Aerospace Science: 
A Journey Into Aviation History
SUBJECT: Aerospace Science 1 (1800300) Course Syllabus

A. Course Description

Welcome to AFJROTC, Aerospace Science I. This course has three parts. The First Part includes the Cadet Handbook and the Aerospace Science Courses; A Journey Into Aviation History. The Second Part is the Leadership Education Course; Citizenship, Character, & Air Force Tradition and Drill and Ceremonies. The Third Part includes the Wellness Program.

This booklet contains your course description, syllabus, course requirements and the lesson objectives for this class.

The Cadet Handbook is your procedural guide for successfully completing this course. It contains our unit policies, and governing directives and serves as an all-purpose guide for all Lake Brantley AFJROTC cadets.
A Journey Into Aviation History
This is the recommended first AS course for all new cadets. It is an aviation history course focusing on the development of flight throughout the centuries. It starts with ancient civilizations, then progresses through time to modern day. The emphasis is on civilian and military contributions to aviation; the development, modernization, and transformation of the Air Force; and a brief astronomical and space exploration history. It is interspersed with concise overviews of the principles of flight to include basic aeronautics, aircraft motion and control, flight power, and rockets. Throughout the course, there are readings, videos, hands-on activities, and in-text and student workbook exercises to guide in the reinforcement of the materials.

The course objectives are:
1. Know the historical facts and impacts of the early attempts to fly.
2. Know the major historical contributors to the development of flight.
3. Know the contributions of the U.S. Air Force to modern aviation history.
4. Know the key events of space exploration history.

Aerospace Science: A Journey Into Aviation History
Course Units
Unit One Imagining Flight
Unit Two Exploring Flight
Unit Three Developing Flight
Unit Four Extending Flight

Unit One - Semester One
Imagining Flight
Chapter 1: Ancient Flight
1. Chapter Objectives
a. Know how humans tried to fly in ancient times.
b. Know key aviation devices created during ancient times.
c. Know why machines do not fly the way birds do.

2. Chapter In Brief
In Chapter One students will learn that the invention of the airplane was not the beginning of aviation history. The Wright brothers and other inventors built on the work of many others before them. Students will learn that flight dated back to ancient times. Emphasis is placed on the fact that this course will introduce them to many exciting figures and events in aviation history. This lesson will also help them appreciate the heritage of flight we have today.

Unit Two - Semester One
Exploring Flight
Chapter 2: Pioneers of Flight
1. Chapter Objectives
a. Know how the Wright brothers succeeded in the first flight.
b. Know the anatomy of the Wright Flyer.
c. Know the principles of airplane flight.
d. Know the history of the Wright brothers’ involvement with the US Army.
e. Know the key individuals involved in early aircraft development.
f. Know the names and anatomy of period aircraft.
g. Know the significance of other American pioneers in aviation following the Wright brothers.
h. Know the contributions of US pilots during World War I.
i. Know the role of air power in World War I.
j. Know the ways air power expanded during World War I.

2. Chapter In Brief
Chapter Two, Lesson One, “The Wright Brothers”, covers the significance of the Wright Brothers’ first flight. Emphasis is placed on the fact that the
Wrights’ achievement was a milestone in aviation history. Students are encouraged to recognize the similarity between the Wright Flyer and the basic model of an airplane today. Students will learn how the Wrights succeeded, the anatomy of the Wright Flyer, the principles of airplane flight, and the history of the Wrights’ involvement with the US Army. They will understand the principles of flight in particular, as all subsequent lessons will build on the principles introduced in this lesson.

Lesson Two, “Developing Aircraft”, focuses on how aircraft developed following the Wrights’ breakthrough. Key individuals involved in early aircraft development are discussed as well as the names and anatomy of period aircraft, and the significance of other American pioneers in aviation following the Wright brothers. Emphasis is placed on the important contributions made by aviation pioneers. Their courageous achievements—in an age in which flying was still dangerous—paved the way for aircraft to become safe, reliable, and innovative.

In Lesson Three, “Air Power in World War I”, students will learn about air power in World War I. They will also learn about the contributions of US pilots during World War I, the role of air power in World War I, and the ways air power expanded during World War I. Emphasis is placed on how war affected and sped up aviation development. After studying this lesson, students will understand how the airplane evolved as a weapon of war.

Chapter 3: Expanding the Horizon
1. Chapter Objectives
   a. Know the barnstormers
   b. Know the major contributions of the barnstormers
   c. Know how the barnstormers contributed to public awareness of aviation.
   d. Know Charles Lindbergh’s famous contribution to aviation
   e. Know the significance of the first transatlantic flight
   f. Know other significant contributions that helped flight become mainstream
   g. Know early developments in commercial flight
   h. Know about the use of the airplane in delivering mail
   i. Know about the development and use of helicopters
2. Chapter In Brief
Chapter Three contains three lessons. Lesson One, “The Barnstormer” students will learn about the barnstormers, their major contributions, and how they contributed to public awareness of aviation. This lesson also
emphasizes the important role the barnstormers played in sustaining aviation in an age before commercial flight and the US Air Force. The barnstormers’ love of flying became contagious and paved the way for flight to become mainstream in America.

In Lesson Two “Flight Goes Mainstream” students will study about developments in aviation during this period that paved the way for flight to become mainstream. Emphasis is placed on Lindbergh’s famous contribution to aviation, the significance of the first transatlantic flight, and other significant contributions that helped flight become mainstream. Also discussed are other milestone flights, Amelia Earhart’s transatlantic flights, how other developments helped push flight into the mainstream, and the first air refueling of the Question Mark.

