

Course Syllabus AY 2023-2024
Delaware County Air Force Junior ROTC Unit OH-012
Rutherford B. Hayes High School

Aerospace Science: Science of Flight 200 and Leadership 200

Cadets receive 1 (one) C.U. Elective Credit Per Year

Instructors: Major Matthew O'Brien, MSgt James Worstell

Texts: *Aerospace Science 200: The Science of Flight: A Gateway to New Horizons 2nd Ed.*; *Leadership Education 200: Communication, Awareness, and Leadership 2nd Ed.*; *AFMAN 36-2203: Personnel Drill and Ceremonies*

The Mission of Air Force JROTC is to develop citizens of character dedicated to serving their nation and community.

The course consists of three components: Aerospace Science (40%), Leadership Education (40%), and Wellness/Physical Fitness (20%).

Course Descriptions: The Aerospace Science 200, The Science of Flight: A Gateway to New Horizons, 2nd Edition, course includes the latest information and teaching philosophies, incorporating 21st-century learning strategies. This course provides students with up-to-date information on exploring the fundamentals of the science of flight. It all starts with an introduction to the principles of flight. Students will explore aircraft design, flight control, and aircraft power options. In addition, students explore weather concepts, the effects of flight on the human body, and how to navigate during flight. Finally, students will investigate the safety of flight and possible career options in the aviation industry. This textbook is intended for high school students and complements material taught in high school history, science, and social studies courses. During the Fall Semester, Chapters 1-2 will be covered, followed by Chapters 3-4 in the Spring/second semester.

Leadership Education 200: Communication, Awareness, and Leadership, Second Edition, is a customized course designed to improve communication, enhance awareness of self and others, and provide fundamentals of leadership and followership. The course focuses on the AFJROTC mission to “develop citizens of character dedicated to serving their nation and community.” Woven throughout is the underlying theme of developing personal integrity. The course also emphasizes leadership and values such as service and excellence. This update incorporates 21st-century teaching, learning, and skills of critical thinking, communication, collaboration, and creativity.

Each lesson includes a “Quick Write” reading and writing activity related to the lesson; a “Learn About” that tells students what they will learn from the lesson; a list of vocabulary words in the lesson; “Talking Points” that highlight specific and interesting facts. The lessons close with a “Checkpoints Lesson Review” that allows students to review what they’ve learned. At the end of the “Checkpoints” is an “Applying Your Learning” section with a discussion question that gives students a chance to apply what they have learned and reinforce their understanding of the lesson’s content. During the Fall Semester, Chapters 1-2 will be covered, followed by Chapters 3-4 in the Spring/second semester.

In addition, Leadership Education 100 materials will be incorporated into the course. The LE 100 materials introduces (or reinforces current knowledge) the student to the Air Force Junior Reserve Officer Training Corps (AFJROTC) program, while instilling elements of good citizenship, develops informed citizens; strengthens and develops character; develops study habits and time management; wear of the Air Force uniform; and Air Force customs, courtesies and drill are introduced or covered. During the Fall and Spring semesters, we cover Chapter 1 material.

Additionally, cadets will be taught the fundamentals of Drill and Ceremonies. This portion of the course concentrates on the elements of military drill and describes individual and group precision movements, procedures for saluting, drill, ceremonies, reviews, parades, and the 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. Most of the work is hands-on.

Wellness & Physical Fitness: Course time (20%) is also allotted to enhancing your wellness and physical fitness. (AFJROTC codes AS-100, LE-300, and Wellness Program). Wellness/Physical Fitness portion incorporates the Cadet Health and Wellness Program (CHWP). The CHWP is an exercise program focused on individual baseline improvements with the goal of achieving a Presidential Physical Fitness standard calculated with age and gender. The goal of the CHWP is to motivate JROTC cadets to lead active, healthy lifestyles beyond program requirements and into their adult lives. Cadets will be given the opportunity to put into practice the wellness concepts that are taught in Leadership Education I.

Course Activity Fee: \$25.00; Prerequisite: None; Grades: 9- 12 (1st or 2nd Year Cadets)

All Cadets enrolled in Aerospace Science & Leadership Education will be expected to:

- Wear the issued AFJROTC uniform at least one day a week in accordance with the current year edition of the *Cadet Handbook*. Scheduled uniform wear and inspection day is every Wednesday.
- Be quiet in the hallways when proceeding to the drill pad or drill floor for drill training and open-ranks uniform inspections.
- Bring paper, pencils, and the proper resources (may include a laptop/notebook) to class every day (academic book, workbook, or leadership book).
- Raise your hand to be recognized; open and unsolicited discussion interferes with others' contributions.
- Maintain military bearing at specified times.
- Dress appropriately for physical training every Friday, and work out with your flight to the best of your ability within your limitations – make a good-faith effort.

General conduct of Cadets enrolled in AFJROTC will be in accordance with the current year edition of the *Cadet Guide/Handbook* and the Student Codes of Conduct published by each Cadet's respective home high school.

Standards, Benchmarks, and Indicators

Standards and benchmarks are incorporated into the curricula by the Holm Center, Air University, Maxwell Air Force Base, Alabama. The curricula used are the only curricula authorized for use in Air Force Junior ROTC programs in accordance with the current memorandum of agreement between the U. S. Air Force and Delaware City Schools. Indicators are in compliance with the policies of Delaware City Schools.

