



Spring 2024

IAFF 6186.17

Instructor: Nicholas Anderson

The Analysis of Military Operations Syllabus

Course Details

Modality: In-Person

Course Description & Goals

This MA seminar course introduces students to what militaries are, what technologies they make use of, and, most importantly, how they operate in war. It begins by providing students with the vocabulary necessary to discuss defense and military issues, covering the basics of military organizations and technologies. It then introduces the basic tools for the analysis of conventional military operations, followed by the application of these analytical tools to land, maritime, air, and joint military operations. The course also covers the analysis of “non-traditional” military operations, such as counterinsurgency, stability operations, and humanitarian intervention. The course ends with a look forward, considering how emerging technologies will likely influence conventional military operations in the years ahead. Through this course, students will gain, not only the fluency to comfortably debate and discuss military affairs, but, more crucially, a set of skills with which to systematically analyze military operations and strategies.

Learning Outcomes & Objectives

By the end of this course, students will be able to:

- Demonstrate a deep understanding of military organizations and weapons technology.
- Demonstrate a deep understanding of the foundational operations of military forces.
- Employ various techniques of military campaign analysis and operations research.
- Critically engage cutting-edge academic research on military operations.
- Critically engage the most important debates on military operations and technology.
- Write for a policy audience.

Methods of Instruction

This course uses the following methods of instruction:

- **Readings:** Readings are assigned for each class, including the first and final sessions. There are also optional “recommended readings,” for those who would like to delve deeper into given topics.
- **Lectures:** Due to the specialized subject matter of the course, about half of each section will be devoted to lecture material.
- **Discussion:** Student-led discussion will comprise the other half of class time each week.
- **Quizzes:** There are two quizzes in the course to encourage students to rapidly develop the vocabulary with which to understand military organization, technology, operations, and strategy.
- **Problem sets:** There are four problem sets in the course that give students practice employing the tools of military campaign analysis.
- **Writing assignments:** There is a final research paper.

Credit Hour Policy

In this 3-credit graduate course, students are expected to work for approximately 450 minutes per week. This includes about 100 minutes of lecture and discussion time in class, and about 350 minutes (nearly 6 hours) on reading, note taking, writing assignments, and review. In total, you are expected to work for at least 112.5 hours over the duration of this 15-week semester.

Prerequisites

Academic

There are no academic prerequisites for this course. A background in the military or familiarity with defense issues is **not** assumed or required. A high-school level understanding of arithmetic, algebra, and geometry will be helpful.

Technological

As a graduate student, it is necessary to possess baseline technology skills in order to participate fully in the course. Please consult the [GW Online website](#) for further information about recommended configurations and support. If you have questions or problems with technology for this course, please consult the Technology Help link in the left navigation menu in our course in Blackboard.

You should be able to:

- Use a personal computer and its peripherals.
- Use word processing and other productivity software.
- Access course materials on Blackboard and the [GW Library](#) website.
- Use the webcam and microphone on your device (for periodic virtual office hours).
- Seek technology help by contacting [GW Information Technology](#) (202-994-4948).

I also plan to use two programs extensively in class that students should download and/or gain some familiarity with. They are:

- Microsoft Excel (available free to GW students, [here](#)).

- Google Earth Pro (available for free download, [here](#)).

Course Materials & Requirements

There are no required texts or other materials for the course, though all of the book excerpts assigned and recommended in this course are from books I would recommend purchasing if you are interested. For those who would like to brush up on issues of defense and military strategy, two books I'd recommend are:

- Peter Paret, ed., *Makers of Modern Strategy: From Machiavelli to the Nuclear Age* (Princeton: Princeton University Press, 1986).
- James Dunnigan, *How to Make War: A Comprehensive Guide to Modern Warfare in the 21st Century*, 4th ed. (New York: HarperCollins, 2003).

Feedback

I would appreciate your feedback throughout the semester on how the course is going. Please feel free to email me, come to my office hours, or provide anonymous feedback at the following link:

Grading & Assessment

This course uses a percent-based grading schema, as shown below.

<i>Assignment Type</i>	<i>Due date</i>	<i>Total % of Final Grade</i>
Attendance and Participation		20%
Military Organizations Quiz	In class: Session 3 (1 Feb.)	5%
Military Technology Quiz	In class: Session 4 (8 Feb.)	5%
Campaign Analysis Problem Sets (x4)	Sessions 6, 7, 9, 11 (22, 29 Feb., 21 Mar., 4 Apr.)	20%
Final Campaign Analysis Paper	5 May	50%
		<i>Total Percent: 100%</i>

The grading scale below, determines your final letter grade.

Excellent	Good	Needs Improvement	Low Pass	Fail
A 94%-100%	B+ 87%-89%	B- 80%-83%	C 74%-76%	F Under 70%
A- 90%-93%	B 84%-86%	C+ 77%-79%	C- 70%-73%	

ASSIGNMENTS

- **Attendance and Participation (20%):** This course is approximately half lecture, half seminar. Student participation is, therefore, essential. Students are expected to attend all sessions, arrive on time, have read all of the items listed under "Required Readings" prior to each session, and be prepared to discuss the issues

under consideration for that session. If—for any reason—active, verbal, and regular participation is a problem for you, please contact the instructor directly and we will work out alternatives.

- **Military Organizations Quiz (5%), In-Class, Session 3 (1 Feb.):** There will be a 10-question short answer quiz on the ranks and command levels for the four major services of the U.S. military. The ranks and command levels can be found in the readings and handout for Session 2.
- **Military Technology Quiz (5%), In-Class, Session 4 (8 Feb.):** There will be a 10-question short answer quiz on basic military vehicles, vessels, and aircraft. The basic military vehicles, vessels, and aircraft can be found in the readings and handout for Session 2.
- **Campaign Analysis Problem Sets (20%), Due Sessions 6, 7, 9, 11 (22 & 29 Feb., 21 Mar., 4 Apr.) @ 5:10 PM:** There will be four short military campaign analysis problem sets. Each will ask you to apply some of the basic modeling techniques we cover in class to answer questions about hypothetical military campaigns. The problem sets will be circulated one week before each is due.
- **Final Campaign Analysis Paper (50%), Due 5 May @ 11:59:59 PM:** Research and write an original campaign analysis of a hypothetical (or historical) military operation. While I encourage students to pursue topics that interest them, here are some ideas for the kinds of questions you could seek to answer:
 - What would be required for the United States and NATO to defend Finland from a major Russian attack?
 - How vulnerable is Saudi Arabia's oil production to Iranian air, missile, and drone strikes?
 - Could a major North Korean invasion of South Korea intended to reunify the Korean Peninsula succeed?
 - Could the PLA successfully coerce Taiwan with a submarine blockade of its ports?
 - Could the PLA successfully invade and occupy Taiwan in an amphibious assault?
 - Does Iran have the military capabilities to successfully close the Strait of Hormuz to transit?
 - During a war over Taiwan, could China successfully neutralize U.S. land-based airpower in Asia?
 - During a war over Taiwan, could China locate and effectively strike U.S. surface naval forces in Asia?
 - During a war over Taiwan, could China deny the U.S. Navy access to the "first island chain"?
 - Could China successfully block substantial energy imports to Japan?
 - What is the military value of Taiwan to the United States (and, conversely, to China)?
 - To what extent could the U.S. substantially degrade Russian air defense in a major military confrontation in Eastern Europe?
 - Could the U.S. or Israeli military successfully destroy Iran's nuclear weapons program?
 - Could the U.S. military successfully destroy North Korea's nuclear weapons program?
 - What would be required to operate a no-fly zone to protect civilians in the Syria Civil War?
 - Could Britain defend the Falkland Islands from an Argentinian attack?
 - Could European NATO defend itself against a Russian attack without the support or involvement of the U.S.?
 - How many lives could a U.S. military intervention in the Rwandan genocide have saved?
 - What size of force would be required to stabilize North Korea after a collapse of its government?