Students will study about early developments in commercial flight, the use of the airplane in delivering mail, and the development and use of helicopters in Lesson Three, “Commercial Flight, Airmail, and Helicopters”. Advances made during this period allowed commercial flight, airmail, and helicopters to become an integral part of American’s everyday lives. Emphasis is placed on the significance of these developments.

Unit Three - Semester Two
Developing Flight
Chapter 4: The Early Air Force
1. Chapter Objectives
a. Know the predecessors of the U. S. Air Force.
b. Know how the Army Air Corps developed.
c. Know the Air Force’s path toward independence.
d. Know the role air power played in WWII and its significance.
e. Know how air power was developed during WWII.
f. Know the significance of the Allied air campaigns.

2. Chapter In Brief
Chapter Four covers two lessons. Lesson One “The Army Air Corps” discusses the predecessors to the U S Air Force, how the Army Air Corps developed, and the path of the Air Force toward independence. Emphasis is placed on how the predecessors of the Air Force evolved, slowly giving the air forces more control, leading to the formation of the Army Air Forces, and eventually complete independence.

In Lesson Two “Air Power in World War II” students will learn about the role air power played in World War II and its significance. They will also learn how air power was developed during World War II and the significance of the Allied air campaigns. This lesson will also emphasize how air power contributed to Allied victory in World War II. Thanks to the contributions of Allied pilots and many others, World War II ended with the utter defeat of the Axis Powers.

Chapter 5: Commercial Flight
1. Chapter Objectives
a. Know key developments in commercial aircraft.
b. Know developments in commercial flight use.
c. Know key contributors to the expansion of commercial flight.
d. Know the significance of the development of the jet engine.
e. Know key developments in the commercial flight industry.
f. Know the pros and cons of commercial flight travel for passengers.

2. Chapter In Brief
In Chapter Five, Lesson One “The Propeller Era in Commercial Flight”, the students will learn about key developments in commercial aircraft and commercial flight use, as well as key contributors to the expansion of commercial flight. This lesson emphasizes the boost that World War II gave to US commercial aviation and the technical developments of the
propeller period. In studying this lesson, students will learn that technical developments eventually ended this era with the introduction of the jet engine.

As students study Lesson Two “The Jet Era in Commercial Flight” they will learn the significance of the development of the jet engine, and how it led to key developments in the commercial flight industry. They will also learn about the pros and cons of commercial flight travel for passengers and the impact of the jet engine and the ways it transformed commercial flight.

Chapter 6: Modern Air Force
1. Chapter Objectives
   a. Know about the creation of an independent Air Force in 1947.
   b. Know what the Cold War was and how it began.
   c. Know the USAF role in the Berlin Airlift.
   d. Know the role of air power in the Korean War.
   e. Know the role of air power in the Cuban Missile Crisis.
   f. Know the role of air power in the Vietnam War.
   g. Know how the USAF gained an increasingly significant role in other US military operations during the Cold War.
   h. Know key developments in aircraft, missile capability, and nuclear capability during the Cold War.
   i. Know the significance of stealth aircraft.
   j. Know the role of air power in the Gulf War (Operation Desert Storm).
   k. Know the role of air power in Operation Enduring Freedom (OEF).
   l. Know the role of air power in Operation Iraqi Freedom (OIF).
   m. Know the role of air power in various other US military operations from 1990.

2. Chapter In Brief
   Chapter Six is comprised of three lessons. Lesson One “Air Force Beginnings Through the Korean War” discusses the creation of an independent Air Force in 1947 and its significance. It also discusses the Cold War and its impact on the missions of the newly independent Air
Force. The Berlin Aircraft and the Korean War are also discussed. Students will learn about the impact of the Cold War on the Air Force and its development.

Lesson Two “The Vietnam War and Other Military Operations” continues with a discussion of the Vietnam War and other military operations during the Cold War. In this lesson students will learn about the Cuban Missile Crisis, how the United States became involved in the Vietnam War, other military operations, and NATO. Students will also learn how the Cold War ended. Emphasis is placed on how each conflict discussed impacted the overall Cold War and US-Soviet relations.

Finally, in Lesson Three “Global Interventions From 1990” students will study about global interventions from 1990 and about the significance of stealth aircraft. The roles of air power in the Gulf War, Operation Enduring Freedom, Operation Iraqi Freedom as well as various other US military operations are discussed in depth. Importance is placed on the active role the USAF has had since the end of the Cold War. Emphasis is also placed on the varying types of global interventions the US has participated in.

Unit Four - Semester Two
Extending Flight
Chapter 7: Astronomy and Space
1. Chapter Objectives
a. Know the objects in the solar system.
b. Know the significant contributions of key early astronomers.
c. Know how developments in rocketry made space exploration possible.

d. Know how the Cold War led to a race in space.

2. Chapter In Brief
Chapter Seven consists of two lessons. Lesson One is entitled “The Solar System and Some Early Astronomers” and discusses what students need to know about objects in the solar system and about the significant contributions of key early astronomers such as Ptolemy, Ulug Bek, Copernicus, Kepler, and Galileo. Students will gain an understanding of all the objects in the solar system and also areas of the solar system yet to be explored.

