor needs, psychological aspects of survival, and the will to survive. They also learn required personal protection measures, where to find necessities required to maintain life, and orientation and traveling techniques to use during a survival situation. Students will learn what to do to maintain life in a survival situation—whether that situation is caused by a natural or manmade disaster. They learn to quickly assess their environment, determine immediate and long term actions for survival, and scientifically pursue survival in an unfamiliar environment.

PS-AFSUR-1. Students will identify elements of surviving in situations where their lives depend on their decisions.

- a. Describe the survival actions individuals must take in any survival situation, regardless of surroundings, based on the letters in the word “survival.”

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- b. Identify all the conditions that affect survival including environmental elements, personal status, and available survival equipment.
- c. Describe the fundamental human needs during a survival mission that must be met for survivors to maintain life and return.
- d. List and describe the psychological aspects of survival.
- e. List seven ways a survivor can prepare to rule over natural reactions and stresses common to survival.
- f. Explain the importance of having the will to survive in hopeless situations.

Academic Standard(s):

SCSh3. Students will identify and investigate problems scientifically.

SCSh8. Students will understand important features of the process of scientific inquiry.

SES1 Students will investigate the composition and formation of Earth systems, including the Earth's relationship to the solar system.

SES5. Students will investigate the interaction of insolation and Earth systems to produce weather and climate.

SES6 Students will explain how life on Earth responds to and shapes Earth systems.

SEV4 Students will understand and describe availability, allocation and conservation of energy and other resources.

SP3. Students will evaluate the forms and transformations of energy.

PS-AFSUR-2. Students will know basic personal protection procedures, treatments, and prevention measures when faced with survival situations.

- a. List some of the most frequent injuries during a survival situation and demonstrate the performance of first aid procedures meeting and/or exceeding all standards of the American Red Cross (ARC) and/or American Heart Association's (AHA).for treatment of those injuries.
- b. Describe the procedures for and importance of personal hygiene in a survival situation.
- c. Identify and demonstrate how to use plants for medicine.
- d. Identify the proper body temperature and diagram the internal and external influences that determine that temperature.
- e. Analyze why clothing is an important asset to survivors and demonstrate proper wear and care of clothing in a survival situation.
- f. Explain how the environment influences shelter sites, identify factors to consider before constructing the shelter, and demonstrate the four steps required to build a shelter.

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SES5. Students will investigate the interaction of insolation and Earth systems to produce weather and climate.

PS-AFSUR-3. Students will identify the five crucial elements needed to maintain life in a survival situation.

- a. Illustrate some useful firecraft methods for varied survival situations.
- b. Show how to prepare, care for, and use a survival kit in a survival situation and how to improvise when the needed equipment is not available.
- c. Describe why a survivor must meet his nutritional needs and how the survivor can locate, identify, and obtain food in a survival situation.
- d. Identify the types of plants that can be eaten in a survival situation.
- e. Demonstrate how to locate, procure, purify, and store water to meet a survivor's daily needs.

Academic Standard(s):

SCSh3. Students will identify and investigate problems scientifically.

SES6 Students will explain how life on Earth responds to and shapes Earth systems

PS-AFSUR-4. Students will demonstrate basic area orientation and traveling principles.

- a. Demonstrate knowledge and appropriate use of varied maps.
- b. Use the Sun and the stars to determine direction and travel.
- c. Identify factors that must be considered to determine if land travel is or is not a necessity in a survival situation.
- d. Demonstrate varied signaling techniques and identify when and where these signaling techniques would be most effective.
- e. Identify various recovery principles and demonstration the survivor's actions which would be taken in each scenario.

Academic Standard(s):

SSWG1 The student will explain the physical aspects of geography.

MA1G1. Students will investigate properties of geometric figures in the coordinate plane.

MA3A10. Students will understand and use vectors.

SCSh3. Students will identify and investigate problems scientifically.

SCSh4. Students use tools and instruments for observing, measuring, and manipulating scientific equipment and materials.