- What forces would be required to secure the Pakistani nuclear weapons program in the event of major political instability here?
- What explains Russia's poor performance in the War in Ukraine? What operational or tactical changes could have led to more success?

Your paper should (i) present a clear question; (ii) specify the military scenario under consideration; (iii) identify key variables and explain how they interact in the scenario; (iv) assign values to those variables and show how they help produce the outcomes of interest; and (v) discuss the policy implications of your analysis and results. If you aren't choosing a topic from the list above, or would like to modify one of the prompts, it **must be cleared** by the instructor in advance. Your paper should be presented in a professional manner, written in clear and concise prose, and be free of typos and other errors.

The paper must be double spaced and *approximately* 3,000 words in length. Use standard (12-point) font and standard (1-inch) margins. Chicago-style footnotes for citations and references is preferred. Please do not use endnotes. No bibliography is necessary. Please reference the [Chicago Manual of Style Citation Quick Guide](#) if needed.

Three sources will be particularly helpful in getting started on your campaign analyses. They are:

- *The Military Balance*, Vols. 61-123 (London: IISS, 1961-2023) ([GWU library link](#)).
- The U.S. Army Worldwide Equipment Guide ([External link](#)).
- Federation of American Scientists, DOD 101 ([External link](#)).

Please submit your paper anonymized (GWID Number only, filename: "G#####_Final") and in Microsoft Word format via Blackboard.

Course Calendar & Readings

Part I: Introduction

Session 1 (18 Jan.): Introduction: Why Analyze Military Operations?

Key Concepts & Discussion Questions:

- Key Concepts: military science; strategic studies; security studies; grand strategy; military strategy; operations/operational art; military campaign; tactics.
- What are the differences between security studies and strategic studies?
- What are the basic levels of war? What does each mean?
- What do the Gulf War forecasts imply about the value of outside (i.e., non-government) expertise?
- Why did so many overestimate Russia's military capabilities before the February 2022 invasion of Ukraine?

Required Readings (59 pages):

- Richard K. Betts, "Should Strategic Studies Survive?" *Security Studies*, Vol. 50, No. 1 (October 1997), pp. 7-33 ([GWU library link](#)).

- Stephen Biddle, "Strategy in War," *PS: Political Science & Politics*, Vol. 40, No. 3 (July 2007), pp. 461-466 ([GWU library link](#)).
- Michael E. O'Hanlon, *The Science of War: Defense Budgeting, Military Technology, and Combat Outcomes* (Princeton: Princeton University Press, 2009), pp. 1-4 ([GWU library link](#)).
- Shawn Woolford, "Assessing the 1990-1991 Gulf War Forecasts," *Mystics & Statistics*, The Dupuy Institute (17 May 2016) ([External link](#)).
- Craig Whitlock, *The Afghanistan Papers: A Secret History of the War* (New York: Simon & Schuster, 2021), pp. 199-211 (Ch. 16) (On Blackboard).
- Phillips Payson O'Brien, "How the West Got Russia's Military So, So Wrong" *The Atlantic* (31 March 2022) (On Blackboard).

Recommended Readings:

- Jacob Weisberg, "Gulfballs: How the Experts Blew It Big-Time," *The New Republic* (25 March 1991), pp. 17-19 ([GWU library link](#)).
- Joshua Rovner, "Warring Tribes Studying War and Peace," *War on the Rocks* (12 April 2016) ([External link](#)).

Session 2 (25 Jan.): Defense 101: Military Organizations & Technology

Key Concepts & Discussion Questions:

- Key Concepts: force structure; army; navy; air force; marine corps; combatant command; Joint Chiefs of Staff; active vs. reserve duty; national guard; enlisted vs. officer; non-commissioned officer; company-grade officer; field-grade officer; flag officer; warrant officer; army ranks; navy ranks; air ranks; marine corps ranks; army command levels (see handout); navy command levels (see handout); air force command levels (see handout); marine corps command levels (see handout); armored vs. stryker vs. infantry brigade combat team; marine expeditionary unit; marine expeditionary brigade; marine expeditionary force; special forces vs. special operations forces; combat vs. combat support unit; basic army vehicles & platforms (see handout); basic naval vessels & platforms (see handout); basic military aircraft (see handout); strategic vs. theater missile defense.
- What are the U.S. military departments, services, and combatant commands?
- What are the ranks for each U.S. military service?
- What are the command levels for each U.S. military service?
- What are the basic military vehicles, vessels, and aircraft?
- What are the strengths and weaknesses of different military platforms and technologies?

Required Readings (123 pages):

- Judith Hicks Stiehm, *The U.S. Military: A Basic Introduction* (New York: Routledge, 2012), pp. 7-13, 18-21, 26-41 ([GWU library link](#)).
- *The U.S. Military's Force Structure: A Primer, 2021 Update* (Washington: Congressional Budget Office, May 2021) ([External link](#) or on Blackboard).
 - Organizations: pp. 7-10, 17-21, 45-50, 65-67, 79-84, 109-110.
 - Technology: pp. 22-37, 51-64, 68-69, 74-77, 85-102, 116-118.

- Stephen Biddle, "The Past as Prologue: Assessing Theories of Future War," *Security Studies*, Vol. 8, No. 1 (Autumn 1998), **only** pp. 28-30 ([GWU library link](#)).
- Handout on military command levels (On Blackboard).
- Handout on military vehicles, vessels, and aircraft (On Blackboard).
- Handout on military symbols (On Blackboard).

Recommended Reading:

- Michael E. O'Hanlon, *Defense 101: Understanding the Military of Today and Tomorrow* (Ithaca: Cornell University Press, 2021), pp. 10-31 ([GWU library link](#)).
- Lawrence Kapp, "Defense Primer: Military Enlisted Personnel," *Congressional Research Service Report*, IF10684 (1 December 2021).
- Lawrence Kapp, "Defense Primer: Military Officers," *Congressional Research Service Report*, IF10685 (1 December 2021).
- "Military Units," U.S. Department of Defense (2023) ([External link](#)).
- *The Military Balance*, 2023 (London: IISS, 2023), pp. 490-497 ([GWU library link](#)).

Part II: Introduction to the Analysis of Military Operations

Session 3 (1 Feb.): Tools for the Analysis of Military Operations (*In-Class Military Organizations Quiz*)

Key Concepts & Discussion Questions:

- Key Concepts: campaign analysis; operations research; wargames; tabletop exercise; net assessment; scenario/mission; model; sensitivity analysis; simulation; probability model; force exchange model; war; friction; the fog of war.
- What is campaign analysis, and what are its basic steps?
- What are some key variables we should think about when conducting campaign analysis?
- What are some common critiques of campaign analysis? Do you agree with them?
- What is operations research, and what are its basic steps?
- What are some common critiques of operations research? Do you agree with them?
- How should Clausewitzian notions like "friction" and "fog" in war play into campaign analysis?

Required Readings (84 pages):

- Rachel Tecott and Andrew Halterman, "The Case for Campaign Analysis: A Method for Studying Military Operations," *International Security*, Vol. 45, No. 4 (Spring 2021), pp. 44-83 ([GWU library link](#)).
- Richard L. Kugler, *Policy Analysis in National Security Affairs: New Methods for a New Era* (Washington: National Defense University Press, 2006), pp. 423-427, 429-431, 434-446 ([External link](#)).
- Carl von Clausewitz, *On War*, Michael Howard and Peter Paret, eds. and trans. (Princeton: Princeton University Press, 1984), Book I, Ch. 1 (pp. 75-90, "What is War?"), Book I, Ch. 7 (pp. 119-121, "Friction in War"), Book VIII, Ch. 2 (pp. 579-582, "Absolute War and Real War") ([GWU library link](#)).