Lesson Two “Rocketry and the Space Race” talks about how developments in rocketry made space exploration possible and how the Cold War led to a race in space. Students will gain an understanding of rocketry developments, the principles of rocketry, how rocketry made space exploration possible, and how space became an area of competition in the Cold War.

Chapter 8: Exploring Space
1. Chapter Objectives
a. Know the key steps in the US and Soviet space programs.
b. Know the key steps in the development of spacecraft.
c. Know the significance of the phrase: “One small step for (a) man, one giant leap for mankind.”
d. Know the key space shuttle missions.
e. Know the purpose of the International Space Station.
f. Know current and anticipated developments in manned air vehicles.
g. Know current and anticipated developments in unmanned systems.
h. Know current and anticipated developments in cyber warfare.
i. Know anticipated Air Force plans for integrating air and space operations.
j. Know NASA’s vision for the future.

2. Chapter In Brief
Lesson One in Chapter Eight is entitled “The Space Program”. Students will learn about the US and Soviet space programs, the development of spacecraft, astronauts who contributed to the exploration of space, the significance of the first moon mission and the phrase “One small
step for (a) man, one giant leap for mankind”. They will also learn about space shuttle missions and the purpose of the international space station. Emphasis is placed on the role of the United States in exploring space.

Lesson Two is entitled “The Future of Air and Space Power”. Students will study about current and anticipated developments in manned air vehicles, unmanned systems, and cyber warfare. They will gain an understanding of anticipated Air Force plans for integrating air and space operations, and of NASA’s vision for the future. Emphasis is placed on what the Air Force and NASA are doing now and ways they are looking ahead far in the future. Students will explore the many possibilities that lie ahead in the realm of air and space.
Leadership Education 100: Traditions, Wellness, and Foundations of Citizenship
LEADERSHIP EDUCATION 100:
TRADITIONS, WELLNESS, AND FOUNDATIONS OF CITIZENSHIP

LE 100 is the component of JROTC leadership education. It is intended for students who are entering the AFJROTC program and beginning their high school studies. It will introduce cadets to history, organization, mission, traditions, goals, and objectives of JROTC for all services. It introduces key military customs and courtesies, how to project a positive attitude, and exam the principles of ethical and moral behavior. It provides strategies for effective note taking and study skills for academic success. Lessons will cover how to be emotionally, mentally, and physically healthy. Avoiding and preventing violence in today’s society will also be covered. How to recognize types of bullying and how to advocate for prevention of this type of behavior. It will cover healthy living, physical fitness, and how to make safe, drug-free, and responsible decisions. This textbook will also examine the negative effects of air and water pollution, and how to help keep the environment safe. Cadets will be introduced to civics and our national government, including a historical understanding of the American flag and other important national symbols. The final chapter will also cover how the US Constitution protects our rights and freedoms as American citizens.

Course Outcomes:
1. Analyze the heritage, organization, and tradition of service programs.
2. Analyze the benefits of positive personal behavior.
3. Evaluate healthy living through physical activity and good nutrition.
4. Apply safe, drug-free decisions.
5. Analyze the importance of citizenship in the United States.

Chapter 1: Introduction to JROTC Programs - Semester One

Lesson 1: Organization of the JROTC
Learning Outcome: Identify the purpose and structure of the JROTC Programs.
Learning Objectives:
1. Discuss the history of the nation’s Junior ROTC programs.
2. Explain the organization of Junior ROTC programs.
3. Examine the lines of responsibility and authority in Junior ROTC programs.

Lesson 2: The Military Uniform and Appearance Standards
Learning Outcome: Determine proper wear of the military uniform
Learning Objectives:
1. Explain uniform wear and history.
2. Explain the purpose of uniform wear, restrictions, and standards.
3. Describe the uniforms used within special teams.
4. Describe cadet appearance and grooming standards.
5. Identify military rank and grade insignia

Lesson 3: Customs and Courtesies for Junior ROTC
Learning Outcome: Apply customs and courtesies in the Junior ROTC environment.
Learning Objectives:
1. Describe the difference between a custom and a courtesy.
2. Identify historic customs and courtesies.
3. Explain the proper methods to demonstrate recognition and respect.
4. Describe the standard usage of military time.

Lesson 4: Attitude, Discipline and Respect
Learning Outcome: Demonstrate the roles of respect and integrity in Junior ROTC.
Learning Objectives:
1. Describe the importance of a positive attitude.
2. Describe the importance of discipline.

Lesson 5: Ethics, Values and Morals
Learning Outcome: Demonstrate Ethical Concepts
Learning Objectives:
1. Describe the four basic rules of ethics.
2. Identify the four types of values.
3. Identify the core values of the US military services.
4. Explain cultural and universal norms
5. Describe how to make ethical and moral decisions.
6. Identify your personal code of conduct.

Lesson 6: Social Etiquette and Dining In, Dining Out
Learning Outcome: Demonstrate proper etiquette in social settings.
Learning Objectives:
1. Analyze etiquette and manners in formal and informal settings.
2. Demonstrate proper dining etiquette.
3. Explain the handling of social invitations.
4. Demonstrate the proper application of public courtesies.
5. Describe historical background of Dining-Ins and Dining-Outs.

