# *AIRPOWER II: AIRPOWER THOUGHT AND APPLICATION SINCE VIETNAM*

**SYLLABUS**
**AY21**

**31 July 2020**

**JOINT PROFESSIONAL MILITARY EDUCATION**
**PHASE I INTERMEDIATE LEVEL COURSE**

**UNITED STATES AIR FORCE**
**AIR COMMAND AND STAFF COLLEGE**
***21st Century Leaders for 21st Century Challenges***

**AIR COMMAND AND STAFF COLLEGE**
**MAXWELL AFB, AL**

## FOREWORD

This syllabus for the Airpower II course for the Air Command and Staff College, January 2021, provides both an overview of the course narrative, objectives and questions, as well as a detailed description of each lesson to assist students in their reading and preparation for lecture and seminar. Included herein is information about course methods of evaluation, schedule, and the fulfillment of joint professional military education core goals.

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**AIRPOWER II**
**COURSE OVERVIEW**

## ACSC RESIDENT PROGRAM OUTCOMES

Airpower II (AP2) addresses three of the five ACSC Resident Program Outcomes:

**Outcome 2: Articulate the capabilities and limitations of military force, particularly airpower, in the effective integration of the instruments of national power.** AP2 facilitates historical analysis of the capabilities and limitations of airpower and military power writ large for operations since Vietnam. Moreover, the group research project asks students to tussle with challenges to the application of air, space, and cyber power for the next quarter century.

**Outcome 3: Analyze the effects of the global security environment on the achievement of operational objectives.** AP2 has made significant strides with the addition of context lectures, designed to do exactly this. The inclusion of three context lectures in AY20—for the 80s, the post-Cold War, and post 9/11—will perpetuate this course strength.

**Outcome 4: Apply military theory, operational art, joint concepts, and doctrine to develop effective warfighting plans for multi-domain operations.** While AP2 does not develop warfighting plans for multi-domain operations, feedback from AY19 has already demonstrated that the examination of past operations and the near future in AP2 stimulates thinking about military theory, operational art, and the connections between operations and strategy.

## COURSE DESCRIPTION

Airpower II examines the development of airpower from the Vietnam War through the present and into the future. Picking up from AP1, this course analyzes the key ideas, capabilities, organizations, practices, and limitations that frame the conduct of air warfare in the twenty-first century. The case-studies examined in AP2 continue to inform debates about airpower's purpose, utility, and effectiveness. Course readings, lectures, seminar discussions, and a project will cultivate adaptive leaders and critical airpower thinkers by challenging officers to examine the evolution of airpower and how it serves national security outcomes.

## COURSE OBJECTIVES

1. Comprehend the development and employment of airpower as a component of military power and national power from Vietnam to the present.
2. Apply lessons learned from the evolution of joint airpower since Vietnam to present and future air, space, and cyber challenges. This objective builds upon AP1 Course Objective #4—Comprehend the lessons of airpower history to analyze the capabilities, limitations, and effectiveness of airpower in the current and future joint fight to fulfill national security outcomes in complex and uncertain environments.
3. Analyze the capabilities, limitations, and effectiveness of airpower to fulfill national security outcomes in the next quarter century. This objective builds upon Course Objective #2. Additionally, the Group Project fulfills this level of learning by asking students to identify a problem facing air, space, and cyber power for the next 25 years, and to develop a solution to that problem.

4. Comprehend the relationship between current doctrine and the application of airpower at the tactical and operational levels of war.

## COURSE ORGANIZATION AND NARRATIVE

In a 2017 book titled *The Future of War: A History*, Lawrence Freedman identifies three distinct periods in the history of twentieth century conflict. The first period was dominated by great power conflict in which the militaries of the great powers focused on attaining decisive victories to end wars as quickly as possible. This period included the First and Second World Wars and lasted until the end of the Cold War. What followed has been defined by various terms such as the "End of History," the "Unipolar Moment," and the "*Pax Americana*." Although these ideas suggested a future of peace and prosperity, the rising prevalence of irregular wars indicated that utopian optimism was unfounded. In a series of conflicts from Africa to the Balkans to the Middle East, Western militaries found that traditional strategies for decisive battles often failed to produce satisfying national security outcomes.

By the twenty-first century, many strategists had attempted to rethink strategy for an age of so-called "New Wars" that required less kinetic force and more nuanced strategies. Yet just as Western militaries were refocusing on irregular wars, Freedman identifies a shift to a third period that involves a renewed possibility for great power conflict. The rise of China and the resurgence of Russian power and aggressiveness, along with states like Iran and North Korea, indicate that great power wars are a possibility that Western militaries cannot ignore. How to prepare for big wars while still possessing the right strategies for smaller, irregular wars has become a central challenge for the American military. The fact that it and its partners have to achieve this delicate balance amid an on-going Information Revolution in which technology is increasing the prominence of the space and cyber domains makes this an even greater challenge.

AP1 and AP2 employ Freedman's model to examine the development and employment of airpower in the twentieth and twenty-first century. Both courses use historical case studies to promote critical thinking about the capabilities and limitations of airpower as a tool of national security strategy. Given the terrible human and material costs of conventional great power wars, American military leaders have devoted considerable effort to winning them as quickly and decisively as possible. In particular, the bloody stalemate of the First World War – perhaps best epitomized by the slaughter at Verdun – drove interest in achieving decisiveness in warfare. As you learned in War Theory, airpower provided one of the most attractive means of achieving decisiveness, either by destroying the enemy surface forces from the air or by attacking the enemy's home front. It was in this context of great power conflict and total war that airpower was born.

For most American airmen, the outcome of the Second World War vindicated their belief that airpower was an instrument of decisiveness and that it produced inherently strategic effects. This idea became foundational for the newly independent US Air Force in 1947, and it remains essential today. In the context of the Cold War, both conventional and nuclear airpower were used to deter the Soviet Union and to achieve decisive victory if deterrence failed. At the same time, American involvement in limited proxy wars in Korea and Vietnam forced the USAF to adapt to other forms of warfare. Finding the proper balance between tactical, operational, and strategic levels of war became a central concern for American

airpower, especially as tactical and operational success in Korea and Vietnam did not translate into clearly achieved strategic objectives. In particular, the ability of the USAF – and airpower – to achieve decisive victory seemed highly suspect after Vietnam.

What followed was nothing less than an attempted transformation of American airpower. Remaining focused on possible war with the Soviet Union and other conventional threats, the USAF pursued new ways of training and new doctrine to stay ahead in the fight. At the same time, the continued expansion of American deterrence capabilities in air and space left the Soviet Union strategically disadvantaged. When the Cold War ended, the American military strategy seemed to have been largely validated. Not long after, the aggression of Saddam Hussein's Iraq was countered in Operation Desert Storm. Coming at the end of the Cold War, Desert Storm seemed to display airpower's potential to achieve decisive victory in any regional conflict that the United States and its allies were likely to embark upon.

Unlike the preceding century, the 1990s were characterized by the absence of foreseeable great power conflict. The USAF was reformed in light of a new geopolitical and military theory that suggested it would most likely not fight in great power conflicts. Instead, it had to be prepared to intervene when necessary in smaller regional conflicts and civil wars. In 1999, the Kosovo conflict provided an opportunity to test this new paradigm. Though debate persists regarding the exact impact of airpower in the success of Operation Allied Force, most observers recognize that airpower greatly contributed to the outcome, with some claiming that OAF demonstrated airpower's ability to win wars by itself.

This period also witnessed the development of significant practices in how the USAF projects air, space, and cyber power, which today are codified in joint and service doctrine. Specifically, the Joint Forces Air Component Commander, the Air Operations Center, and the Air Expeditionary Force—standards of service practice today—came into being during this period. Additionally, the USAF refined in the past two decades how it performs its core missions: air and space superiority; intelligence, surveillance and reconnaissance; rapid global mobility; global strike; and command and control.

The confidence and certainty with which Americans entered the twenty-first century was shaken but not destroyed by the events of 9/11. As the United States embarked upon Operation Enduring Freedom, the belief that airpower and other forms of military power would produce decisive results was nearly unquestioned. And in fact, the campaign did decisively defeat the Taliban and helped destroy Al Qaeda's global terrorist network. In 2003, Operation Iraqi Freedom's "shock and awe" campaign saw airpower topple the regime of Saddam Hussein, seemingly producing even greater decisiveness than ODS. Yet in both Afghanistan and Iraq, violent insurgencies soon undermined American confidence in the military's ability to bring about positive strategic outcomes.