Recommended Readings:

- Joshua M. Epstein, *Measuring Military Power: The Soviet Air Threat to Europe* (Princeton: Princeton University Press, 1984), Preface.
- John W. R. Lepingwell, "The Laws of Combat? Lanchester Reexamined" *International Security*, Vol. 12, No. 1 (Summer 1987), pp. 89-134.
- Thomas F. Homer-Dixon, "A Common Misapplication of the Lanchester Square Law: A Research Note," *International Security*, Vol. 12, No. 1 (Summer 1987), pp. 135-139.
- Alan Breyerchen, "Clausewitz, Nonlinearity, and the Unpredictability of War," *International Security*, Vol. 17, No. 3 (Winter 1992-1993), pp. 59-90.
- Risa A. Brooks, "Introduction: The Impact of Culture, Society, Institutions, and International Forces on Military Effectiveness," in Risa A. Brooks and Elizabeth A. Stanley, eds., *Creating Military Power: The Sources of Military Effectiveness* (Stanford: Stanford University Press, 2007), pp. 1-26.
- Michael E. O'Hanlon, *The Science of War: Defense Budgeting, Military Technology, and Combat Outcomes* (Princeton: Princeton University Press, 2009), pp. 63-85 ([GWU library link](#)).
- Stephen Biddle, "Military Effectiveness," in *Oxford Research Encyclopedia of International Studies* (2017) ([External link](#)).
- Christopher A. Lawrence, *War by Numbers: Understanding Conventional Combat* (Lincoln: Potomac Books, 2017), pp. 285-298 (Ch. 18).
- Michael E. O'Hanlon, *Defense 101: Understanding the Military of Today and Tomorrow* (Ithaca: Cornell University Press, 2021), pp. 85-106 ([GWU library link](#)).

Session 4 (8 Feb.): Introduction to Land Operations (*In-Class Military Technology Quiz*)**Key Concepts & Discussion Questions:**

- Key Concepts: combined arms operations; joint operations; mass; economy of force; unity of command; security; surprise; maneuver; attrition; consolidation; exploitation; concentration; dispersal; blitzkrieg/breakthrough; static defense; forward defense; defense in depth; mobile defense; command & control; army specializations (infantry; artillery; armor; aviation; air defense; special forces); force employment; the modern system; cover; concealment; dispersion; small-unit independent movement; suppressive fire; 'bite-and-hold' operations; direct vs. indirect fire; area defense; retrograde operations; forward edge of battle area (FEBA); fixing force; striking force; delay; withdrawal; retirement; movement to contact; attack; pursuit; center of gravity; envelopment; double envelopment; encirclement; vertical envelopment; flank attack; frontal attack; infiltration; penetration; turning movement; ambush; demonstration; feint; raid.
- What are some of the basic characteristics of the land domain, and how do they influence ground operations?
- What are some fundamental attributes of land forces?
- What are the three basic offensive land warfare strategies, according to Mearsheimer? What are the four defensive strategies? And how are these strategies related to deterrence?
- What are combined arms operations, and why are they so important in modern warfare?
- What is Biddle's "modern system"? How do each of its key elements contribute to effective operations? When and why did some armies adopt it? Why don't all armies adopt it?

- What are the three basic defensive tasks, how does each work, and under what conditions are they employed?
- What are the six basic forms of offensive maneuver, how does each work, and under what conditions are they employed?
- What are the four basic offensive tasks, and under what conditions are they employed?

Required Readings (113 pages):

- David Jordan, et al., *Understanding Modern Warfare*, 2nd ed. (New York: Cambridge University Press, 2016), pp. 83-100 (Ch. 4) (On Blackboard).
- Jonathan M. House, *Combined Arms Warfare in the Twentieth Century* (Lawrence: University Press of Kansas, 2001), pp. 1-11 (Introduction) (On Blackboard).
- John J. Mearsheimer, *Conventional Deterrence* (Ithaca: Cornell University Press, 1983), pp. 28-60 ([GWU library link](#)).
- *U.S. Army Field Manual 3-0: Operations* (Washington: Department of the Army, 2017) (On Blackboard).
 - Defense: **paragraphs** 6-1 to 6-5, 6-109 to 6-127, 6-171 to 6-186, 6-189 to 6-191, 6-192 to 6-198, 6-202 to 6-205, 6-208 to 6-210.
 - Offense: **paragraphs** 7-1 to 7-5, 7-95 to 7-106, 7-109 to 7-112, 7-115, 7-117, 7-119 to 7-127, 7-171 to 7-183, 7-188 to 7-193, 7-196 to 7-197, 7-218, 7-228 to 7-232.
- Stephen Biddle, *Military Power: Explaining Victory and Defeat in Modern Battle* (Princeton: Princeton University Press, 2004), pp. 28-51 (Ch. 3) (On Blackboard).

Recommended Readings:

- Carl von Clausewitz, *On War*, Michael Howard and Peter Paret, eds. and trans. (Princeton: Princeton University Press, 1984), Bk. IV, Chs. 1-8; Bk. VII, Chs. 1-5, 15-16, 22 ([GWU library link](#)).
- H. J. Mackinder, "The Geographical Pivot of History," *The Geographical Journal*, Vol. 23, No. 4 (April 1904), pp. 421-437.
- Ernest Dunlop Swinton, *The Defense of Duffer's Drift* (1904) ([External link](#)).
- John I. Alger, *Definitions and Doctrine of the Military Art: Past and Present* (Wayne: Avery Publishing Group, 1984), pp. 15-28 (Ch. 2).
- Christopher Bellamy, *The Evolution of Modern Land Warfare: Theory and Practice* (New York: Routledge, 1990), pp. 7-29 (Ch. 1).
- James Dunnigan, *How to Make War: A Comprehensive Guide to Modern Warfare in the 21st Century*, 4th ed. (New York: HarperCollins, 2003), pp. 15-132 (Chs. 2-5).
- John J. Mearsheimer, *The Tragedy of Great Power Politics*, Revised ed. (New York: Norton, 2014), pp. 83-137 (Ch. 4).
- Christopher Tuck, *Understanding Land Warfare* (New York: Routledge, 2014), pp. 12-41, 55-108 (Chs. 1, 3-4).
- Elinor Sloan, *Modern Military Strategy: An Introduction*, 2nd ed. (New York: Routledge, 2017), pp. 20-35 (Ch. 2).
- Eric Min, "Interstate War Battle Dataset (1823-2003)" *Journal of Peace Research*, Vol. 58, No. 2 (2021), pp. 294-303.

Session 5 (15 Feb.): The Analysis of Land Operations

Key Concepts & Discussion Questions:

- Key Concepts: mobilization; armored division equivalents (ADE); force ratio; force-to-space ratio; “tooth-to-tail” ratio; attrition rate; exchange rate/loss-exchange ratio; advance rate; military “rules of thumb”
- What are the key factors Mearsheimer considers in his examination of the Soviet Union’s ability to successfully conduct a breakthrough in central Europe? What does Mearsheimer conclude and why?
- What are the six key variables that go into Posen’s model of conventional battle in central Europe? What does Posen conclude and why?
- What are some key differences in the approaches taken by Mearsheimer and Posen? What are the strengths and weaknesses of each approach?
- How do Barrie and coauthors assess the ability to European NATO to defend itself against a Russian attack, absent the U.S.? What do they conclude?
- How does Posen assess the ability of European NATO to independently defend itself against Russian attack, and how does his approach and conclusion differ from Barrie and coauthors? Who do you agree with? What are the broader implications of this debate?

Required Readings (115 pages):

- John J. Mearsheimer, “Why the Soviets Can’t Win Quickly in Central Europe,” *International Security*, Vol. 7, No. 1 (Summer 1982), pp. 3-39 ([GWU library link](#)).
- Barry R. Posen, “Measuring the European Conventional Balance: Coping with Complexity in Threat Measurement,” *International Security*, Vol. 9, No. 3 (Winter 1984/85), pp. 47-88 ([GWU library link](#)).
- Douglas Barrie, Ben Barry, Lucie Beraud-Sudreau, Henry Boyd, Nick Childs, and Bastian Giegerich, *Defending Europe: Scenario-Based Capability Requirements for NATO’s European Members* (London: The International Institute for Strategic Studies, April 2019), **only** pp. 3, 27-33 ([External link](#) or on Blackboard).
- Barry R. Posen, “Europe Can Defend Itself,” *Survival*, Vol. 62, No. 6 (December 2020-January 2021), pp. 7-34 ([GWU library link](#)).