Chapter in Brief:
“Chapter 1: Introduction to JROTC Programs” explains the purpose and structure of the nation’s JROTC programs. In this chapter, cadets will discuss the history and current organization of each JROTC program, including the lines of responsibility and authority. Cadets will learn about the military uniform, including how to properly wear the uniform and meet the appearance and grooming standards expected of a cadet. Cadets will also learn to recognize the different US military ranks and grades. They will learn about military customs and courtesies such as saluting, many based on historic practices, which distinguish JROTC as an important part of our nation’s traditions. Thorough understanding of JROTC as an environment that builds leadership and good citizenship through respect for others, cadets will learn how to project a positive attitude and self-discipline. Cadets will consider how to apply ethical and moral concepts, including those of the military services and various cultures. The chapter’s final lesson will help cadets build social skills through proper behavior, personal hygiene, and grooming. Finally, they will learn how to plan and participate in military functions, especially Military Balls, Dining-Ins, and Dining-Outs.

Chapter 2: Personal Behavior - Semester One

Lesson 1: Note Taking and Study Skills
Learning Outcome: Analyze effective methods of taking notes and studying for exams.
Learning Objectives:
1. Analyze effective note taking strategies.
2. Describe the eight types of Thinking Maps®.
3. Demonstrate effective study skills.
4. Recall effective strategies for taking exams.
5. Develop an effective homework plan.

Lesson 2: Managing Stress
Learning Outcome: Determine the main causes and effects of stress.
Learning Objectives:
1. Explain the difference between positive and negative stress.
2. Describe the effects of stress on the body.
3. Describe ways to manage stress.
4. Analyze methods to manage time.

Lesson 3: Making Positive Decisions
Learning Outcome: Outline steps required to achieve personal goals.
Learning Objectives:
1. Employ a goal setting process to arrive at healthful decisions.
2. Explain the impact of communication skills on leadership.
3. Apply responsible use of electronic media devices.

Lesson 4: Emotional and Mental Health Care
Learning Outcome: Examine when and how to seek professional mental health care.
Learning Objectives:
1. Identify and understand emotions.
2. Analyze mental and emotional problems and the effects on behavior.
3. Identify sources for getting help with mental and emotional problems.

Lesson 5: Avoiding and Preventing Violence
Learning Outcome: Evaluate methods on how to protect yourself and others from violence.
Learning Objectives:
1. Examine the problem of violence in our society.
2. Identify ways to prevent violence in schools.
3. Describe ways of protecting yourself from rape or sexual violence.

Chapter in Brief:
“Chapter 2: Personal Behavior” focuses on success in school, personal life, and community. Cadets will learn effective methods for taking notes and studying. They will also learn to manage stress in school and elsewhere by recognizing its main causes, positive versus negative stress, and stress’ effects on the body. Stress-handling strategies, including time management, can help cadets be more productive in all aspects of their life. The chapter then covers how to make positive decisions on behavior through goal setting and effective communications—important for success and leadership in today’s high-tech environment. Cadets will find out how to recognize emotional problems, and how to seek professional mental health care for themselves and others. They will learn about factors that contribute to teen
violence in our society, from bullying and cyberbullying to gangs and drug use. Finally, cadets will learn to identify ways to deal with violence in schools and elsewhere, including ways of preventing bullying, rape, and other sexual violence.

**Chapter 3: Be Health Smart - Semester Two**

**Lesson 1: Your Body Systems**
Learning Outcome: Identify key components that make up the human body
Learning Objectives:
1. Identify the different functions of the human skeletal system.
2. Explain how the muscular system works.
3. Describe different parts of the human circulatory system.
4. Describe how the human respiratory system works.
5. Identify how the nervous system and sense organs work.
6. Describe how the digestive system breaks down food.
7. Explain how the body’s waste disposal system works.

**Lesson 2: Nutrition**
Learning Outcome: Identify resources that can be used to make healthful dietary decisions.
Learning Objectives:
1. Identify what influences food choices.
2. Describe the six types of nutrients and explain how the body uses them.
3. Identify resources that can help you make wise food choices.

**Lesson 3: The Benefits of Physical Activity**
Learning Outcome: Evaluate the importance of physical fitness.
Learning Objectives:
1. Define the benefits of an active lifestyle.
2. Examine ways to increase your level of fitness through exercise.
3. Analyze strategies for improving aerobic capacity, muscular strength and endurance, and flexibility to improve overall health.
4. Devise a plan to set and achieve fitness goals.
5. Identify the three stages of an exercise session.
6. Analyze methods to monitor fitness progress.
7. Identify safety concerns when participating in sports.
8. Evaluate the effects of performance-enhancing drugs (PEDs).

**Lesson 4: Understanding Your Body Image**
Learning Outcome: Understand how body image, eating, and physical activity affect health.
Learning Objectives:
1. Define body image.
2. Explain the relationship between weight problems and diet.
3. Describe ways to manage an appropriate weight.
4. Explain the dangers of eating disorders.

Lesson 5: First Aid
Learning Outcome: Analyze what to do in a medical emergency.
Learning Objectives:
1. Define first aid.
2. Explain how to recognize and treat common emergencies.
3. Outline steps to take in severe emergencies.

Chapter in Brief:
“Chapter 3: Be Health Smart” first examines body systems by identifying the key components of the human body. Cadets will explore the functions of the skeletal, muscular, circulatory and respiratory systems, as well as those of the nervous, digestive, and waste systems. Applying this knowledge, cadets learn how to make healthful dietary decisions. They will then consider the importance of physical fitness and the benefits of an active lifestyle. Cadets will also consider how body image, eating, and physical activity affect health. To reduce risks of physical injury during exercise, cadets will identify safety concerns for participating in sports, and consider the risks of performance-enhancing drugs (PEDs).