Today, as we face increased uncertainty regarding the future, the American military may be left with significant questions about the proper role of airpower. As land and sea power remain vital to American national security, and as space and cyber power continue to develop and evolve amid an on-going Information Revolution, the USAF faces the challenge of achieving strategic effect with airpower through multiple domains. While terrorists and

insurgents remain significant threats to American national security, we are already seeing a return to great power rivalry and conflict. While the future is always unclear, it seems likely that the emergence of near-peer threats will profoundly shape American national security strategy. After careful study and discussion of the historical and contemporary development of airpower, you will be better prepared to help develop the best course of action to ensure that airpower remains capable of achieving national security outcomes.

AP2 engages with the above narrative and issues through eleven days of lessons and four days dedicated to a capstone project. The eleven days provide students with historical context, experience-based perspectives, and case-studies that together will help students assess airpower's ongoing role in American national security. Lessons range from the post-Vietnam War reforms, Operation Desert Storm, Operation Allied Force, the War on Terror, the rising prominence of Space and Cyber, and contemporary wars. The capstone project will ask students to draw from insights gained from course materials as well as independent student research to solve problems that might inhibit airpower's ability to meet current and future national security challenges.

## JOINT LEARNING AREAS AND OBJECTIVES (JPME-1)

AP2 addresses Intermediate-Level College Joint Learning Areas and Objectives for Joint Professional Military Education (JPME), established by the Chairman of the Joint Chiefs of Staff via the Officer Professional Military Education Policy (OPMEP), CJCSI 1800.01E, signed 29 May 2015. The course supports the following Joint Learning Areas and Objectives, listed below with points of explanation:

**Learning Area Objective 1 – National Military Capabilities Strategy**

a. Comprehend the capabilities and limitations of US military forces to conduct the full range of military operations in pursuit of national interests.
   - Lessons AP-601, AP-603, AP-604, AP-606, AP-607, AP-609, AP-610, AP-611, AP-612, AP-613, AP-614, AP-615, AP-616, AP-617, AP-618, AP-619, AP-620, AP-621, AP-622, AP-623 discuss the capabilities and limitations of US military forces and technologies from both theoretical and historical contexts in achieving strategic objectives at the tactical and operational levels of war.

b. Comprehend the purpose, roles, authorities, responsibilities, functions, and relationships of the President, the Secretary of Defense, National Security Council, Homeland Security Council, Chairman of the Joint Chiefs of Staff, Joint Chiefs of Staff, Combatant Commanders, Joint Force Commanders, Service component commanders, and combat support agencies.
   - Lessons AP-602, AP-603, AP-605, AP-606, AP-607, AP-608, AP-609 discuss the US national leadership and senior military leadership's changes to policy and strategy during periods of geopolitical change, and the subsequent effect on military organization and strategy during such periods.

c. Comprehend how the US military is organized to plan, execute, sustain, and train for joint, interagency, intergovernmental, and multinational operations.
   - Lessons AP-602, AP-606, AP-607, AP-611, AP-613 relate/examine historical and current US military and airpower structures (people/units, equipment, employment, limitations) to meet national-level military and political objectives in a complex and uncertain environment.

d. Comprehend strategic guidance contained in documents such as the National Security Strategy, the Quadrennial Defense Review, National Military Strategy, Global Force Management Implementation Guide (GFMIG), and Guidance for Employment of the Force
   - Lessons AP-602, AP-605, AP-608, AP-609, AP-612 discuss in lectures and in seminar important historical changes to the National Security Strategy and the National Military Strategy, especially in the wake of significant periods of geopolitical change.

**Learning Area Objective 2 – Joint Doctrine and Concepts**

a. Comprehend current joint doctrine
   - Lessons AP-609, AP-612, AP-614 examine joint doctrine as it relates to air, space, and cyber power.
b. Comprehend the interrelationship between Service doctrine and joint doctrine.
   - Lessons AP-609, AP-612, AP-614 examine service doctrine and joint doctrine and the complexities of integrating airpower capabilities and effects that contrast historical/current airpower theories of employment.
c. Apply solutions to operational problems in a volatile, uncertain, complex or ambiguous environment using critical thinking, operational art, and current joint doctrine.
   - Lessons AP-601, AP-602, AP-603, AP-604, AP-605, AP-606, AP-607, AP-608, AP-609, AP-610, AP-611, AP-612, AP-613, AP-614, AP-615, AP-616, AP-617, AP-618, AP-619, AP-620, AP-621, AP-622, AP-623 examine both continuity and change in the conduct of war and the changing character of conflict. Additionally, they address the adaptation and assessment of framing/re-framing objectives, lines of effort, and measures of performance in meeting strategic questions and objectives.

**Learning Area Objective 3 – Joint & Multinational Forces at the Operational Level of War**

a. Comprehend the security environment within which Joint Forces are created, employed, and sustained in support of JFCs and component commanders.
   - Lessons AP-601, AP-602, AP-603, AP-604, AP-605, AP-606, AP-607, AP-608, AP-609, AP-610, AP-611, AP-612, AP-613, AP-614, AP-615, AP-616, AP-617, AP-618, AP-619 address the complexities of the changing security environment since Vietnam, and the effect of such changes on how Joint Forces are created, employed, and sustained.
b. Comprehend Joint Force command relationships.
   - Lessons AP-602, AP-603, AP-606, AP-610, AP-611, AP-612, AP-613, AP-614, AP-617, AP-618, AP-619 examine and analyze the strategic, operational, and tactical level conduct of air forces and its leaders in relation to the overall command structures and how the use of the airpower weapon contributes to the overall conduct of war, including continuity and change in the relationships between them.
c. Comprehend the interrelationships among the strategic, operational, and tactical levels of war.
   - Lessons AP-603, AP-604, AP-606, AP-607, AP-610, AP-611, AP-612, AP-613, AP-614, AP-615, AP-616, AP-617, AP-618, AP-619 explain the theory and principles of joint operations at the operational level of war via historical case studies and examples.

d. Comprehend how theory and principles of joint operations pertain to the operational level of war across the range of military operations to include traditional and irregular warfare that impact the strategic environment.
   - Lessons AP-601, AP-602, AP-603, AP-604, AP-605, AP-606, AP-607, AP-608, AP-609, AP-610, AP-611, AP-612, AP-613, AP-614, AP-615, AP-616, AP-617, AP-618, AP-619 correlate airpower theory and principles of joint operations to recent and contemporary military operations.

e. Comprehend the relationships between all elements of national power and the importance of comprehensive approaches, the whole of government response, multinational cooperation, and building partnership capacity in support of security interests.
   - Lessons AP-602, AP-603, AP-604, AP-606, AP-607, AP-608, AP-609, AP-610, AP-615, AP-616, in examining military operations in the past 25 years, include content and discussion of comprehensive approaches, multinational cooperation, and partnership.

f. Analyze a plan critically for employment of joint and multinational forces at the operational level of war.
   - Lessons AP-602, AP-610, AP-615, AP-616 critically examine past and ongoing military operations involving joint and multinational forces.

g. Comprehend the relationships between national security objectives, military objectives, conflict termination, and post conflict transition to enabling civil authorities.
   - Lessons AP-602, AP-603, AP-604, AP-605, AP-606, AP-607, AP-608, AP-609, AP-610, AP-611, AP-612, AP-613, AP-614, AP-615, AP-616, AP-617, AP-618, AP-619 specifically ask how military objectives in major combat operations supported national security objectives, and force students to consider that military power is only useful to the extent that it fulfills meaningful national security objectives. Additionally, these lessons unpack the complexities and nuances of conflict termination and winning the peace.