Recommended Readings: The Cold War European Conventional Balance:

- Eliot A. Cohen, “Toward Better Net Assessment: Rethinking the European Conventional Balance,” *International Security*, Vol. 13, No. 1 (Summer 1988), pp. 50-89 ([GWU library link](#)).
- John J. Mearsheimer, Barry R. Posen, and Eliot A. Cohen, “Correspondence: Reassessing Net Assessment,” *International Security*, Vol. 13, No. 4 (Spring 1989), pp. 128-179.
- John J. Mearsheimer, “Maneuver, Mobile Defense, and the NATO Central Front,” *International Security*, Vol. 6, No. 3 (Winter 1981/82), pp. 104-122.
- William W. Kaufman, “Nonnuclear Deterrence” in John D. Steinbrunner and Leon V. Sigal, eds., *Alliance Security: NATO and the No-First-Use Question* (Washington: Brookings Institution Press, 1983), pp. 43-90.
- William P. Mako, *U.S. Ground Forces and the Defense of Central Europe* (Washington: The Brookings Institution, 1983).

- John J. Mearsheimer, "Numbers, Strategy, and the European Balance," *International Security*, Vol. 12, No. 4 (Spring 1988), pp. 174-185.
- Barry R. Posen, "Is NATO Decisively Outnumbered?" *International Security*, Vol. 12, No. 4 (Spring 1988), pp. 186-202.
- Malcolm Chalmers and Lutz Unterseher, "Is There a Tank Gap? Comparing NATO and Warsaw Pact Tank Fleets," *International Security*, Vol. 13, No. 1 (Summer 1988), pp. 5-49.
- Stephen D. Biddle, "The European Conventional Balance: A Reinterpretation of the Debate," *Survival*, Vol. 30, No. 2 (1988), pp. 99-121.
- Barry R. Posen, *Inadvertent Escalation: Conventional War and Nuclear Crises* (Ithaca: Cornell University Press, 1991), skim pp. 240-258 (Appendix 3) ([GWU library link](#)).

Recommended Readings: The 3:1 Rule

- Joshua M. Epstein, "Dynamic Analysis and the Conventional Balance in Europe," *International Security*, Vol. 12, No. 4 (Spring 1988), pp. 154-165.
- John J. Mearsheimer, "Assessing the Conventional Balance: The 3:1 Rule and its Critics," *International Security*, Vol. 13, No. 4 (Spring 1989), pp. 54-89.
- Joshua M. Epstein, "The 3:1 Rule, the Adaptive Dynamic Model, and the Future of Security Studies," *International Security*, Vol. 13, No. 4 (Spring 1989), pp. 90-127.

Recommended Readings: Other Land Campaign Analyses:

- Stuart Masaki, "The Korean Question: Assessing the Military Balance," *Security Studies*, Vol. 4, No. 2 (Winter 1994/1995), pp. 365-425.
- Michael O'Hanlon, "Stopping a North Korean Invasion: Why Defending South Korea is easier than the Pentagon Thinks," *International Security*, Vol. 22, No. 4 (Spring 1998), pp. 135-170.
- Michael O'Hanlon, "Estimating Casualties in a War to Overthrow Saddam," *Orbis*, Vol. 47, No. 1 (Winter 2003), pp. 21-40.
- Stephen Biddle, "Speed Kills? Reassessing the Role of Speed, Precision, and Situation Awareness in the Fall of Saddam," *The Journal of Strategic Studies*, Vol. 30, No. 1 (February 2007), pp. 3-46.
- Michael J. Armstrong and Steven E. Sodergren, "Refighting Pickett's Charge: Mathematical Modeling of the Civil War Battlefield," *Social Science Quarterly*, Vol. 96, No. 4 (December 2015), pp. 1153-1168.
- David A. Shlapak and Michael W. Johnson, *Reinforcing Deterrence on NATO's Eastern Flank: Wargaming the Defense of the Baltics* (Santa Monica: RAND Corporation, 2016), pp. 1-11 ([External link](#)).
- Douglas Barrie, et al., "Forum: Can Europe Defend Itself?" *Survival*, Vol. 63, No. 1 (2021), pp. 17-49.

Session 6 (22 Feb.): The Analysis of Missiles, Artillery, and Logistics (*Problem Set 1 Due*)

Key Concepts & Discussion Questions:

- Key Concepts: ballistic vs. cruise missile; short range ballistic missile (SRBM); medium range ballistic missile (MRBM); intermediate range ballistic missile (IRBM); ground-launched cruise missile (GLCM); sea-launched cruise missile (SLCM); air-launched cruise missile (ALCM); precision guidance; circular error probable (CEP); warhead yield; overpressure; gun-type vs. rocket artillery; lethal radius; counterbattery artillery fire; counterbattery radar; mines; unitary vs. cluster munitions; military readiness; civil defense; sealift; airlift; prepositioning; ton-mile
- How do Shifrinson and Priebe assess Iran's ability to disrupt Saudi Arabian oil production? What do they conclude and why?

- What are the three basic components of the model Anderson and Press use to assess the North Korean artillery threat to Seoul? What do they conclude and why?
- How does Posen assess NATO's ability to move reinforcements and supplies to Europe in the context of a Warsaw Pact conventional assault? What does he conclude and why?

Required Readings (87 pages):

- Joshua R. Itzkowitz Shiffrin and Miranda Priebe, "A Crude Threat: The Limits of an Iranian Missile Campaign against Saudi Arabian Oil," *International Security*, Vol. 36, No. 1 (Summer 2011), pp. 167-201 ([GWU library link](#)).
- Nicholas D. Anderson and Daryl G. Press, "Lost Seoul? Assessing Pyongyang's Other Deterrent," Unpublished Manuscript (2023) (On Blackboard).
 - **Optional skim** of the attached Appendix (On Blackboard).
- Michael E. O'Hanlon, *Defense 101: Understanding the Military of Today and Tomorrow* (Ithaca: Cornell University Press, 2021), pp. 34-43 ([GWU library link](#)).
- Barry R. Posen, "NATO's Reinforcement Capability," *Defense Analysis*, Vol. 5, No. 4 (1989), pp. 327-339 (On Blackboard).

Session 7 (29 Feb.): Introduction to Maritime Operations (*Problem Set 2 Due*)

Key Concepts & Discussion Questions:

- Key Concepts: maritime domain; blue vs. green vs. brown water; littoral; sea control; sea denial; sortie control/close blockade; chokepoint control/distant blockade; open area operations; local engagement/defense; power projection; amphibious operation; naval bombardment/strike; naval air operations; sealift; naval presence; strategic deterrence; maritime security; Tomahawk Land-Attack Missile (TLAM).
- What are some of the basic characteristics of the maritime domain, and how do they influence naval operations?
- What are the distinctive attributes of maritime forces? What are some of their limitations?
- What are the 4-6 key missions or core capabilities of the navy, according to Turner, Speller, and NDP1? Under what conditions are they used? What are some of the different approaches associated with these missions?
- What does Biddle and Severini's analysis reveal about the key differences between land and naval warfare?
- What are the basic operational components of the U.S. Navy's 2017 missile strike on al-Shayrat Airfield in Western Syria? What were other military options available and why was this one was chosen?

Required Reading (90 pages):

- Ian Speller, *Understanding Naval Warfare* (New York: Routledge, 2014), pp. 15-35, 108-109 (On Blackboard).
- Stansfield Turner, "Missions of the U.S. Navy," *Naval War College Review*, Vol. 26, No. 5 (March-April 1974), pp. 2-17 ([External link](#) or on Blackboard).