This chapter also covers first aid for treating themselves or others in a medical emergency. They’ll learn how to recognize and treat common emergencies, from sprains, choking, and shock to heat-related illnesses. Finally, cadets will also learn how cardiopulmonary resuscitation (CPR) and the Automated External Defibrillator (AED) can save lives.

Chapter 4: Making Safe, Drug-Free Decisions - Semester Two

Lesson 1: Medicines and Drugs
Learning Outcome: Compare and contrast the difference between medicine and drugs.
Learning Objectives:
1. Explain how medicines differ from drugs.
2. Explain the difference between drug misuse and drug abuse.
3. Identify how people who abuse drugs can get help.
4. Describe ways to live drug free.

Lesson 2: Tobacco
Learning Outcome: Explain the dangers of tobacco.
Learning Objectives:
1. Explain the history of tobacco use.
2. Identify the harmful substances in tobacco.
3. Describe the costs of tobacco to society.
4. Explain how to avoid tobacco use.

Lesson 3: Alcohol
Learning Outcome: Describe the dangers of alcohol.
Learning Objectives:
1. Explain how alcohol is a threat to everyone.
2. Describe alcoholism.
3. Explain why some teens drink alcohol.

Lesson 4: Environmental Health
Learning Outcome: Analyze the connection between the environment and your health.
Learning Objectives:
1. Describe the effects pollution has on health.
2. Demonstrate methods for reducing and preventing pollution.

Chapter in Brief:
“Chapter 4: Making Safe, Drug-Free Decisions” focuses on staying mentally and physically fit by avoiding illegal drugs. Understanding how medicines differ from drugs will help cadets see how substances can be used for good or harm. They will compare drug misuse with drug abuse, and learn the effects and dangers of popular drugs. Cadets will study the history of tobacco, the harmful substances it contains, and its terrible costs to society. They will learn how to avoid tobacco use, and proven ways to quit the habit.
Cadets will also study alcohol’s effects, and why it can harmful. They will consider why some teens drink alcohol, examining how what teens may say can be different from the truth about drinking. Finally, they’ll learn refusal techniques to overcome peer pressure to drink, and review the healthy alternatives to drinking alcohol. The chapter’s final lesson considers how the environment relates to everyone’s health. They will study different types of pollution, including air, water, land, and other forms. Cadets will examine aspects of the greenhouse effect, and learn about methods of preventing and reducing pollution; including laws and community actions, as well as things everyone can do individually to make the environment healthier.

Chapter 5: Foundations of United States Citizenship - Semester Two

Lesson 1: The American Flag and Other National Symbols
Learning Outcome: Explain the history and courtesies rendered to the flag of the United States and other and other symbols.
Learning Objectives:
1. Outline the history of the flag of the United States.
2. Identify the courtesies rendered to the flag of the United States.
3. List the courtesies rendered to the National Anthem, Pledge of Allegiance, and the American’s Creed.
4. Describe the Great Seal of the United States and the military services’ seals.

Lesson 2: Civics
Learning Outcome: Analyze the duties and responsibilities of citizenship.
Learning Objectives:
1. Define civics.
2. Explain the need for government.
3. Explain citizenship and the naturalization process.
4. Analyze duties and responsibilities of citizenship, including volunteerism.

Lesson 3: The Constitution of the United States
Learning Outcome: Describe the content of the United States Constitution.
Learning Objectives:
1. Identify the parts of the Constitution and what they mean.
2. Describe the process of amending the Constitution.
3. Explain how the Constitution is interpreted.

Lesson 4: Interpreting the Bill of Rights and Other Amendments
Learning Outcome: Interpret the content of the Bill of Rights and other amendments.
Learning Objectives:
1. Explain the protections of individual freedoms in the Bill of Rights.
2. Identify ways the Bill of Rights protects the rights of the accused.
3. Describe other rights protected by the Bill of Rights.
4. Explain how the Bill of Rights protects all Americans.

Lesson 5: US National Government
Learning Outcome: Summarize the duties and responsibilities of the three branches of government.
Learning Objectives:
1. Describe the legislative branch of government.
2. Explain the executive branch of government.
3. Describe the judicial branch of government.

Chapter in Brief:
“Chapter 5: Foundations of United States Citizenship” opens with a history of the American flag and discusses the courtesies rendered to the flag, the National Anthem, the Pledge of Allegiance, and the American’s Creed. Cadets will learn about the Great Seal of the United States and the military services’ seals. They will consider the role of civics in society and the need for effective government. They will study the nature of citizenship and how the naturalization process grants this lifelong privilege to those who were not born citizens. The lesson will then cover the duties and responsibilities of citizenship. Cadets will then learn about the fundamental document of our government, the United States Constitution, by studying its parts and what they mean. They will also cover the process of amending the Constitution and be able to explain how the Constitution is interpreted. Cadets will look at each amendment to identify ways the Bill of Rights and other amendments to the Constitution protect the rights of all Americans, in all possible situations. The final lesson of this chapter covers the three branches of the national government. By analyzing the functions of the legislative, executive, and judicial branches, cadets will understand the concept of checks and balances. By looking at the political system in operation in the House of Representatives and the Senate, they will be able to see how Congress works to meet the nation’s needs and interests.
Leadership Education 500: Drill and Ceremonies
The Drill and Ceremonies course provides an in-depth introduction to drill and ceremonies. The course concentrates on the elements of military drill, and describes individual and group precision movements, procedures for saluting, drill, ceremonies, reviews, parades, and development of the command voice. Students are provided detailed instruction on ceremonial performances and protocol for civilian and military events and have the opportunity to personally learn drill. Though each class will follow an established lesson plan, most of the work is to be hands-on.