**Learning Area Objective 4 – Joint Planning and Execution Process**

a. Comprehend the relationship among national objectives and means available through the framework provided by the national level systems.
   - Lessons AP-602, AP-605, AP-608, AP-611, AP-613 examine the 1980s, 1990s, 2000s, space, and cyberspace. Each of these lectures examines national objectives and components of the means available through national-level systems to support and conduct operations.

b. Comprehend the fundamentals of joint operation planning across all phases of a joint operation.
   - Lesson AP-607 introduces the Joint Operations Planning Process for Air (JOPP-A) and explains its relationship to the Joint Operations Planning Process.

c. Comprehend the integration of joint functions (command and control, intelligence, fires, movement and maneuver, protection and sustainment) to operational planning problems across the range of military operations.
   - Lessons AP-603, AP-604, AP-606, AP-607, AP-610, AP-615, AP-616 discuss the capabilities and limitations of operational planning and joint functions across the range of military operations in theoretical and historical context.

d. Comprehend how planning for OCS across the joint functions supports managing the effects contracting and contracted support have on the operational environment.

- Lesson AP-608 examines the increased role of contractors in ongoing operations in Afghanistan and Iraq, and the subsequent codification in joint doctrine of contractor functions and integration with joint forces.

e. Comprehend the integration of IO and cyberspace operations with other lines of operations at the operational level of war.
   - Lessons AP-603, AP-604, AP-606, AP-607, AP-613, AP-614, AP-615, AP-616, AP-617, AP-618, AP-619 discuss information operations as components of historical and contemporary military operations.

f. Comprehend the roles that factors such as geopolitics, geostrategy, society, region, culture/diversity, and religion play in shaping planning and execution of joint force operations across the range of military operations.
   - Lessons AP-602, AP-603, AP-604, AP-605, AP-606, AP-607, AP-608, AP-609, AP-610, AP-615, AP-616 examine the myriad of responses to the implementation of aviation and its capabilities in effecting the outcome of major conflict while being measured against geopolitical, societal, cultural, and religious factors to include an understanding of how to manage emerging vulnerabilities and the risks to US and global security interests.

g. Comprehend the role and perspective of the Combatant Commander and staff in developing various theater policies, strategies and plans.
   - Lessons AP-603, AP-604, AP-606, AP-607, AP-609, AP-610, AP-615, AP-616 discuss the capabilities and limitations of operational planning and functions across the range of military operations in theoretical and historical context to include examining the roles and actions of military leaders in the shaping and implementation of plans and operations to meet objectives within a theater.

h. Comprehend the requirements across the joint force, Services, inter-organizational partners and the host nation in the planning and execution of joint operations across the range of military operations.
   - Lessons AP-603, AP-604, AP-606, AP-607, AP-609, AP-610, AP-615, AP-616 discuss the requirements and the capabilities and limitations of operational planning across multiple organizations and functions across the range of military operations in theoretical and historical context.

**Learning Area Objective 5 – Joint Command and Control**

a. Comprehend the organizational options, structures and requirements available to joint force commanders.
   - Lessons AP-603, AP-604, AP-606, AP-607, AP-609, AP-610, AP-615, AP-616 relate/examine historical and current US military and airpower structures (people/units, equipment, employment, limitations) to meet national-level military and political objectives in a complex and uncertain environment. Additionally, they address the ability to assess and adapt strategies across the spectrum of conflict.

b. Comprehend the factors of intent through trust, empowerment and understanding (Mission Command), mission objectives, forces, and capabilities that support the selection of a specific C2 option.
   - Lessons AP-603, AP-604, AP-606, AP-607, AP-609, AP-610, AP-615, AP-616 discuss the effects of the interplay of strategy and technology, functions of leadership and reliable intelligence in shaping the command and control of an aerial campaign.

c. Comprehend the effects of networks and cyberspace on the ability to conduct Operational Joint Command and Control.

- Lessons AP-603, AP-604, AP-606, AP-607, AP-610, AP-613, AP-614, AP-615, AP-616, AP-617, AP-618, AP-619 discuss the effects of the interplay of strategy and technology, functions of leadership and employment of airpower in conjunction with early issues affecting the communications/intelligence collection/reporting and functional exercise of C2 in a joint operational environment.

**Learning Area Objective 6 – Joint Operational Leadership and the Profession of Arms**

a. Comprehend the role of the Profession of Arms in the contemporary environment.
   - Lessons AP-603, AP-604, AP-606, AP-607, AP-617, AP-618, AP-619 examine the roles and actions of military leaders in the shaping and implementation of the Profession of Arms in the contemporary environment.

b. Comprehend critical thinking and decision-making skills needed to anticipate and recognize change, lead transitions, and anticipate/adapt to surprise and uncertainty.
   - Lessons AP-601, AP-606, AP-607, AP-609, AP-615 provide examples of theorists and practitioners anticipating and recognizing change in the conduct of war, whether the sources of such change are political, social, cultural or technological.

c. Comprehend the ethical dimension of operational leadership and the challenges it may present when considering the values of the Profession of Arms.
   - Lessons AP-607, AP-609, AP-610, AP-615, AP-616 examines and analyzes the human dimension and the challenge it presents in decision-making and strategy in relation to the values of the Profession of Arms.

d. Analyze the application of Mission Command (intent through trust, empowerment, and understanding) in a Joint, Inter-Agency, Inter-Governmental, and Multi-National (JIIM) environment.
   - Lessons AP-617, AP-619 examine present and future conflict, to include air, space, and cyberspace operations in highly-contested environments, and the need for adaptable, mission-command oriented command and control in such operations.

e. Communicate with clarity and precision
   - Lessons AP-620, AP-621, AP-622, AP-623 focus on group projects and writing assignments, designed to prepare students to think and write critically about military operations.

f. Analyze the importance of adaptation and innovation on military planning and operations.
   - Lessons AP-601, AP-603, AP-604, AP-606, AP-607, AP-609, AP-610, AP-611, AP-612, AP-613, AP-614, AP-615, AP-616, AP-617, AP-618, AP-619 analyze the importance of adaption and innovation on military planning and operations in both military theory and contemporary and historical cases.

## SPECIAL AREAS OF EMPHASIS (SAE)

**SAE 1: The Return to Great Power Competition:**

AP-601, AP-602, AP-611, AP-612, AP-613, AP-614, AP-615, AP-616

**SAE 2: Globally Integrated Operations in the Information Environment:**

AP-615, AP-616

**SAE 3: Strategic Deterrence in the 21st Century:**
AP-602

**SAE 4: Modern Electromagnetic Spectrum Battlefield:**
AP-603, AP-606, AP-607, AP-613, AP-614, AP-615, AP-616, AP-617, AP-618, AP-619

**SAE 5: Space as a Warfighting Domain:**
AP-611, AP-612, AP-617, AP-618, AP-619

**SAE 6: Ability to Write Clear and Concise Military Advice Recommendations:**
AP-620, AP-621, AP-622, AP-623

## COURSE REQUIREMENTS

1. **READINGS.** Students are expected to complete all assigned readings for the day prior to lecture and seminar. Students are encouraged to review the lesson objectives and overviews provided in the syllabus before reading the assigned texts.

2. **LECTURES.** Students will observe faculty lectures relating to assigned readings and seminar. These presentations complement the readings and seminar discussion, and therefore enhance knowledge of the course concepts. Lectures include context lectures, that provides a geopolitical summary of the period, and experience lectures from a distinguished scholar or a key participant in the war being examined.

3. **SEMINAR PARTICIPATION.** Student participation in seminar discussions is vital to individual learning and success. Each member of seminar is expected to contribute to the discussion.

4. **DELIVERABLES.** Three 1-page response papers are due at the end of the first three weeks of the course. For the final project, students will form groups and prepare a formal presentation and 10-page research paper that identifies a problem facing air, space, and cyber power's ability to fulfill future national security outcomes.

5. **METHODS OF EVALUATION.** Each 1-page response paper is worth 15% of the course grade (45% total). The remaining 55 percent of the course grade comes from the group project at the end of the course. Students will receive 30 percent of their grade for their part of the formal briefing. Additionally, they will receive 25 percent for the group paper grade.

## COURSE ADMINISTRATION

There are two types of readings in this course: 1) readings from books issued by ACSC; and 2) selected electronic files posted on Canvas indicated as "**[EL]**" (electronic). Students can access the syllabus, course calendar, and selected readings as well as other supplemental materials online. In addition, lecture slides will be posted when available after the lecture.