- *Naval Doctrine Publication 1: Naval Warfare* (Washington: Department of the Navy, 2020), pp. 5-6, 21-24, 33-36, 54-60 (On Blackboard).
- Stephen Biddle and John Severini, "Military Effectiveness and Naval Warfare," *Forthcoming Security Studies* (2024), pp. 1-22 (On Blackboard).
- Megan Eckstein, "How the U.S. Planned and Executed the Tomahawk Strike Against Syria," *USNI News* (7 April 2017) ([External link](#)).

Recommended Readings:

- Paul M. Kennedy, *The Rise and Fall of British Naval Mastery* (Amherst: Prometheus Books, 1976), pp. 177-202 (Ch. 7).
- Karl Lautenschläger, "Technology and the Evolution of Naval Warfare," *International Security*, Vol. 8, No. 2 (Fall 1983), pp. 3-51.
- Philip A. Crowl, "Alfred Thayer Mahan: The Naval Historian," in Peter Paret, ed., *Makers of Modern Strategy: From Machiavelli to the Nuclear Age* (Princeton: Princeton University Press, 1986), pp. 444-477.
- Karl Lautenschläger, "The Submarine in Naval Warfare, 1901-2001" *International Security*, Vol. 11, No. 3 (Winter 1986-87), pp. 94-140.
- Angelyn Jewell and Marueen Wigge, "Surge 97: Demonstrating the Carrier's Firepower Potential," *Proceedings*, Vol. 124, No. 9 (September 1998), pp. 79-82 ([GWU Library link](#)).
- Milan Vego, *Major Naval Operations* (Newport: Naval War College Press, 2008), pp. 23-40 (Ch. 2) ([External link](#)).
- Geoffrey Till, *Seapower: A Guide for the Twenty-First Century*, 2nd ed. (New York: Routledge, 2009), pp. 145-184 (Chs. 6-7).
- Robert C. Rubel, "The Future of Aircraft Carriers," *Naval War College Review*, Vol. 64, No. 4 (Autumn 2011), pp. 13-28 ([External link](#)).
- Wayne P. Hughes, "Naval Operations," *Naval War College Review*, Vol. 65, No. 3 (Summer 2012), pp. 23-47.
- Ian Speller, *Understanding Naval Warfare* (New York: Routledge, 2014), pp. 36-74, 95-128 (Chs. 2-3, 5-6).
- Watch: Jerry Hendrix and Brian McGrath, "Debate on the Future of Aircraft Carriers," United States Naval Academy (January 2015) ([External link](#)).
- Elinor Sloan, *Modern Military Strategy: An Introduction*, 2nd ed. (New York: Routledge, 2017), pp. 7-19 (Ch. 1).
- Wayne P. Hughes, Jr. and Robert Girrier, *Fleet Tactics and Naval Operations* (Annapolis: Naval Institute Press, 2018), pp. 141-213 (Chs. 7-9).
- Milan Vego, *General Naval Tactics: Theory and Practice* (Annapolis: Naval Institute Press, 2020), pp. 82-131 (Ch. 4).

Session 8 (7 Mar.): The Analysis of Maritime Operations

Key Concepts & Discussion Questions:

- Key Concepts: torpedo; sea mine; mine clearing; sonar; anti-submarine warfare (ASW); probability of kill (P_k); barrier defense; q-route; hydrophone array; anti-satellite (ASAT) warfare; sea lanes of communication (SLOC).
- How does Glosny assess China's ability to successfully blockade Taiwanese ports? And what does Glosny conclude and why?
- How does Talmadge assess Iran's ability to successfully close the Strait of Hormuz? What does Talmadge conclude and why?
- Why do Green & Talmadge see Taiwan as so militarily valuable? How do they assess its military value?

Required Readings (91 pages):

- Barry R. Posen, *Inadvertent Escalation: Conventional War and Nuclear Risks* (Ithaca: Cornell University Press, 1991), pp. 259-261 (Appendix 4) ([GWU library link](#)).
- Michael A. Glosny, "Strangulation from Sea? A PRC Submarine Blockade of Taiwan," *International Security*, Vol. 28, No. 4 (Spring 2004), pp. 125-145, **skim** 145-156, 156-160 ([GWU library link](#)).
- Caitlin Talmadge, "Closing Time: Assessing the Iranian Threat to the Strait of Hormuz," *International Security*, Vol. 33, No. 1 (Summer 2008), pp. 82-99, **skim** 99-115, 115-117 ([GWU library link](#)).
- Brendan Rittenhouse Green and Caitlin Talmadge, "The Consequences of Conquest: Why Indo-Pacific Power Hinges on Taiwan," *Foreign Affairs*, Vol. 101, No. 4 (July/August 2022), pp. 97-106 ([GWU library link](#)).
- Brendan Rittenhouse Green and Caitlin Talmadge, "Then What? Assessing the Military Implications of Chinese Control of Taiwan," *International Security*, Vol. 47, No. 1 (Summer 2022), **only** pp. 17-22 ([GWU library link](#)).

Recommended Readings:

- Brian McCue, *U-Boats in the Bay of Biscay: An Essay in Operations Analysis* (Washington: National Defense University Press, 1990), esp. pp. 109-144 (Ch. 6).
- Barry R. Posen, *Inadvertent Escalation: Conventional War and Nuclear Risks* (Ithaca: Cornell University Press, 1991), pp. 159-196 (Ch. 5) ([GWU library link](#)).
- Michael O'Hanlon, "Why China Cannot Conquer Taiwan," *International Security*, Vol. 25, No. 2 (Fall 2000), esp. pp. 74-79.
- Lyle Goldstein and William Murray, "Undersea Dragons: China's Maturing Submarine Force," *International Security*, Vol. 28, No. 4 (Spring 2004), pp. 161-196.
- Michael J. Armstrong and Michael B. Powell, "A Stochastic Salvo Model Analysis of the Battle of the Coral Sea," *Military Operations Research*, Vol. 10, No. 4 (2005), pp. 27-37.
- Owen R. Cote, Jr., "Assessing the Undersea Balance Between the U.S. and China," MIT SSP Working Paper (February 2011) ([External link](#)).
- Andrew F. Krepinevich, *Maritime Competition in a Mature Precision-Strike Regime* (Washington: CSBA, 2014), pp. 1-9 (Executive Summary).
- Eric Heginbotham, et al., *The U.S.-China Military Scorecard: Forces, Geography, and the Evolving Balance of Power, 1996-2017* (Santa Monica: RAND, 2015), pp. 184-198 ([External link](#)).

- Niall MacKay, Christopher Price, and A. Jamie Wood, “Weighing the Fog of War: Illustrating the Power of Bayesian Methods for Historical Analysis Through the Battle of the Dogger Bank,” *Historical Methods*, Vol. 49, No. 2 (2016), pp. 80-91.
- Wayne P. Hughes, Jr. and Robert Girrier, *Fleet Tactics and Naval Operations* (Annapolis: Naval Institute Press, 2018), pp. 262-293 (Ch. 13).
- Michael E. O’Hanlon, *Defense 101: Understanding the Military of Today and Tomorrow* (Ithaca: Cornell University Press, 2021), pp. 112-123 ([GWU library link](#)).
- Eugene Gholz, *Nothing Much to Do: Why American Can Bring All Troops Home from the Middle East*, Quincy Paper No. 7 (June 2021), esp. pp. 36-52.