The course objectives are:
After successfully completing AFM 36-2203: Personnel Drill and Ceremonies, the student will:
1. Know the importance of drill and ceremonies.
2. Know basic commands and characteristics of the command voice.
3. Apply and execute the concepts and principles of basic drill positions and movements.
4. Know when and how to salute.
5. Apply the principles and procedures of drill movements used with smaller units to the movement of a squadron.
6. Know the function of the group and the wing.
7. Know how groups and wings are formed.
8. Know the purpose and definition of ceremonies and parades.

**Chapter 1: Introduction to Drill and Ceremonies**

1. **Chapter Objective**
   Know the importance of drill and ceremonies.

2. **Samples of Behavior/Main Points**
   a. State the importance of drill and ceremonies.
   b. List the symbols that represent the leaders of the flight and squadron.
   c. List all the basic military drill terms.

**Chapter 2: Commands and the Command Voice**

1. **Chapter Objective**
   Know basic commands and characteristics of the command voice.

2. **Samples of Behavior/Main Points**
   a. Identify the types of commands used during the basic military drill movements.
   b. Identify the necessary qualities of the command voice.
   c. Define cadence.

**Chapter 3: Individual Instruction**

1. **Chapter Objective**
   Perform basic drill positions and movements.
2. Sample of Behavior/Main Point
Execute various movements and positions of basic drill when given the command to do so.

Chapter 4: Drill of the Flight
1. Chapter Objective
Perform parade movements as a flight.

2. Samples of Behavior/Main Points
a. Execute the various marching movements.
b. Execute proper military position and place prior to parade.
c. Respond with proper military procedures for entire parade sequence.

Chapter 5: Drill of the Squadron
1. Chapter Objective
Perform drill movements as a squadron.

2. Samples of Behavior/Main Points
a. Execute basic drill commands as a squadron.
b. Execute guidon bearer position.

Chapter 6: Group and Wing Formations
1. Chapter Objective
Demonstrate a group and wing formation.

2. Sample of Behavior/Main Point
Perform group and wing formations when given the command to do so.

Chapter 7: Ceremonies
1. Chapter Objective
Know the purpose and definition of ceremonies and parades.

2. Samples of Behavior/Main Points
a. Define ceremony and parade.
b. State the purpose of ceremonies and parades.
c. Identify the different types of ceremonies and parades.

d. Define reveille and retreat.

e. State when it is appropriate to raise and lower the flag.
Wellness Program

Wellness is an official and integral part of the Air Force Junior ROTC program. It consists of two exercise programs focused upon individual baseline improvements with the goal of achieving a national standard as calculated by age and gender. The Wellness curriculum is instrumental in developing citizens of character dedicated to serving our nation and communities. Cadets will be given the opportunity to put into practice the wellness concepts that are taught in Leadership Education 100. Other activities include team sports in order to keep the Wellness Program fun and motivating.

The Wellness Program also provides a list of 19 exercises with examples that may be utilized in a 36-week program modifiable to meet individual and district/state goals.

The course objective for the Wellness Program is to:
Motivate AFJROTC cadets to lead active, healthy lifestyles beyond program requirements and into their adult lives.

The goals of the Wellness Program are to:
1. Create an individualized training program based on national standards by age and gender.
2. Identify areas of improvements for each cadet and provide guidance for improvement.
3. Incorporate a physical training program to reach fitness goals.

The President’s Fitness Challenge
The U.S. Department of Health and Human Services (HHS) released the 2008 Physical Activity Guidelines for Americans on October 7, 2008. The comprehensive, science-based guidelines were developed to inform policymakers and health providers about the amounts, types, and intensity of physical activity needed to help Americans aged 6 and older, and of all abilities, improve their health and reduce their risk of chronic diseases. Regular physical activity in adolescents promotes health and fitness. Compared to those who are inactive, physically active youth have higher levels of cardio respiratory fitness and stronger muscles. Their bones are stronger, and they may have reduced symptoms of anxiety and depression. Youth who are regularly active also have a better chance of a healthy adulthood. They also typically have a lower Body Mass Index (BMI). With higher BMI’s, an increased risk for certain diseases such as heart disease, high blood pressure, type 2 diabetes, gallstones, breathing problems, and certain cancers may develop. Adolescents don’t usually develop chronic diseases; however, risk factors for these diseases can begin to develop early in life. Regular physical activity makes it less likely that these risk factors will develop and more likely that adolescents will remain healthy as adults.

**Key Guidelines for Adolescents:**
- Adolescents should do 60 minutes (1 hour) or more of physical activity daily.
- Aerobic: Most of the 60 or more minutes should be either moderate- or vigorous-intensity aerobic physical activity, and should include vigorous-intensity physical activity.
- Muscle-strengthening: As part of their 60 or more minutes physical activity, adolescents should include muscle-strengthening physical activity.
- Bone-strengthening: As part of their 60 or more minutes physical activity, adolescents should include bone-strengthening physical activity.
- It is important to encourage young people to participate in physical activities that are appropriate for their age, that are enjoyable, and that offer variety.