Course Outlines (All Excerpted from Approved Air Force Curricula)

Science of Flight (AS 200)

Chapter One	Dynamics of Flight
Chapter Two	Powering the Aircraft of Today and the Future
Chapter Three	Flight Conditions
Chapter Four	Flight and the Human Body
Chapter Five	Navigating the Skies
Chapter Six	Flight Safety and Careers

Leadership Education 200 (LE 300)

Chapter 1	Learning and Communication
Chapter 2	Communicating Effectively
Chapter 3	Understanding Your Attitude
Chapter 4	Understanding Your Actions
Chapter 5	Developing Vision and Teams
Chapter 6	Solving Conflicts and Problems
Chapter 7	A Leadership Model
Chapter 8	Adaptive Leadership

Leadership Education 100 (LE 100)

Chapter 1	Introduction to JROTC Programs
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Drill and Ceremonies: AFMAN 36-2203: Personnel Drill and Ceremonies

Chapter 2: Commands and the Command Voice
Chapter 3: Individual Instruction
Chapter 4: Drill of a Flight

COURSE OBJECTIVES AND GOALS:

Science of Flight:

Course outcomes:

1. Examine the key principles of flight and how aircraft are designed to take advantage of the principles of flight.
2. Examine the current and future methods for powering aircraft.
3. Analyze weather patterns and their effects on flight.

4. Evaluate the impacts of different flight regimes on the human body and methods for protecting humans during flight.
5. Evaluate the fundamental principles of flight navigation.
6. Examine the key aspects of flight safety and potential careers in the aviation industry.

Leadership Education 200:

Course Outcomes:

1. Analyze the key factors in communication and critical thinking.
2. Apply the elements of effective writing and public speaking.
3. Analyze the importance of attitude in daily life.
4. Evaluate the ways in which personality and behavior affect relationships with others.
5. Analyze the foundation for an effective team.
6. Apply effective problem-solving and consensus-building methods.
7. Analyze the Air Force leadership model.
8. Evaluate effective leadership and followership

Leadership Education 100:

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.

Drill and Ceremonies:

1. Know the importance of drill and ceremonies.
2. Know basic commands and characteristics of command voice.
3. Apply and execute the concepts and principles of basic drill positions and movements.
4. Know when and how to salute.

Wellness and Physical Fitness:

1. Motivate AFJROTC cadets to lead active, healthy lifestyles beyond program requirements and into their adult lives.
2. Create an individualized training program based on national standards by age and gender.
3. Identify areas of improvement for each cadet.
4. Incorporate a physical training program to reach goals

COMMUNITY SERVICE: Cadets will have multiple opportunities to perform Air Force JROTC-sponsored volunteer community service throughout.

CURRICULUM IN ACTION TRIPS (CIA)/FIELD TRIPS: Cadets have opportunities to participate in school-sponsored activities that serve as an extension of the AFJROTC curriculum. These trips may include The National Museum of the Air Force, Regional Military Ball, etc. Cadets must be in good academic and disciplinary standing to participate.

Class attendance, preparation and participation: Cadets earn grades commensurate with their class participation and effort. Cadets who are not present or prepared cannot participate fully in class.

Class Behavior: The nature of the AFJROTC mission, as well as its high visibility within the school and community, requires its members to adhere to higher standards than might be found among the student population. **Inappropriate behavior**, in or out of uniform, is prohibited while participating in AFJROTC.

Cell Phones: Cell phone policy is in accordance with Hayes High School policies. Mobile phones must remain turned off and out of sight in the History of Flight and Leadership 3 class. Smartphones, laptops, and other hand-held electronic devices may be used with instructor's permission to take notes or engage in online learning activities. Any student who refuses to put away or surrender their phone or handheld device will be considered insubordinate and will be referred to the Dean of Students.

Grades:

Grades from the Aerospace Science portion of the course count 40% of the AFJROTC final grade and will be graded by the SASI. The Leadership Education and drill portion of the grade counts 40% of the final grade and will be graded by the ASI. The Wellness portion of the program counts for the remaining 20% of the final grade and will be graded by the ASI. Weekly uniform wear is scored, and habitual failure to wear the uniform and to maintain grooming and appearance standards could result in a failing grade and possible dismissal from the program. Refer to your *Cadet Handbook* for details on the proper wear of the uniform.

Term Grades are based on the percentage of correct responses achieved in quizzes, tests, in-class worksheets, graded homework assignments, and other projects, doing your best during physical training, as well as on-time and correct uniform wear in accordance with the current year edition of the *Cadet Handbook*.

The Delaware City Schools grading procedure uses a method of grade computation based on recording and averaging numerical percentage grades, including semester exams, throughout the length of the course. Semester and semester exam percentage grades will be converted to a letter grade for the permanent record.

To compute the final grade for the course, the following procedure is used:

1. Add the term percentage for each of the four terms and multiply by 2.
2. Add the percentages for each semester exam.
3. Divide the total for the terms and exams by 10.
4. Convert this percentage to a letter grade according to the following scale.

98% - 100%	A+	93 - 97%	A	90% - 92%	A-
87% - 89%	B+	83 - 86%	B	80% - 82%	B-
77% - 79%	C+	73 - 76%	C	70% - 72%	C-
67% - 69%	D+	63 - 66%	D	60% - 62%	D-
				Below 60%	F