ACSC provides students with copies of the following course books, which must be returned at the conclusion of the course:

- Gordon, Michael R. and Bernard E. Trainor, *The Generals' War.* Little, Brown & Company, 1995.
- Laslie, Brian D. *The Air Force Way of War: U.S. Tactics and Training after Vietnam.* Lexington, KY: University Press of Kentucky, 2015.
- Olsen, John A., ed. *Airpower Reborn: The Strategic Concepts of John Warden and John Boyd.* Annapolis, MD: Naval Institute Press, 2015.
- Olsen, John A. *A History of Air Warfare.* Dulles, VA: Potomac Books, 2010.
- Pittard, Dana J.H. and Wes J. Bryant, *Hunting the Caliphate: America's War on ISIS and the Dawn of the Strike Cell.* New York: Post Hill Press, 2019.
- Romesha, Clinton. *Red Platoon: A True Story of American Valor.* New York: Dutton, 2016.
- Sanger, David E. *The Perfect Weapon: War, Sabotage, and Fear in the Cyber Age.* New York: Broadway Books, 2019.
- Wrage, Stephen D. *Immaculate Warfare: Participants Reflect on the Air Campaigns over Kosovo and Afghanistan.* Praeger Publishing, 2003.

Please refer any questions to Dr. Ed Redman, Course Director at edwin.redman.1@us.af.mil or edwin.redman.1@au.af.edu, Office #118.

**AIRPOWER II:**
**AIRPOWER THOUGHT AND APPLICATION SINCE VIETNAM**

**COURSE SCHEDULE**

**DAY 1: COURSE INTRODUCTION**

**DATE:** 5 January 2021

## LESSON OBJECTIVES

1. Comprehend the course objectives, narrative, syllabus, methods of evaluation, and expectations for seminar.
2. Comprehend how the legacy of the Vietnam War and the ongoing Cold War influenced the organizational, technological and intellectual development of airpower in the 1980s.
3. Comprehend the strategic implications of the USAF's emphasis on training and technology in the aftermath of Vietnam.

## LESSON OVERVIEW

**AP-600 (L): Course Overview (Dr. Ed Redman/Lt Gen (Ret.) Allen Peck)**

**Overview:** This lecture introduces the course, syllabus, and lessons as a means to examine airpower and US national security during the period. Additionally, this lecture introduces the group research project.
*CONTACT HOURS: 1.0-hour lecture*

**AP-601 (Seminar): Learning from Disaster? Military Reforms after Vietnam**

**Overview: (Assessment)** The readings and lectures provide significant content for a discussion about the Air Force's operational focus after Vietnam and its relevance with regard to national security imperatives during the period. What was the strategic imperative for the Air Force's (and the US military's) focus on Central Europe after Vietnam? Having adopted a flawed strategy for air in Vietnam, how did the USAF envision airpower as an instrument for fulfilling national interests in the decade following the war? If the Air Force had produced Red Flag exercises and tactically oriented fighters like the F-16 before Vietnam, would these innovations have produced better outcomes for the war? These questions highlight the complexity of the post-Vietnam period, and the Air Force's struggle to connect operations with strategy in this early, new Cold War era. **Instructors will use the last portion of this seminar to discuss the group project.**
*CONTACT HOURS: 1.5-hour seminar*

## REQUIRED READINGS

1. Brian Laslie, *The Air Force Way of War*, ix-98. (104 pages)
   Context: Laslie argues that the Air Force responded to failures experienced in Vietnam by reorienting its service, both organizationally and functionally, around training. Red Flag training exercises, the replacement of SAC with TAC as the dominant command in the service, and Gen Bill Creech's focus on training and tactics, that led to the development of tactical aircraft such as the A-10, F-15, F-16, and F-117, serve as signposts to the post-war shaping of the Air Force.

2. Colin Gray, "Airpower Theory," in Olsen, ed., *Airpower Reborn*, 156-180. (25 pages)
   Context and Assessment: Gray presents his theory for airpower, including his "27 dicta." Several in the list implicitly link meaningful airpower to the fulfillment of national security outcomes (The key theme for Airpower I and II). For example, his fifteenth dictum—*Airpower has strategic effect, but it is not inherently strategic*—includes a profound warning for airmen and strategists: "After all, if some or all of my airpower is by definition…inherently strategic, there is little necessity to think beyond what it might do to what might be the consequences of what it does." Gray's dicta will surface repeatedly in seminar discussion throughout Airpower II.

**RECOMMENDED READING**

1. "Learning the Not So Obvious Lessons," *Air Force Magazine* (March 2017), 68-72. (5 pages) **[EL]**

2. Richard P. Hallion, "Air and Space Power: Climbing and Accelerating," in John A. Olsen, ed., *A History of Air Warfare* (Potomac Books, 2010), 371-393. (23 pages)

**JOINT LEARNING AREAS AND OBJECTIVES (JPME-1)**

AP-600 supports the following Joint Learning Areas and Objectives for JPME: None.

AP-601 supports the following Joint Learning Areas and Objectives for JPME: 1a, 2c, 3a, 3d, 6b, and 6f as well as SAE 1.

## DAY 2: END OF THE COLD WAR, OPERATION DESERT STORM

**DATE:** 7 January 2021

### LESSON OBJECTIVES

1. Comprehend the Reagan Administration's efforts to shift the balance of power in the Cold War by strengthening US military power and by introducing the Strategic Defense Initiative.
2. Comprehend the planning and execution of Operation Desert Storm (ODS), and consider the ways it reflected the American military's broader approach to war in the post-Vietnam era.
3. Comprehend how America's victory in 1991 appeared to validate the institutional path taken by the American military since the end of the Vietnam War.

### LESSON OVERVIEW

**AP-602 (Lecture): Reagan/Bush and the Last Years of Cold War (Dr. Mike Pavelec)**

**Overview: (Context)** The United States under Presidents Reagan and George H.W. Bush embraced an aggressive Cold War posture towards the Soviet Union in Europe but also in the Middle East. Reagan did not just "double down" on defense spending and military power as the backbone of national security; he shifted the conceptualization of nuclear deterrence away from Mutual Assured Destruction when he announced the Strategic Defense Initiative as a means to neutralize the threat of enemy nuclear forces. The tearing down of the Berlin Wall and the opening of the Brandenburg Gate in late 1989 signaled the end in sight for the Soviet Union and the Warsaw Pact; it also beckoned boldness in places where the Cold War had previously dictated restraint. Thus, events in Europe as much as in the Middle East may have influenced Saddam Hussein to invade Kuwait the following year.

*CONTACT HOURS: 1.0-hour lecture*

**AP-603 (Lecture): Operation Desert Storm (Dr. John Terino)**

**Overview: (Experience)** Operation Desert Storm—our redemptive war after Vietnam—seemed to validate the U.S. approach to conventional military operations, the Reagan military buildup, and the USAF's focus on training in the two decades leading up to 1991. This war also witnessed the establishment of the Air Component Commander—a single airman responsible for all air operations in theater. This lecture examines the geopolitical underpinnings of the war, the air and ground phases of the war, and the legacy for airmen and others of this successful but complicated military operation.

*CONTACT HOURS: 1.0-hour lecture*

### REQUIRED READINGS

See Required Readings for Day 3.

### RECOMMENDED READING

See Recommended Readings for Day 3.

### JOINT LEARNING AREAS AND OBJECTIVES (JPME-1)

AP-602 supports the following Joint Learning Areas and Objectives for JPME: 1b, 1c, 1d, 2c, 3a, 3b, 3d, 3e, 3f, 3g, 4a, and 4f as well as SAE 1 and 3.

AP-603 supports the following Joint Learning Areas and Objectives for JPME: 1a, 1b, 2c, 3a, 3b, 3c, 3d, 3e, 3g, 4c, 4e, 4f, 4g, 4h, 5a, 5b, 5c, 6a, and 6f as well as SAE 4.

**DAY 3: DESERT STORM—THE EXCEPTIONAL AIR WAR—AND THE CFACC**

**DATE:** 8 January 2021

## LESSON OBJECTIVES

1. Comprehend the early implications for global security of the pending collapse of the Soviet Union.
2. Comprehend the role of ODS in transforming airpower into the premier military instrument of choice for American policymakers in subsequent decades.
3. Comprehend the role of the J/CFACC as described in joint/service doctrine.