**Key Exercises for Adolescents**
The Physical Fitness Test recognizes students for their level of physical fitness in five activities:

- Curl-ups (or partial curl-ups)
- Shuttle run
- Endurance run/walk
- Pull-ups (or right angle push-ups or flexed-arm hang)
- V-sit reach (or sit and reach)

**AFJROTC Wellness Program Exercises**

This program is comprised of 19 exercises which can be conducted with minimal space and with minimal climate dependency (e.g., the 1-mile run). The exercises develop all muscle groups and provide sufficient anaerobic and aerobic intensity. They require no equipment and use only body weight and common objects (e.g., chairs).

The 19 exercises are:
- V-Sit Reach ● Lunges
- Bent-Knee Push-ups ● Arm Extended Lunges
- Feet Elevated Push-ups ● Reverse Extended Lunges
- Hindu Push-ups ● Mountain Climbers
- Plank ● Hindu Squats
- Left Arm and Right Arm Planks ● Body Builders
- Sit-Ups ● Squat Leaps
- Extended Side Push-ups ● Side Lateral Jumps
- Flutter Kicks ● One-Mile Run
- Push-ups

A typical exercise class may go as follows:
- Warm-up/Stretch
- Pick 6 or more exercises to perform depending on time
- Ensure proper form and technique
- Students will strive to complete the number of repetitions indicated on their personal workout plan
- Cool/down/Stretch

During the next class periods, students should perform 6 different exercises.
**Cadet Fitness Assessments**

The Presidential Fitness Challenge Program is a yearlong program designed to establish a baseline for each cadet and when required, provide a program of improvement throughout a 36-week school year. Instructors will conduct periodic assessments throughout the school year and provide feedback to cadets concerning improvement. This feedback will allow cadets and instructors to modify fitness programs to meet individual needs that provide progressive improvement towards a healthy, active lifestyle.

The Physical Fitness Training Program will be managed and directed by each Flight’s Physical Fitness Training Leader who will conduct Training in each Flight. Cadets designated as the Flight Physical Fitness Training Leader will receive a Promotion when he/she has demonstrated proficiency in leading the flight in all aspects of the Program. If a Cadet Officer is designated as the Flight Physical Fitness Training Leader, he/she will maintain the Cadet Officer Rank designated for their other Cadet Officer Position.

Physical Fitness Training will be conducted on Fridays. On this day, cadets will receive two grades; one for proper Training uniform wear (AFJROTC T-shirt, Shorts, or Jeans, and Tennis Shoes), and the other for participation and progress in the Training exercises. Cadets who do not wear the appropriate clothing or refuse to participate will receive an “F”. Only cadets with medical excuses will be exempt from participation. However, they will be required to help with other duties as designated by the instructor or Flight Physical Fitness Training Leader.

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**B. Course Requirements**

1. **Course Prerequisites**
There are no Prerequisites for Aerospace Science I. This is the first course.

2. **Necessary Supplies**
   Pens, Pencils, and Paper for Note-taking
   Clean Air Force Uniforms are loaned at no-cost at the beginning of the school year. Cadets maintain and clean their uniforms. Uniforms are worn once a week, every Wednesday, unless designated otherwise by the Instructors.

3. **Volunteer Lab Donation**
   Operational Expenses for our unit are extensive and far-reaching. Each school year, we ask for a donation of $50.00. If your family cannot afford to participate in the $50.00 donation, we ask that a parent/guardian fill out the Donation Form or note stating that a donation will be forthcoming at a later date or that the family will not participate in the donation. Students are not penalized for lack of a donation, but they are if there is no signed form or note.

4. **Textbook and Software Used**
   Aerospace Science – A Journey Into Aviation History
   Leadership Education I – Citizenship, Character, and Air Force Tradition
   Drill and Ceremonies
   FL-954 Cadet Handbook
   Presidential Physical Fitness Handbook
   AFJROTC Exercise Handbook

5. **Classroom Conduct**
   **Protocol.** In the military, when an officer or military instructor enters the classroom, students will call the room to attention until the officer or military instructor tells you to sit down. At Lake Brantley High School, we will also do the same when a school administrator enters
the classroom. At the conclusion of class, students again come to
attention until dismissed or until the instructor leaves the classroom.

**Discipline.** Our class discipline procedures will comply with the Lake
Brantley High School Discipline Guidelines plus ROTC discipline. A
cadet may be disenrolled from AFJROTC for any of the following
reasons:

- Failure to Maintain Acceptable Standards (i.e., Proper Attitude,
  Academic Standards, Haircut, Appearance, Proper and Required Wear
  of the Uniform, Discipline, Failure to Adhere to the Responsibilities
  of a Cadet, Cadet NCO, or Cadet Officer, etc.)
- Disrespect to the United States of America or the American Flag
- Insubordination to AFJROTC Instructor, School Teacher,
  Administrators, or Parents
- Failure to Remain Enrolled in School
- Excessive Absences or Excessive Tardies
- Dishonesty such as Lying, Cheating, and/or Stealing
- Fighting or Instigating Fights, Disturbances, Discords, Disharmony, or
  Riots
- Failure to Pass/Maintain School Standards
- Out of School Suspension

**Timeliness.** All cadets will be in their seats and ready for class at the
time class is scheduled to begin. One (1) unexcused tardy will result
in a formal warning. Two (2) unexcused tardies will result in a
detention. Three (3) or more unexcused tardies will result in
completed referral forms. The student will be sent to the appropriate
administrator for disciplinary action.