SCSh5. Students will demonstrate the computation and estimation skills necessary for analyzing data and developing reasonable scientific explanations

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Reading Across the Curriculum

After the elementary years, students are seriously engaged in reading for learning. This process sweeps across all disciplinary domains, extending even to the area of personal learning. Students encounter a variety of informational as well as fictional texts, and they experience text in all genres and modes of discourse. In the study of various disciplines of learning (language arts, mathematics, science, social studies), students must learn through reading the communities of discourse of each of those disciplines. Each subject has its own specific vocabulary; and for students to excel in all subjects, they must learn the specific vocabulary of those subject areas in context. Beginning in the middle grades, students start to self-select reading materials based on personal interests established through classroom learning. Students become curious about science, mathematics, history, and literature as they form contexts for those subjects related to their personal and classroom experiences. As students explore academic areas through reading, they develop favorite subjects and become confident in their verbal discourse about those subjects.

Reading across curriculum content develops both academic and personal interests in students. As students read, they develop both content and contextual vocabulary. They also build good habits for reading, researching, and learning. The Reading Across the Curriculum standard focuses on the academic and personal skills students acquire as they read in all areas of learning.

Students will enhance reading in all curriculum areas by:

- a. Reading in all curriculum areas
 - Read a minimum of 25 grade-level appropriate books per year from a variety of subject disciplines and participate in discussions related to curricular learning in all areas.
 - Read both informational and fictional texts in a variety of genres and modes of discourse.
 - Read technical texts related to various subject areas.
- b. Discussing books
 - Discuss messages and themes from books in all subject areas.
 - Respond to a variety of texts in multiple modes of discourse.
 - Relate messages and themes from one subject area to messages and themes in another area.
 - Evaluate the merit of texts in every subject discipline.
 - Examine author's purpose in writing.
 - Recognize the features of disciplinary texts.
- c. Building vocabulary knowledge
 - Demonstrate an understanding of contextual vocabulary in various subjects.
 - Use content vocabulary in writing and speaking.

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- Explore understanding of new words found in subject area texts.
- d. Establishing context
 - Explore life experiences related to subject area content.
 - Discuss in both writing and speaking how certain words are subject area related.
 - Determine strategies for finding content and contextual meaning for unknown words.

CTAE Foundation Skills

The Foundation Skills for Career, Technical and Agricultural Education (CTAE) are critical competencies that students pursuing any career pathway should exhibit to be successful. As core standards for all career pathways in all program concentrations, these skills link career, technical and agricultural education to the state's academic performance standards.

The CTAE Foundation Skills are aligned to the foundation of the U. S. Department of Education's 16 Career Clusters. Endorsed by the National Career Technical Education Foundation (NCTEF) and the National Association of State Directors of Career Technical Education Consortium (NASDCTEC), the foundation skills were developed from an analysis of all pathways in the sixteen occupational areas. These standards were identified and validated by a national advisory group of employers, secondary and postsecondary educators, labor Associations, and other stakeholders. The Knowledge and Skills provide learners a broad foundation for managing lifelong learning and career transitions in a rapidly changing economy.

CTAE-FS-1 Technical Skills: Learners achieve technical content skills necessary to pursue the full range of careers for all pathways in the program concentration.

CTAE-FS-2 Academic Foundations: Learners achieve state academic standards at or above grade level.

CTAE-FS-3 Communications: Learners use various communication skills in expressing and interpreting information.

CTAE-FS-4 Problem Solving and Critical Thinking: Learners define and solve problems, and use problem-solving and improvement methods and tools.

CTAE-FS-5 Information Technology Applications: Learners use multiple information technology devices to access, organize, process, transmit, and communicate information.

CTAE-FS-6 Systems: Learners understand a variety of organizational structures and functions.

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CTAE-FS-7 Safety, Health and Environment: Learners employ safety, health and environmental management systems in corporations and comprehend their importance to organizational performance and regulatory compliance.