## LESSON OVERVIEW

**AP-604 (Seminar): The Gulf Air War—A Masterpiece, But Also an Archetype?**

**Overview: (Assessment)** The readings and lectures invite seminar discussion on how well the 1991 air war reconciled operational effectiveness with meaningful national security outcomes. Additionally, given the high praise for Operation Desert Storm, and, more specifically, its air campaign, how well did this conceptualization of airpower serve our nation since 1991? Finally, seminar discussion will include joint and service doctrine and the role of the CFACC.

- **DELIVERABLE: WEEK ONE RESPONSE PAPER DUE BY CLOSE OF BUSINESS (COB)**
- **GROUP PROJECT DELIVERABLE: Seminars will identify three group project teams. Each team will identify to the seminar instructor its general research problem/question.**

*CONTACT HOURS: 1.5-hour seminar*

## REQUIRED READINGS

1. John Andreas Olsen, "Operation Desert Storm, 1991," in J.A. Olsen, ed., *A History of Air Warfare,* 177-200. (24 pages)
   Context and Assessment: Olsen's excellent assessment of the Gulf War in 1991 benefits from two decades of hindsight and his singular analytical sensibilities, especially with regard to the impact of Operation Desert Storm on airpower's legacy. His assessment is ominous: "This muddled aftermath of an apparently decisive military campaign demonstrates the importance of thinking beyond purely military operations to envision ways of achieving a sustainable peace."[1] Olsen's description of uncertain outcomes and airpower's role in 1991 serves as the cornerstone for seminar discussion regarding this war, airpower's operational effects, and strategic outcomes.

2. Michael R. Gordon and Bernard E. Trainor, *The Generals' War*, Chapters 4, 5, 9, and 15 (90 pages)
   Context and Assessment: If Operation Desert Storm's legacy includes narrating how many in the USAF and the US think about employing airpower, *The Generals' War* effectively challenges some of those assumptions. Gordon and Trainor present a balanced assessment on what airpower did and did not do in 1991. Selected chapters address the development of the air campaign, the plan to dismantle the Iraqi air defense system, the

[1] Olsen, "Desert Storm," 200.

Iraqi operational perspective and US targeting responses, and the disagreements between airmen and ground commanders over strategy and operations.

3. Thomas A Keaney and Eliot A. Cohen, *Gulf War Air Power Survey Summary Report* (Washington, DC: Government Printing Office, 1993), 235-251. (16 pages) **[EL]**
   Context and Assessment: The Gulf War team produced an airpower survey that was more rigorous and honest than the US Strategic Bombing Surveys for Europe and the Pacific after World War II. However, plenty existed in the 1993 report to excite arguments for the universal utility of airpower, especially for those who examined the report with a biased eye. While downplaying the war's significance as a contest between a minor power and the sole superpower of the day with an inevitable outcome, the authors strongly hint at a transformation of airpower with unforeseen operational results.

4. Joint Publication 3-30, *Command and Control of Joint Air Operations*, Chapter I—Introduction and Chapter II—Command and Control of Joint Air Operations **[EL]** (27 pages)

5. USAF Doctrine Annex 3-30, *Command and Control*, Commanding Airpower (12 pages) **[EL]**

**RECOMMENDED READING**

1. Richard T. Reynolds, *Heart of the Storm: The Genesis of the Air Campaign against Iraq* (Maxwell AFB, AL: Air University Press, 1995), xi-134. (145 pages)

2. Joint Publication 3-30, *Command and Control of Joint Air Operations*, all.

3. USAF Doctrine Annex 3-30, *Command and Control*, all.

**JOINT LEARNING AREAS AND OBJECTIVES (JPME-1)**

AP-604 supports the following Joint Learning Areas and Objectives for JPME: 1a, 2c, 3a, 3c, 3d, 3e, 3g, 4c, 4e, 4f, 4g, 4h, 5a, 5b, 5c, 6a, and 6f.

## DAY 4: THE 90s AND OPERATION ALLIED FORCE

**DATE:** 11 January 2021

### LESSON OBJECTIVES

1. Comprehend how the end of the Cold War changed the global security environment and, accordingly, US national security prerogatives.
2. Comprehend the USAF's response to the changing security climate, including the dismantling of the Cold War organizational and doctrinal posture.
3. Comprehend how airpower, exemplified by Operation Allied Force, became the preferred military instrument of national security strategy in a period dominated by the apparent decline of great power conflict and the proliferation of civil wars and humanitarian crises.

### LESSON OVERVIEW

**AP-605 (Lecture): The Post-Cold War: Not an End, But a Beginning (Dr. Seb Lukasik)**

**Overview: (Context)** In *The Future of War: A History*, Lawrence Freedman viewed 1991 as the moment when warfare shifted its focus from contests between great powers and decisive, first blows, to dealing with what he calls civil wars.[2] After the Cold War, these civil wars—including intrastate conflict, terrorism, and insurgency—replaced interstate warfare as the global norm. Simultaneously, the United States attained hegemony and President Bill Clinton inherited the responsibility to negotiate US national security and world order in this new and complex environment. This lecture contrasts the 90s with the previous half century, and examines the rise of low-intensity conflict and terror along with the imperatives of post-Cold War genocide and liberalism.
*CONTACT HOURS: 1.0-hour lecture*

**AP-606 (Lecture): Airpower and a Fragile Coalition Answer an Atrocity (Lt Gen (Ret.) Allen Peck)**

**Overview: (Experience)** US Air Force Lt Gen (Ret.) Allen G. Peck played an instrumental role in the planning and execution of Operation Allied Force. The end of the Cold War helped unleash long-dormant ethnic and religious tensions in many parts of the world. In the Balkans, rivalries led to a series of military operations, interventions, and humanitarian crises that gained the attention of transnational organizations. This lecture briefly will review airpower operations in the Balkans during this period. It will then delve more deeply into the background leading to NATO's decision to use airpower to compel the Serbian leadership to cease atrocities against ethnic Albanians in the province of Kosovo. The discussion will address key planning and execution challenges for the Allied Force air operation and the degree to which these challenges were overcome.
*CONTACT HOURS: 1.0-hour lecture*

### REQUIRED READINGS

See Required Readings for Day 5.

### RECOMMENDED READINGS

See Recommended Readings for Day 5.

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[2] Lawrence Freedman, *The Future of War: A History* (New York: Public Affairs, 2017), xx.

**JOINT LEARNING AREAS AND OBJECTIVES (JPME-1)**

AP-605 supports the following Joint Learning Areas and Objectives for JPME: 1b, 1d, 2c, 3a, 3d, 3g, 4a, and 4f.

AP-606 supports the following Joint Learning Areas and Objectives for JPME: 1a, 1b, 1c, 2c, 3a, 3b, 3c, 3d, 3e, 3g, 4c, 4e, 4f, 4g, 4h, 5a, 5b, 5c, 6a, 6b, 6c, and 6f as well as SAE 4.

## DAY 5: OPERATION ALLIED FORCE AND THE AIR OPERATIONS CENTER

**DATE:** 12 January 2021

### LESSON OBJECTIVES

1. Comprehend the advantages and pitfalls of relying on kinetic airpower as the weapon of choice for resolving political and humanitarian crises in wars in which the concept of decisive victory does not apply.
2. Comprehend the utility of airpower as a coercive instrument in limited war versus the argument that Operation Allied Force (OAF) demonstrated the fulfillment of airpower's promise to produce decisive strategic outcomes on its own.
3. Comprehend how the Air Operations Center provides command and control and planning of airpower for coalition operations.

### LESSON OVERVIEW

**AP-607 (Seminar): Assessing Airpower and Allied Force**

**Overview: (Assessment)** The readings and lectures stimulate a debate regarding the strategic and operational effectiveness of the bombing of Yugoslavia in 1999. Allied Force's legacy is more complicated and contested than that of Desert Storm. Many airmen support historian John Keegan's favorable view that the Kosovo campaign validated airpower's ability to be singlehandedly decisive. Others contest this claim. Seminar discussion should assess the operational and strategic outcomes for the Balkans, and the implications for airpower's future in contributing towards meaningful national security outcomes. The second half of seminar will address the functions and positions in the Air Operations Center, including a brief introduction to the Joint Operations Planning Process for Air.

*CONTACT HOURS: 1.5-hour seminar*

### REQUIRED READINGS

1. Tony Mason, "Operation Allied Force, 1999," in J.A. Olsen, ed., *A History of Air Warfare*, 225-252. (28 pages)
   Context and Assessment: Mason's concise examination unpacks the different views held by General Clark (SACEUR) and General Short (the CFACC) for OAF's airpower strategy. Mason holds Allied Force above Desert Storm for its strategic success, its demonstration of a transformation in airpower and war, and its implications for warfare after 9/11.