**Class Attendance Policy.** Although there are NO EXAM
exemptions, I expect you to attend all the Aerospace Science Course
classes and the extra-curricular activities. If you are not present after
5 minutes of class time, you are considered absent.
A student who is absent without the principal’s approval will have
his/her parent(s) or legal guardian report such absences to the school
center. A student will be considered truant when absent without
parental or guardian permission.

A student who is absent is required to make up all coursework missed,
regardless of whether the absence is excused or unexcused. It is the student’s responsibility to obtain assignments upon returning to class immediately following an absence.

Students will be given a reasonable amount of time to make up any work assignments missed during an absence. At least one (1) day shall be allowed for each day of missed work. Students will have no less than the number of days he/she was absent to complete the hand in make-up work for credit.

The time and place for a make-up exam will be scheduled with your instructor. It is the student’s responsibility to ensure make-up work/exams are completed and on time.

Students shall be excused from any exam, study, or work assignment for observance of a religious holiday or because the tenets of his/her religion forbid secular activity at such time. The student’s parents/legal guardians must give advance written notification to the school and instructor when a student will be absent for religious reasons.

Students must provide the school/instructor with written documentation for an absence to be excused. Viable excuses are: medical treatment by a licensed physician, observance of a religious holiday, law enforcement order or court subpoena, death of a family member, a natural disaster, or a traffic accident that directly involved the student.

**Preparation for Class.** I expect all cadets to be fully prepared for each class activity. This includes reading the assigned homework material, being prepared to answer the instructor’s questions, and participating in class discussions. Also, be advised that you may receive a quiz about the previous class lecture the next day.

**Leadership Laboratory (LLAB).** This is the military training portion of the AFJROTC program. In LLAB, you will learn about military customs and courtesies, and formal military formations; such as, formal school parades, events, and the FL954 unit formations. Field Trips to Military Bases and Dining-In/Outs (which are part of Lead Lab) will help you gain knowledge and understand the military
way of life. During the days you have drill practice and Leadership sports/wellness training, you must wear the proper clothing and shoes. When participating in sports, always keep SAFETY as your number one priority.

**Directory Board:** You are responsible for all the information posted on the directory board above the water fountain in our Hallway. As a minimum, check the board each class day. A rule of thumb: when in doubt – read the board.

**C. Grading Scale:**

The following will determine your final grade:

- Quizzes/Tests 10%
- Homework 10%
- Wellness & Participation 20%
- Uniform Inspections (Assignments) 40%
- Final Exam 20%

**Grading Scale for Semester Average:**

First 9 Week Grade 50%
Second 9 Week Grade 50%
(9 Week Exam to Count 20% of Each 9 Weeks Grade)

Your final grade will be computed by current school board policy.

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<thead>
<tr>
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<th>Range</th>
<th>GPA</th>
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<td>3.6 - 4.0</td>
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<tr>
<td>B</td>
<td>80 - 89</td>
<td>2.6 - 3.5</td>
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<td>C</td>
<td>70 - 79</td>
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<td>D</td>
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<td>.75 - 1.5</td>
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<tr>
<td>F</td>
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**D. Scope and Sequence**

Federal Law requires AFJROTC Cadets to wear the Air Force uniform at least once a week to complete program requirements. Therefore, if cadets fail to wear the uniform as required, they are subject to course failure and loss of the Air Force Certificate of Completion.
Class Schedules normally follow this pattern: Monday, and Tuesday are Classroom Instruction in the Aerospace Science Arena. Wednesday is Leadership Education and also Uniform Wear and Inspection Day unless changed by your instructor. Thursday is Leadership Education and Drill/Ceremony day. Friday is normally our Sports/Physical Training/Wellness Day.

E. **Develop Writing Experiences (Lake Brantley Writes)**

We will write at least one paper during each semester which will comply with FCAT Writes and Lake Brantley Writes.

F. **Develop Reading Experiences (Lake Brantley Reads)**

We will start some class periods with at least ten minutes of reading. We have many Air Force and Military publications, papers, and periodicals to choose from. There are also numerous aerospace and other resources in our classroom library. You may also read from required novels or class text books.

G. **SCPS Honor Code**

Academic honesty and integrity are essential to the existence and integrity of an academic community. Without maintaining a high standard of honesty and conduct, the academic reputation of a school is compromised.

Students of Seminole County Public Schools shall refrain from all forms of academic dishonesty, such as cheating, plagiarism, misuse of electronic communication, or other deceitful means of obtaining inflated grades.

Students may possess electronic devices on campus during the school day. Students may use these devices before school, after school, during lunch, and during class change times. **However, students may not display or use these devices during instructional time, which includes time out of the classroom with a pass.**

We Also Are Part of the Brantley Positive Behavior Support (PBS) which is:

- A process for creating safer, and more effective schools.
- Focuses on Improving the entire school system
- Applies to everyone within the school system, including students, staff, and family members

The focus of PBS:
- To create environments that help students achieve success
- To understand why problem behaviors are occurring in order to address them effectively
- To prevent problem behaviors, teach appropriate behaviors, and acknowledge appropriate behaviors of students, staff, and family members

**Don’t Forget to be a Brantley Patriot Who Makes a Difference: Be Responsible, Ready to Learn, and Respectful!**

We are excited to have you as part of the AFJROTC program. You are the leaders of tomorrow who will benefit from our advanced technology. We are here to help you, but we need your cooperation if we, and you are to be successful!

Thank You

CARDELL “ANTHONY” HOPKINS, MSgt, USAF (Ret)
Aerospace Science Instructor