Reminder (14 Mar.): No Class (Spring Break)

Session 9 (21 Mar.): Introduction to Air Operations (*Problem Set 3 Due*)

Key Concepts & Discussion Questions:

- Key Concepts: counterair operations; control of the air; air parity; air superiority; air supremacy; offensive vs. defensive counterair; suppression of enemy air defense (SEAD); fighter escort; fighter sweep; combat air patrol (CAP); active vs. passive air & missile defense; weaponing; deconfliction; air-to-air missile (AAM); air-to-ground missile (AGM); rear- vs. all-aspect missile; within vs. beyond visual range (WVR vs. BVR) combat; counterland operations; air interdiction; close air support; strategic attack/bombing; center of gravity; sequential vs. parallel operations; coercion; anti-aircraft gun; surface-to-air missile (SAM); integrated air defense system (IADS); stealth technology; radar cross section (RCS); no-fly zone.
- What are some of the basic characteristics of the air domain, and how do they influence air operations?
- What are the distinctive attributes of air forces? What are some of their limitations?
- What are counterair operations and what are some of the basic offensive and defensive missions that fall under this category of operations?
- What are counterland operations and what are the two basic missions that fall under this category?
- What are strategic attacks, what effects are they supposed to achieve, and how do they do so?
- How has air-to-air combat changed over time, according to Stillion? How have these changes influenced the value of various attributes of fighter aircraft?
- What is a “no-fly zone” and what does it entail, operationally?

Required Readings (96 pages):

- *Air Force Manual 1-1, Vol. 1: Basic Aerospace Doctrine of the United States Air Force* (Washington: Department of the Air Force, March 1992), pp. 5-8 (Ch. 2) (On Blackboard).
- *Air Force Doctrine Publication 3-01: Counterair Operations* (2023), pp. 1-7, *skim* 16-23 & 25-29 ([External link](#) or on Blackboard).
- *Air Force Doctrine Publication 3-03: Counterland Operations* (2020), pp. 3-9, 20-21, 23-26, 34-39 ([External link](#) or on Blackboard).
- *Air Force Doctrine Publication 3-70: Strategic Attack* (2021), pp. 3-11, 23-26 ([External link](#) or on Blackboard).

- John Stillion, *Trends in Air-to-Air Combat: Implications for Future Air Superiority* (Washington: Center for Strategic and Budgetary Assessments, 2015), pp. i-iii, 3-30 ([External link](#) or on Blackboard).
- Karl P. Mueller, *Denying Flight: Strategic Options for Employing No-Fly Zones* (Santa Monica: RAND Corporation, 2013), **only** pp. 1-12 ([External link](#)).

Recommended Readings:

- David Maclsaac, "Voices from the Central Blue: Air Power Theorists," in Peter Paret, ed., *Makers of Modern Strategy: From Machiavelli to the Nuclear Age* (Princeton: Princeton University Press, 1986), pp. 624-647.
- Air Force Manual 1-1, Vol. I: Basic Aerospace Doctrine of the United States Air Force (Washington: Department of the Air Force, March 1992), pp. 9-16 (Ch. 3).
- John A. Warden III, "Employing Air Power in the Twenty-First Century," in Richard H. Schultz, Jr. and Robert L. Pfaltzgraff, Jr., eds., *The Future of Air Power in the Aftermath of the Gulf War* (Maxwell AFB: Air University Press, 1992), pp. 57-82.
- Robert A. Pape, "The Limits of Precision-Guided Air Power," *Security Studies*, Vol. 7, No. 2 (Winter 1997/98), pp. 93-114.
- Elinor Sloan, *Modern Military Strategy: An Introduction*, 2nd ed. (New York: Routledge, 2017), pp. 36-55 (Ch. 3).
- Susan Hannah Allen and Carla Martinez Machain, "Understanding the Impact of Air Power," *Conflict Management and Peace Science*, Vol. 36, No. 5 (2019), pp. 545-558.
- Watch: "The Violent Reality of a No-Fly Zone – Operation Southern Watch 92," The Operations Room (11 March 2022) ([External link](#)).

Session 10 (28 Mar.): The Analysis of Air Operations I

Key Concepts & Discussion Questions:

- Key Concepts: earth-penetrating weapon; ferry range; combat radius; maximum on ground (MOG); sortie; sortie rate; minimum operating surface (MOS); battle/bomb damage assessment (BDA); hardened aircraft shelters (HAS).
- What does Press argue regarding the effectiveness of U.S. airpower in the Persian Gulf War? How does he support his arguments? What are the implications of Press' claims?
- How do Raas and Long assess Israel's ability to successfully destroy Iran's nuclear weapons program? What do they conclude and why?
- How does Gons assess the U.S.'s ability to deny China air superiority in a war over Taiwan? What does Gons conclude and why?
- How do Heginbotham and coauthors assess China's ability to attack U.S. air bases in Asia? What do they conclude and why?

Required Readings (123 pages):

- Daryl G. Press, "The Myth of Airpower in the Persian Gulf War and the Future of Warfare," *International Security*, Vol. 26, No. 2 (Fall 2001), pp 5-44 ([GWU library link](#)).

- Whitney Raas and Austin Long, "Osirak Redux? Assessing Israeli Capabilities to Destroy Iranian Nuclear Facilities," *International Security*, Vol. 31, No. 4 (Spring 2007), pp. 7-33 ([GWU library link](#)).
- Watch (~9 minutes): "Operation Opera; Israel Bombs Saddam's Nuclear Reactor, 1981," The Operations Room (17 June 2022) ([External link](#)).
- Eric Stephen Gons, *Access Challenges and Implications for Airpower in the Western Pacific* (Ph.D. Dissertation, Pardee RAND Graduate School, May 2010), pp. 74-93, 112-113 (Ch. 5), 201-208 (Appendix A) ([External link](#) or on Blackboard).
- Eric Heginbotham, et al., *The U.S.-China Military Scorecard: Forces, Geography, and the Evolving Balance of Power, 1996-2017* (Santa Monica: RAND, 2015), pp. 45-46, [skim](#) 46-54, 54-70 (Ch. 3) ([External link](#) or on Blackboard).

Recommended Readings:

- Joshua M. Epstein, *Measuring Military Power: The Soviet Air Threat to Europe* (Princeton: Princeton University Press, 1984), pp. 131-188 (Chs. 5-6).
- Joshua M. Epstein, *The Calculus of Conventional War: Dynamic Analysis Without Lanchester Theory* (Washington: The Brookings Institution, 1985), pp. 14-31.
- John Stillion and David T. Orletsky, *Airbase Vulnerability to Conventional Cruise-Missile and Ballistic-Missile Attacks: Technology, Scenarios, and U.S. Air Force Requirements* (Santa Monica: RAND, 1999), pp. 81-84 (Appendix B) ([External link](#)).
- Peter John Paul Krause, "The Last Good Chance: A Reassessment of US Operations at Tora Bora," *Security Studies*, Vol. 17, No. 4 (2008), pp. 644-684.
- David A. Shlapak, David T. Orletsky, Toy I. Reid, Murray Scot Tanner, and Barry Wilson, *A Question of Balance: Political and Military Aspects of the China-Taiwan Dispute* (Santa Monica: RAND Corporation, 2009), pp. 31-90 (Chs. 3-4) ([External link](#)).
- John Stillion, "Fighting Under Missile Attack," *Air Force Magazine* (1 August 2009) ([External link](#)).
- Eric Heginbotham, et al., *The U.S.-China Military Scorecard: Forces, Geography, and the Evolving Balance of Power, 1996-2017* (Santa Monica: RAND, 2015), pp. 71-88, [skim](#) 88-92, 92-151 (Chs. 4-6) ([External link](#)).
- Brennen Fagan, et al., "Bootstrapping the Battle of Britain," *The Journal of Military History*, Vol. 84, No. 1 (January 2020), pp. 151-186.

Recommended Readings: The Gulf War

- Thomas A. Keaney and Eliot A. Cohen, *Gulf War Air Power Survey: Summary Report* (Washington: U.S. Government Printing Office, 1993), pp. 55-120 (Ch. 3) ([External link](#)).
- George N. Lewis, Steve Fetter, and Lisbeth Gronlund, "Casualties and Damage from Scud Attacks in the 1991 Gulf War," MIT Defense and Arms Control Studies Program Working Paper (March 1993), pp. 4-51 ([External link](#)).
- John Mueller, "The Perfect Enemy: Assessing the Gulf War," *Security Studies*, Vol. 5, No. 1 (Autumn 1995), pp. 77-117.
- Stephen Biddle, "Victory Misunderstood: What the Gulf War Tells Us about the Future of Conflict," *International Security*, Vol. 21, No. 2 (Fall 1996), pp. 139-179.
- Daryl G. Press, "Lessons from Ground Combat in the Gulf: The Impact of Training and Technology," *International Security*, Vol. 22, No. 2 (Fall 1997), pp. 137-146.