2. Stephen D. Wrage, ed., *Immaculate Warfare,* all. (95 pages)
   Context and Assessment: Wrage presents Operation Allied Force from the perspective of officers that planned and flew the airstrikes against Slobodan Milosevic, his forces, and targets in Yugoslavia. This collection of essays highlight the differences in opinion concerning air strategy held by the NATO commander and his CFACC, the challenge facing airpower as the mechanism to coerce Milosevic and halt his ethnic cleansing campaign, and the operational and tactical complexities of this operation.

3. John Keegan, "Please, Mr. Blair, Never Take Such a Risk Again," *The Sunday Telegraph*, 6 Jun 1999. (3 pages) **[EL]**

Assessment: Keegan, among the most distinguished of military historians, stated in this short newspaper column that OAF proved airpower's ability to be strategically useful when employed alone.

**RECOMMENDED READINGS**

1. Benjamin S. Lambeth, *NATO's Air War for Kosovo: A Strategic and Operational Assessment* (Santa Monica, CA: RAND, 2001), 1-86 and 97-99. (89 pages)

2. "Military Space Dominates Air Strikes," *Aviation Week & Space Technology*, 29 March 1999, 30-34. (5 pages) **[EL]**

3. Clint Hinote, *Centralized Control and Decentralized Execution: A Catchphrase in Crisis?* (70 pages) **[EL]**

**JOINT LEARNING AREAS AND OBJECTIVES (JPME-1)**

AP-607 supports the following Joint Learning Areas and Objectives for JPME: 1a, 1b, 1c, 2c, 3a, 3c, 3d, 3e, 3g, 4b, 4c, 4e, 4f, 4g, 4h, 5a, 5b, 5c, 6a, 6b, 6c, and 6f as well as SAE 4.

**DAY 6: 9/11, THE WARS, AND THE AIR EXPEDITIONARY FORCE**

**DATE:** 14 January 2021

## LESSON OBJECTIVES

1. Comprehend the impact of the September 11th attacks on US national security.
2. Comprehend the application of military force in the Middle East as an immediate response to the terror attack of 9/11.
3. Comprehend why the major combat phases of Operations Enduring Freedom and Iraqi Freedom were followed by instability and insurgency in Afghanistan and Iraq.

## LESSON OVERVIEW

**AP-608 (Lecture): "Brought to You Courtesy of the Red, White, and Blue" (Dr. Ed Redman)**

**Overview: (Context)** This lecture examines the geopolitical landscape in the aftermath of the September 11 attacks against the United States and presents the major combat phases of Operations Enduring Freedom and Iraqi Freedom. It begins with President Bush's immediate response, including the invasion of Afghanistan to topple the Taliban regime, and his 2002 declaration of the "Axis of Evil," which foreshadowed the preventive war against Iraq begun in 2003. The lecture also addresses President Obama's inheritance and handling of the wars in the Middle East, the surge in Iraq, and the US and coalition efforts at counterinsurgency.

*CONTACT HOURS: 1.0-hour lecture*

**AP-609 (Seminar): Impact of 9/11, the AOC, Air Interdiction, & Strategic Attack**

**Overview:** Seminar discussion focuses on the lecture and functions and positions in the AOC, including a brief introduction to the Joint Operations Planning Process for Air. Seminars will also discuss doctrinal aspects of air interdiction and strategic attack.

**GROUP PROJECT DELIVERABLE:** Students will submit preliminary group research bibliographies by beginning of seminar period.

*CONTACT HOURS: 1.5-hour seminar*

## REQUIRED READINGS

1. Joint Publication 3-30, *Command and Control of Air Operations*, Chapter III—Planning and Execution of Joint Air Operations (35 pages) **[EL]**

2. USAF Doctrine Annex 3-30, *Command and Control* (13 pages) **[EL]**
   - Command and Control Mechanisms
   - Air Operations Center
   - Liaisons in the AOC
   - The Joint Air Component Coordination Element
   - Appendix B: The Air Operations Center
   - Appendix D: The Theater Air Control System

   **Overview: (Context)** These excerpts from Doctrine Annex 3-30 introduce the service perspective on C2, the AOC, liaisons in the AOC, and the role of the JACCE. Students will read how the AOC is organized, what functions and products its divisions perform, and how the AOC and its elements coordinate airpower for the J/CFACC and J/CFC.

3. USAF Doctrine Annex 3-0, *Operations and Planning,* The Joint Operation Planning Process For Air (7 pages) **[EL]**

4. Joint Publication 3-03, *Joint Interdiction,* Executive Summary (9 pages) **[EL]**

5. USAF Doctrine Annex 3-03, *Counterland Operations,* Air Interdiction (17 pages) **[EL]**

6. USAF Doctrine Annex 3-70, *Strategic Attack,* Introduction and Fundamentals of Strategic Attack (3 pages) **[EL]**

**RECOMMENDED READINGS**
None.

**JOINT LEARNING AREAS AND OBJECTIVES (JPME-1)**
AP-608 supports the following Joint Learning Areas and Objectives for JPME: 1b, 1d, 2c, 3a, 3d, 3e, 3g, 4a, 4d, and 4f.

AP-609 supports the following Joint Learning Areas and Objectives for JPME: 1a, 1b, 1d, 2a, 2b, 2c, 3a, 3b, 3d, 3e, 3g, 4f, 4g, 4h, 5a, 5b, 6b, 6c, and 6f.

## DAY 7: FROM SHOCK AND AWE TO HADITHA

**DATE:** 15 January 2021

### LESSON OBJECTIVES

1. Comprehend the relative effectiveness of airpower as an instrument of national policy in the successive phases of OEF and OIF against the background of the changing character of both conflicts since 2001/2003.
2. Comprehend the relevance of airpower in conflicts where kinetic solutions, while often necessary, may undermine the broader strategic objective of protecting the population and maintaining its political loyalty.
3. Comprehend how the USAF presents forces and the structure and function of the Air Expeditionary Force.

### LESSON OVERVIEW

**AP-610 (Seminar): Post 9/11 Major Combat Ops, Close Air Support, and Air Mobility**

**Overview: (Assessment)** This seminar appraises the application of airpower in the five years since the 9/11 attacks. The major combat phases in Afghanistan and Iraq resemble state-on-state conflict, although they each were heavily lopsided affairs. By 2008, however, coalition forces had begun stability operations and counterinsurgency in both nations. Additionally, the seminar will discuss joint and service air mobility doctrine.

- **DELIVERABLE: WEEK TWO RESPONSE PAPER DUE BY COB.**

*CONTACT HOURS: 1.5-hour seminar*

### REQUIRED READINGS

1. Benjamin S. Lambeth, "Operation Enduring Freedom, 2001," and Williamson Murray, "Operation Iraqi Freedom, 2003," in," in J.A. Olsen, ed., *A History of Air Warfare,* 255-296. (42 pages)
   Context and Assessment: These essays benefit from at least a half-decade of hindsight. In looking at these back-to-back, American wars, the authors reach differing conclusions about the best use of airpower. Lambeth champions air and space power as primary mechanisms for strategic success in Afghanistan; Murray contends that airpower succeeded in OIF only when applied directly in support of ground forces. Both articles leave room for considering the post-combat phase quagmire and the implications for airpower and grand strategy for Afghanistan, Iraq, and the Middle East.

2. Richard B. Andres and Jeffrey B. Hukill, "Anaconda: A Flawed Joint Planning Process," *JFQ* (2007), 135-40. (6 pages)
   Context and Assessment: The operational failure and coalition lives lost in the Shahi Kot valley of Afghanistan in March 2002 remind planners and warfighters not to take for granted command relationships, planning, and capabilities in joint operations.

3. Clinton Romesha, *Red Platoon*, 51-60, 105-117, 261-293. (43 pages)
   Context and Assessment: Romesha's account of the 2009 Taliban attack on Command Outpost Keating in Nuristan, Afghanistan, accentuates the modern application of airpower in support of ground forces, the complexity of command and control for that purpose, and the capabilities and limitations of airpower to that end.