CTAE-FS-8 Leadership and Teamwork: Learners apply leadership and teamwork skills in collaborating with others to accomplish organizational goals and objectives.

CTAE-FS-9 Ethics and Legal Responsibilities: Learners commit to work ethics, behavior, and legal responsibilities in the workplace.

CTAE-FS-10 Career Development: Learners plan and manage academic-career plans and employment relations.

CTAE-FS-11 Entrepreneurship: Learners demonstrate understanding of concepts, processes, and behaviors associated with successful entrepreneurial performance.

Social Studies Skills Matrices

MAP AND GLOBE SKILLS GOAL:

The student will use maps to retrieve social studies information. I: indicates when a skill is introduced in the standards and elements as part of the content D: indicates grade levels where the teacher must develop that skill using the appropriate content M: indicates grade level by which student should achieve mastery, the ability to use the skill in all situations A: indicates grade levels where students will continue to apply and improve mastered skills.

Map and Globe Skills	K	1	2	3	4	5	6	7	8	9-12
1. Use cardinal directions	I	M	A	A	A	A	A	A	A	A
2. Use intermediate directions		I	M	A	A	A	A	A	A	A
3. Use a letter/number grid system to determine location			I	M	A	A	A	A	A	A
4. Compare and contrast the categories of natural, cultural, and political features found on maps			I	M	A	A	A	A	A	A
5. Use inch to inch map scale to determine distance on maps			I	M	A	A	A	A	A	A
6. Use map key/legend to acquire information from historical, physical, political, resource, product, and economic maps			I	D	M	A	A	A	A	A
7. Use map to explain impact of geography on historical and political events			I	D	M	A	A	A	A	A

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8. Draw conclusions and make generalizations based on maps				I	M	A	A	A	A	A
9. Use latitude and longitude to determine location				I	D	D	D	M	A	A
10. Use graphic scales to determine distances on maps					I	M	A	A	A	A
11. Compare maps of the same place at different points in time and from different perspectives to determine changes, identify trends, and generalize about human activities					I	M	A	A	A	A

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INFORMATION PROCESSING SKILLS

GOAL: The student will be able to locate, analyze, and synthesize information related to social studies topics and apply this information to solve problems/make decisions.

I: indicates when a skill is introduced in the standards and elements as part of the content
D: indicates grade levels where the teacher must develop that skill using the appropriate content

M: indicates grade level by which student should achieve mastery, the ability to use the skill in all situations

A: indicates grade levels where students will continue to apply and improve mastered skills

Information Processing Skills	K	1	2	3	4	5	6	7	8	9-12
1. Compare similarities and differences	I	D	M	A	A	A	A	A	A	A
2. Organize items chronologically	I	D	D	M	A	A	A	A	A	A
3. Identify issues and/or problems and alternative solutions	I	D	D	D	D	M	A	A	A	A
4. Distinguish between fact and opinion		I	D	M	A	A	A	A	A	A
5. Identify main idea, detail, sequence of events, and cause and effect in a social studies context		I	D	D	M	A	A	A	A	A
6. Identify and use primary and secondary sources		I	D	D	M	A	A	A	A	A
7. Interpret timelines		I	D	D	M	A	A	A	A	A
8. Identify social studies reference resources for a specific purpose			I	M	A	A	A	A	A	A
9. Construct charts and tables			I	M	A	A	A	A	A	A
10. Analyze artifacts			I	D	D	M	A	A	A	A
11. Draw conclusions and make generalizations				I	M	A	A	A	A	A
12. Analyze graphs and diagrams				I	D	M	A	A	A	A
13. Translate dates into centuries, eras, or ages				I	D	M	A	A	A	A
14. Formulate appropriate research questions					I	M	A	A	A	A
15. Determine adequacy and/or relevancy of information					I	M	A	A	A	A
16. Check for consistency of information					I	M	A	A	A	A
17. Interpret political cartoons					I	D	D	D	M	A