- Stephen Biddle, "The Gulf War Debate Redux: Why Skill and Technology are the Right Answer," *International Security*, Vol. 22, No. 2 (Fall 1997), pp. 163-174.

Recommended Readings: The "Afghan Model"

- Richard B. Andres, Craig Willis, and Thomas E. Griffith, Jr., "Winning with Allies: The Strategic Value of the Afghan Model," *International Security*, Vol. 30, No. 3 (Winter 2005/06), 124-160 ([GWU library link](#)).
- Stephen D. Biddle, "Allies, Airpower, and Modern Warfare: The Afghan Model in Afghanistan and Iraq," *International Security*, Vol. 30, No. 3 (Winter 2006/07), pp. 161-176 ([GWU library link](#)).
- Erica D. Borghard and Constantino Pischedda, "Allies and Airpower in Libya," *Parameters*, Vol. 42, No. 1 (Spring 2012), pp. 63-74 ([GWU library link](#)).

Session 11 (4 Apr.): The Analysis of Air Operations II & A2/AD (*Problem Set 4 Due*)

Key Concepts & Discussion Questions:

- Key Concepts: anti-access/area denial (A2/AD); anti-ship cruise missile (ASCM); anti-ship ballistic missile (ASBM); radar; over-the-horizon (OTH) radar; kill chain; surveillance satellite; active vs. passive defense; radar jamming; dazzling; chaff; decoy; kill radius; reconnaissance, surveillance, and target acquisition (RSTA).
- What are the six key variables Posen combines in his suppression of enemy air defense (SEAD) model? What does Posen conclude about the potential NATO-Warsaw Pact air war, and why?
- How do Heginbotham and coauthors assess China's ability to threaten U.S. carriers using ballistic and cruise missiles? What do they conclude and why?
- How do Biddle and Oelrich assess the future military effectiveness of China's A2/AD capabilities? What do they conclude and why? What are the implications of their arguments, especially for AirSea Battle?

Required Readings (92 pages):

- Barry R. Posen, *Inadvertent Escalation: Conventional War and Nuclear Risks* (Ithaca: Cornell University Press, 1991), pp. 43-47, 51-60 (Ch. 2), 219-234 (Appendix 1) ([GWU library link](#)).
- Eric Heginbotham, et al., *The U.S.-China Military Scorecard: Forces, Geography, and the Evolving Balance of Power, 1996-2017* (Santa Monica: RAND, 2015), only pp. 153-171 (Ch. 7) ([External link](#) or on Blackboard).
- Stephen Biddle and Ivan Oelrich, "Future Warfare in the Western Pacific: Chinese Antiaccess/Area Denial, U.S. AirSea Battle, and Command of the Commons in East Asia," *International Security*, Vol. 41, No. 1 (Summer 2016), pp. 7-48 ([GWU library link](#)).

Recommended Readings:

- Andrew F. Krepinevich, *Why AirSea Battle?* (Washington: Center for Strategic and Budgetary Assessments, 2010), pp. 1-25 (Intro, Chs. 1-2) ([External link](#)).
- Jan Van Tol, *AirSea Battle: A Point-of-Departure Operational Concept* (Washington: Center for Strategic and Budgetary Assessments, 2010), pp. 49-79 (Ch. 3) ([External link](#)).
- Joshua Rovner, "AirSea Battle and Escalation Risks," *Study of Innovation and Technology in China Policy Brief*, No. 12 (January 2012), pp. 1-5 ([External link](#)).

- Andrew Erickson, Evan Braden Montgomery, Craig Neuman, Stephen Biddle, and Ivan Oelrich, "Correspondence: How Good Are China's Antiaccess/Area-Denial Capabilities," *International Security*, Vol. 41, No. 4 (Spring 2017), pp. 202-213.
- Caitlin Talmadge, "Beijing's Nuclear Option: Why a U.S.-Chinese War Could Spiral Out of Control," *Foreign Affairs*, Vol. 97, No. 6 (November/December 2018), pp. 44-51.
- Eugene Gholz, Benjamin Friedman, and Enea Gjoza, "Defensive Defense: A Better Way to Protect U.S. Allies in Asia," *The Washington Quarterly*, Vol. 42, No. 4 (2019), pp. 171-189.

Session 12 (11 Apr.): The Analysis of Amphibious Operations

Key Concepts & Discussion Questions:

- Key Concepts: amphibious assault; amphibious raid; amphibious demonstration; amphibious withdrawal; amphibious force support to crisis response.
- What is an amphibious operation? What is an amphibious assault? And what is the basic sequence of amphibious assault operations?
- Why is amphibious assault seen as "one of the most difficult of all military operations"?
- What are the three vital elements of amphibious assault according to Beckley? How likely is China to succeed in these elements, according to Beckley's analysis, and why?
- How do Shlapak and coauthors assess China's ability to successfully invade and occupy Taiwan? What do they conclude (in 2009) and why? What factors have changed in the intervening 15 years?
- Why does USMC Commandant Berger want to reform the Marine Corps, and how does he want to do it? Why have his proposals proven so controversial?

Required Readings (90 pages):

- *Joint Publication 3-02: Amphibious Operations* (Washington: Joint Chiefs of Staff, January 2019), pp. I-1 to I-2, I-3 to I-4, II-9 to II-13 ([External link](#) or on Blackboard).
- Michael Beckley, "The Emerging Military Balance in East Asia: How China's Neighbors Can Check Chinese Naval Expansion," *International Security*, Vol. 42, No. 2 (Fall 2017), pp. 78-90, *skim* 91-108, 108-119 ([GWU library link](#)).
- David A. Shlapak, David T. Orletsky, Toy I. Reid, Murray Scot Tanner, and Barry Wilson, *A Question of Balance: Political Context and Military Aspects of the China-Taiwan Dispute* (Santa Monica: RAND, 2009), pp. 91-93, *skim* 94-103, 103-121 ([External link](#) or on Blackboard).
- Elliot Ackerman, "A Whole Age of Warfare Sank with the Moskva," *The Atlantic* (22 May 2022) (On Blackboard).

Recommended Readings:

- Michael O'Hanlon, "Why China Cannot Conquer Taiwan," *International Security*, Vol. 25, No. 2 (Fall 2000), pp. 51-86.
- Mark S. Bell, "Can Britain Defend the Falklands?" *Defence Studies*, Vol. 12, No. 2 (2012), pp. 283-301 ([GWU library link](#)).
- Eric Heginbotham, et al., *The U.S.-China Military Scorecard: Forces, Geography, and the Evolving Balance of Power, 1996-2017* (Santa Monica: RAND, 2015), pp. 201-226 (Ch. 8) ([External link](#)).

- Travis Sharp, John Speed Meyers, and Michael Beckley, "Correspondence: Will East Asia Balance Against Beijing," *International Security*, Vol. 43, No. 3 (Winter 2018/19), pp. 194-197.
- Watch: "Black Buck One, the Vulcan Raid on the Falklands," The Operations Room (7 June 2019) ([External link](#)).
- David H. Berger, "The Case for Change," *Marine Corps Gazette* (June 2020), pp. 8-12 ([GWU library link](#)).
- Michael E. O'Hanlon, *Defense 101: Understanding the Military of Today and Tomorrow* (Ithaca: Cornell University Press, 2021), pp. 107-115 ([GWU library link](#)).
- Oriana Skylar Mastro, "The Taiwan Temptation: Why Beijing Might Resort to Force," *Foreign Affairs*, Vol. 100, No. 4 (July/August 2021), pp. 58-67 ([GWU library link](#)).
- Rachel Esplin Odell and Eric Heginbotham, "Don't Fall for the Invasion Panic," *Foreign Affairs*, Vol. 100, No. 5 (September/October 2021), pp. 216-219.
- Owen R. Cote, "One if by Invasion, Two if by Coercion: US Military Capacity to Protect Taiwan from China," *Bulletin of the Atomic Scientists* (10 March 2022) ([External link](#)).
- Michael E. O'Hanlon, *Can China Take Taiwan? Why No One Really Knows* (Washington: Brookings Institution, August 2022) ([External link](#)).