4. Joint Publication 3-17, *Air Mobility Operations*, Executive Summary (9 pages) **[EL]**

5. USAF Doctrine Annex 3-17, *Air Mobility Operations*, Introduction of Air Mobility Operations (12 pages) **[EL]**

6. Joint Publication 3-09.3, *Close Air Support*, Executive Summary (14 pages) **[EL]**

7. USAF Doctrine Annex 3-03, *Counterland*, Close Air Support (21 pages) **[EL]**

**RECOMMENDED READINGS**

1. Williamson Murray and Robert H. Scales, Jr., *The Iraq War: A Military History* (Cambridge, MA: Belknap Press, 2003).

2. Joint Publication 3-35, *Deployment and Redeployment Operations*, all.

3. USAF Doctrine Annex 3-30, *Command and Control*, all.

4. Joint Publication 3-17, *Air Mobility Operations*, all.

5. USAF Doctrine Annex 3-17, *Air Mobility Operations*, all.

**JOINT LEARNING AREAS AND OBJECTIVES (JPME-1)**

AP-610 supports the following Joint Learning Areas and Objectives for JPME: 1a, 2c, 3a, 3b, 3c, 3d, 3e, 3f, 3g, 4c, 4f, 4g, 4h, 5a, 5b, 5c, 61, 6c, and 6f.

## DAY 8: SPACE

**DATE:** 19 January 2021

### LESSON OBJECTIVES

1. Comprehend the development of the space domain and its emergence for great power conflict but also for asymmetrical competition.
2. Comprehend the doctrinal and organizational implications for the USAF of the space domain's stature as the "ultimate high ground."
3. Comprehend the potential of space warfare to restore the relevance of the concept of strategic attack as a central feature of strategy.

### LESSON OVERVIEW

**AP-611 (Lecture): Are We Gaining or Losing (the High) Ground? (Dr. Michael Smith)**

**Overview: (Context & Experience)** This lecture provides a review of the development and challenges in space over the past 25 years, and surveys actors and the problem of congestion and debris in key orbits and regions.

*CONTACT HOURS: 1.0-hour lecture*

**AP-612 (Seminar): Assessing the Space Domain**

**Overview: (Assessment)** This seminar assesses the space and cyber domains and their impact on US national security. Discussion includes thinking about the future of war, what constitutes aggression or an act of war in each domain, and how potential organizational changes may impact the Air Force's role in performing operations in air, space, and cyber.

*CONTACT HOURS: 1.5-hour seminar*

### REQUIRED READINGS

1. Everett C. Dolman, "Geostrategy in the space age: An astropolitical analysis," *The Journal of Strategic Studies,* 22:2-3. (22 pages) **[EL]**
   Context: Dr. Dolman does more than offer a primer on basic astrophysics, orbits, and mechanics. He claims the strategic imperative for nation-states to secure their interests in space, and subsequently explains what are the most important places in the ultimate high ground.

2. William J. Liquori, Jr. and B. Chance Saltzman, "Counterspace Command and Control," in Kendall K. Brown, ed., *Space Power Integration: Perspectives from Space Weapons Officers* (Montgomery, AL: Air University Press, 2006). (10 pages) **[EL]**
   Context and Assessment: In 2006, Liquori and Saltzman examined the historical arrangements and issues with command and control of space forces in past operations. They argued for improved relations between 14AF AOC personnel and theater AOC personnel, as well as mutual understanding and agreement upon space doctrine. This essay still finds relevance in the present-day quest for effective C2 of space.

3. Everett C. Dolman, "Space Force Déjà Vu," *Strategic Studies Quarterly,* Vol 13, No. 2 (Summer 2019). (6 pages) **[EL]**
   Assessment: Dr. Dolman discusses President Trump's proposal for a Space Force; ultimately, while identifying several important considerations, he finds reasonable the plan before Congress to establish a Space Corps under the Department of the Air Force.

4. Joint Publication 3-14, *Joint Space Operations*, Chapter II—Space Operations and the Joint Functions (17 pages) **[EL]**

5. USAF Doctrine Annex 3-14, *Counterspace Operations*, all (35 pages) **[EL]**

**RECOMMENDED READINGS**

1. Capt Adam Jodice and Lt Col Mark Guerber, "Space Combat Capability . . . Do We Have It?" *A&SPJ* (Nov-Dec 2014), 82-98. (17 pages) **[EL]**

2. Joint Publication 3-14, *Space Operations*¸ ix-xviii, II-1 to II-10 "Executive Summary" and "Space Mission Areas." (20 pages) **[EL]**

**JOINT LEARNING AREAS AND OBJECTIVES (JPME-1)**

AP-611 supports the following Joint Learning Areas and Objectives for JPME: 1a, 1c, 2c, 3a, 3b, 3c, 3d, 3g, 4a, and 6f as well as SAE 1 and 5.

AP-612 supports the following Joint Learning Areas and Objectives for JPME: 1a, 2a, 2b, 2c, 3a, 3b, 3c, 3d, 3g, and 6f as well as SAE 1 and 5.

## DAY 9: CYBERSPACE

**DATE:** 21 January 2021

### LESSON OBJECTIVES

1. Comprehend the development of the cyberspace domain and its emergence as a new forum for great power conflict but also for asymmetrical competition.
2. Comprehend the implications of the paradoxical nature of cyber threats to do great harm but not to reach the threshold of an act of war.
3. Comprehend the potential of cyber warfare to restore the relevance of the concept of the strategic attack as a central feature of strategy.

### LESSON OVERVIEW

**AP-613 (Lecture): Cyber-security (Maj Gen Charles L. Moore, Jr.)**

**Overview: (Experience and Assessment)** Maj Gen Moore is the Director of Operations, US Cyber Command. He will present on the current and future state of cyber operations.
*CONTACT HOURS: 1.5-hour lecture*

**AP-614 (Seminar 3): Cyberspace Seminar**

**Overview: (Assessment)** This seminar examines cyberspace and its impact on US national security. Themes include the asymmetric advantage cyberattacks give adversaries, cyber's ability to do harm without doing violence, and the dilemma of fashioning a meaningful response to cyberattacks.
*CONTACT HOURS: 1.5-hour seminar*

### REQUIRED READINGS

1. David Sanger, *The Perfect Weapon*, pages vii-xix, 1-5, 100-151, 215-239, and 318-331. (110 pages)
   Context and Assessment: Authored by the chief Washington correspondent for the New York Times, *The Perfect Weapon* illuminates the threat to the United States posed by modern cyberwarfare and the inherent security challenges and dilemma regarding a national response. This reading includes chapters on recent cyberattacks conducted by China, North Korea, and Russia.

2. Department of Defense, *Summary: Department of Defense Cyber Strategy, 2018,* 1-7 (7 pages) **[EL]**
   Context and Assessment: The *2018 Department of Defense Cyber Strategy* represents the Department's vision for addressing [cyber threats] and implementing the priorities of the *National Security Strategy* and *National Defense Strategy* for cyberspace."

3. Joint Publication 3-12, *Cyberspace Operations*, Chapter II—Cyberspace Operations Core Activities (9 pages) **[EL]**

4. USAF Doctrine Annex 3-12, *Cyberspace Operations*, Introduction to Cyberspace Operations[3] (18 pages) **[EL]**

[3] Document is currently under revision.

**RECOMMENDED READINGS**

1. Jason Healey, "Five Futures of Cyber Conflict and Cooperation," *Georgetown Journal of International Affairs* (2011), 110-117. (8 pages) **[EL]**

2. Martin Libicki, "The Cyber War that Wasn't," NATO Cooperative Cyber Defence Center of Excellence (July 2015), all. (6 pages) **[EL]**

**JOINT LEARNING AREAS AND OBJECTIVES (JPME-1)**

AP-613 supports the following Joint Learning Areas and Objectives for JPME: 1a, 1c, 2c, 3a, 3b, 3c, 3d, 3g, 4a, 4e, 5c, and 6f as well as SAE 1 and 4.

AP-614 supports the following Joint Learning Areas and Objectives for JPME: 1a, 2a, 2b, 2c, 3a, 3b, 3c, 3d, 3g, 4e, 5c, and 6f as well as SAE 1 and 4.

## DAY 10: AIRPOWER IN CONTEMPORARY WARS

**DATE:** 22 January 2021

### LESSON OBJECTIVES

1. Comprehend how airpower contributed to coalition efforts in Operations Odyssey Dawn and Unified Protector in Libya.
2. Comprehend how Operation Inherent Resolve and defeat of ISIS has implications not only for regional stability but also for airpower theory.
3. Comprehend joint and USAF doctrine regarding Intelligence, Surveillance, and Reconnaissance, and Air Superiority.

### LESSON OVERVIEW

**AP-615 (Lecture): Airpower and Contemporary Wars (Lt Col. Kirk Hoffman)**

**Overview: (Context)** This lecture examines airpower in the contemporary wars, including coalition operations in Libya, Iraq, and Syria. The implications for such operations are complex, reflecting significant changes to the scope of air warfare and the context in which such limited wars are situated.

*CONTACT HOURS: 1.0-hour lecture*

**AP-616 (Seminar): Contemporary Conflict and Airpower**

**Overview: (Assessment)** This seminar focuses on airpower as a component of conflict in Libya and against ISIS in Iraq and Syria. What are the takeaways for command and control of airpower? How should air, space, and cyber operations be oriented in modern conflict to fulfill national security objectives?

- **DELIVERABLE: WEEK THREE RESPONSE PAPER DUE BY COB.**

*CONTACT HOURS: 1.5-hour seminar*

### REQUIRED READINGS

1. Dana Pittard and Wes Bryant, *Hunting the Caliphate*, pages xiii-xvi, 69-84, 222-319. (120 pages)

2. Joint Publication 3-0, *Joint Operations*, Chapter III: Joint Functions, 4. Intelligence (3 pages) **(EL)**

3. USAF Doctrine Annex 2-0, *Global Integrated Intelligence, Surveillance & Reconnaissance* Operations, Introduction to Global Integrated ISR (11 pages) **(EL)**

4. USAF Doctrine Annex 3-01, *Counterair Operations*, Counterair Operations (6 pages) **(EL)**

### RECOMMENDED READINGS

1. Seth G. Jones et al., *Rolling Back the Islamic State* (Santa Monica, CA: RAND, 2017).

### JOINT LEARNING AREAS AND OBJECTIVES (JPME-1)

AP-615 supports the following Joint Learning Areas and Objectives for JPME: 1a, 2c, 3a, 3c, 3d, 3e, 3f, 3g, 4c, 4e, 4f, 4g, 4h, 5a, 5b, 5c, 6b, 6c, and 6f as well as SAE 1, 2 and 4.

AP-616 supports the following Joint Learning Areas and Objectives for JPME: 1a, 2c, 3a, 3c, 3d, 3e, 3f, 3g, 4c, 4e, 4f, 4g, 4h, 5a, 5b, 5c, 6c, and 6f as well as SAE 1, 2 and 4.

**DAY 11: Today's USAF**

**DATE:** 25 January 2021

## LESSON OBJECTIVES

1. Comprehend the transitions and challenges facing Airpower in an uncertain future.

## LESSON OVERVIEW

**AP-617 (Lecture): Where Are We? The Present and Future of Airpower (Lt Gen (Ret) Allen Peck)**

**Overview:** This lecture quickly summarizes where airpower has recently been and now is, and where it may be going in the near future. Sub-topics include command and control, mission command, domain superiority and anti-access/area-denial, operations in highly-contested environments, drones and developing technologies.
*CONTACT HOURS: 0.5-hour lecture*

**AP-618 (Panel):**

**Overview:** Proposed panelists:
Maj Gen Brad Sullivan (LeMay Center Commander, SOF senior expertise)
Maj Gen Robert Skinner (24AF/CC)
Brig Gen Deanna Burt (AFSPC/A3/6)

The panel will discuss issues relating to airpower and answer student questions.

*CONTACT HOURS: 1.5-hour lecture*

**AP-619 (Seminar 3): Assessing the Present and Future State of Airpower**

**Overview: (Assessment)** Students will discuss the implications of the future challenges to air, space, and cyber operations.
*CONTACT HOURS: 1.0-hour seminar*

## REQUIRED READINGS

None.

## RECOMMENDED READINGS

None.

## JOINT LEARNING AREAS AND OBJECTIVES (JPME-1)

AP-617 supports the following Joint Learning Areas and Objectives for JPME: 1a, 2c, 3a, 3b, 3c, 3d, 3g, 4e, 5c, 6a, 6d, and 6f as well as SAE 4 and 5.

AP-618 supports the following Joint Learning Areas and Objectives for JPME: 1a, 2c, 3a, 3b, 3c, 3d, 3g, 4e, 5c, 6a, and 6f as well as SAE 4 and 5.

AP-619 supports the following Joint Learning Areas and Objectives for JPME: 1a, 2c, 3a, 3b, 3c, 3d, 3g, 4e, 5c, 6a, 6d, and 6f as well as SAE 4 and 5.

## DAY 12: GROUP PROJECT DAY 1

**DATE:** 26 January 2021

### PROJECT OBJECTIVES

1. Comprehend a problem that challenges airpower's ability to fulfill US national security imperatives for the next quarter century.
2. Apply lessons learned from the application of air, space, and cyber power since Vietnam to that problem.
3. Analyze the solution to that problem in terms of risk and cost.

### LESSON OVERVIEW

**AP-620 (Project Seminar)**

**Overview:** The seminar period is dedicated to group project development with the seminar instructor to assist.

*CONTACT HOURS: 1.5-hour seminar*

### JOINT LEARNING AREAS AND OBJECTIVES (JPME-1)

AP620 supports the following Joint Learning Areas and Objectives for JPME: 1a, 2c, and 6e as well as SAE 6.

## DAY 13: GROUP PROJECT DAY 2

**DATE:** 28 January 2021

### LESSON OBJECTIVES

1. Comprehend a problem that challenges airpower's ability to fulfill US national security imperatives for the next quarter century.
2. Apply lessons learned from the application of air, space, and cyber power since Vietnam to that problem.
3. Analyze the solution to that problem in terms of risk and cost.

### LESSON OVERVIEW

**AP-621 (Seminar): Project Seminar**

**Overview: (Assessment)** Students will discuss with seminar instructors how they collectively framed their research problem in mid-term papers, and the implications going forward. Instructors will introduce the methodology for problem-solving, in order to begin the group process of developing solutions.

*CONTACT HOURS: 1.5-hour seminar*

### JOINT LEARNING AREAS AND OBJECTIVES (JPME-1)

AP-621 supports the following Joint Learning Areas and Objectives for JPME: 1a, 2c, and 6e as well as SAE 6.

## DAY 14: GROUP PROJECT DAY 3

**DATE:** 1 February 2021

### PROJECT OBJECTIVES

1. Comprehend a problem that challenges airpower's ability to fulfill US national security imperatives for the next quarter century.
2. Apply lessons learned from the application of air, space, and cyber power since Vietnam to that problem.
3. Analyze the solution to that problem in terms of risk and cost.

### LESSON OVERVIEW

**AP-622 (Project Seminar)**

**Overview:** Groups will present a table-top review of their research problem and solution to the other groups in seminar. The remainder of the seminar period is dedicated to group project development with the seminar instructor to assist.

*CONTACT HOURS: 1.5-hour seminar*

### JOINT LEARNING AREAS AND OBJECTIVES (JPME-1)

AP-622 supports the following Joint Learning Areas and Objectives for JPME: 1a, 2c, and 6e as well as SAE 6.

## DAY 15: GROUP PROJECT PRESENTATIONS

**DATE:** 2 February 2021

### PROJECT OBJECTIVES

1. Comprehend a problem that challenges airpower's ability to fulfill US national security imperatives for the next quarter century.
2. Apply lessons learned from the application of air, space, and cyber power since Vietnam to that problem.
3. Analyze the solution to that problem in terms of risk and cost.

### LESSON OVERVIEW

**AP-623 (Project Seminar)**

**DELIVERABLE: GROUP PRESENTATION AND RESEARCH PAPER:** Groups will electronically deliver their research papers to the seminar instructor before the start of seminar. Seminars will formally present their proposals during this period.
*CONTACT HOURS: 1.5-hour seminar*

### JOINT LEARNING AREAS AND OBJECTIVES (JPME-1)

AP-623 supports the following Joint Learning Areas and Objectives for JPME: 1a, 2c, and 6e as well as SAE 6.