Part III: Non-Traditional and Future Military Operations

Session 13 (18 Apr.): The Analysis of COIN, Stability Operations, and Intervention

Key Concepts and Discussion Questions:

- Key Concepts: insurgency; counterinsurgency (COIN); troop density; stability operation; humanitarian intervention; throughput
- What are insurgency and counterinsurgency? What are some key principles, imperatives, paradoxes, and successful practices of counterinsurgency?
- How does Quinlivan assess force requirements for stability operations? What are some benefits of this approach? Some drawbacks?
- How do Bennett and Lind assess the military forces and missions necessary to stabilize North Korea in the case of a collapse of its government? What do they conclude?
- How does Kuperman assess what a realistic U.S. humanitarian intervention could have done to save lives during the Rwandan genocide? What does Kuperman conclude?

Required Readings (101 pages):

- *U.S. Army Field Manual 3-24: Counterinsurgency* (Washington: Department of the Army, December 2006), Foreword, **pages** 1-1, 1-11 to 1-29 (On Blackboard).
- James T. Quinlivan, "Force Requirements in Stability Operations," *Parameters*, Vol. 25, No. 1 (Winter 1995-96), pp. 59-69 ([External link](#)) or on Blackboard).
- Bruce W. Bennett and Jennifer Lind, "The Collapse of North Korea: Military Missions and Requirements," *International Security*, Vol. 36, No. 2 (Fall 2011), pp. 84-119 ([GWU library link](#)).

- Alan J. Kuperman, *The Limits of Humanitarian Intervention: Genocide in Rwanda* (Washington: Brookings Institution Press, 2001), pp. 1-2, 21-22, [skim](#) 120-123 (Appendix A), 52-77 (Chs. 6-7) ([GWU library link](#)).

Recommended Readings:

- Barry R. Posen, "Military Responses to Refugee Disasters," *International Security*, Vol. 21, No. 1 (Summer 1996), pp. 72-111.
- Kelly M. Greenhill, "Mission Impossible? Preventing Deadly Conflict in the African Great Lakes Region," *Security Studies*, Vol. 11, No. 1 (Autumn 2001), pp. 77-124.
- Bjoern H. Seibert, "African Adventure? Assessing the European Union's Military Intervention in Chad and the Central African Republic," MIT Security Studies Program Working Paper (November 2007) ([External link](#)).
- Michael E. O'Hanlon, *The Science of War: Defense Budgeting, Military Technology, and Combat Outcomes* (Princeton: Princeton University Press, 2009), pp. 107-116 ([GWU library link](#)).
- *United Nations Peacekeeping Operations: Principles and Guidelines* (New York: United Nations, 2008), pp. 61-91 (Chs. 6-10) ([External link](#)).
- Noel Anderson, "Peacekeepers Fighting a Counterinsurgency Campaign: A Net Assessment of the African Union Mission in Somalia," *Studies in Conflict & Terrorism*, Vol. 37, No. 11 (2014), pp. 936-958.
- Elinor Sloan, *Modern Military Strategy: An Introduction*, 2nd ed. (New York: Routledge, 2017), pp. 77-100 (Ch. 5).
- *United Nations Infantry Battalion Manual (UNIBAM)*, 2nd ed (New York: United Nations Department of Peace Operations, January 2020) ([External link](#)).
- Michael E. O'Hanlon, *Defense 101: Understanding the Military of Today and Tomorrow* (Ithaca: Cornell University Press, 2021), pp. 127-132 ([GWU library link](#)).
- Stephen Biddle, *Nonstate Warfare: The Military Methods of Guerrillas, Warlords, and Militias* (Princeton: Princeton University Press, 2021).

Session 14 (25 Apr.): Future Military Operations & Review

Key Concepts and Discussion Questions:

- Key Concepts: revolution in military affairs (RMA); artificial intelligence; autonomous weapon systems; additive manufacturing; quantum sensing; quantum computing; hypersonic munitions; directed energy weapons; space-based weapons; swarming autonomous systems; brain-computer interface.
- What is the new RMA according to Brose, and what are some of the key technologies driving it?
- How is the U.S. military adapting to this change? How should it?
- Why does Biddle argue that new technology hasn't revolutionized warfare in Ukraine? Do you agree with him?

Required Readings (25 pages):

- Christian Brose, "The New Revolution in Military Affairs: War's Sci-Fi Future," *Foreign Affairs*, Vol. 98, No. 3 (May/June 2019), pp. 122-134 ([GWU Library link](#)).

- Stephen Biddle, "Back in the Trenches: Why New Technology Hasn't Revolutionized Warfare in Ukraine," *Foreign Affairs*, Vol. 102, No. 5 (September/October 2023), pp. 153-164 ([GWU Library link](#)).

Recommended Readings:

- Eliot Cohen, "A Revolution in Warfare," *Foreign Affairs*, Vol. 75, No. 2 (March/April 1996), pp. 37-54.
- Arthur K. Cebrowski and John J. Gartzka, "Network-Centric Warfare: Its Origin and Future," *Proceedings*, Vol. 124, No. 1 (January 1998), pp. 28-35.
- Stephen Biddle, "The Past as Prologue: Assessing Theories of Future War," *Security Studies*, Vol. 8, No. 1 (Autumn 1998), pp. 1-74.
- David A. Deptula, *Effects-Based Operations: Change in the Nature of Warfare* (Arlington: Aerospace Education Foundation, 2001).
- Williamson Murray and MacGregor Knox, "Thinking about Revolutions in Warfare," in Williamson Murray and MacGregor Knox, eds., *The Dynamics of Military Revolutions* (New York: Cambridge University Press, 2001), pp. 1-14.
- Andrew F. Krepinevich, Jr., *The Military-Technical Revolution: A Preliminary Assessment* (Washington: CSBA, 2002), pp. 11-22.
- P. W. Singer, *Wired for War: The Robotics Revolution and Conflict in the 21st Century* (New York: The Penguin Press, 2009).
- Elinor Sloan, *Modern Military Strategy: An Introduction*, 2nd ed. (New York: Routledge, 2017), pp. 121-140 (Ch. 7).
- Christian Brose, *The Kill Chain: Defending America in the Future of High-Tech Warfare* (New York: Hachette, 2020).
- Mick Ryan, *War Transformed: The Future of Twenty-First Century Great Power Competition and Conflict* (Annapolis: U.S. Naval Institute Press, 2022).

Sunday, 5 May 2024, 11:59:59 PM: Final Campaign Analysis Paper Due

Policies

Incomplete Grades

At the option of the instructor, an Incomplete may be given for a course if a student, for reasons beyond the student's control, is unable to complete the work of the course, and if the instructor is informed of, and approves, such reasons before the date when grades must be reported. An Incomplete can only be granted if the student's prior performance and class attendance in the course have been satisfactory. Any failure to complete the work of a course that is not satisfactorily explained to the instructor before the date when grades must be turned in will be graded F, Failure.

If acceptable reasons are later presented to the instructor, the instructor may initiate a grade change to the symbol I, Incomplete. The work must be completed within the designated time period agreed upon by the instructor, student, and school, but no more than one calendar year from the end of the semester in which the course was taken. To record the exact expectations, conditions, and deadlines of the Incomplete please use the Elliott School's Incomplete Grade Contract:

Incomplete Grade Contract for Graduate Courses

The completed and signed contract is to be submitted to the Academic Affairs and Student Services Office. All students who receive an Incomplete must maintain active student status during the subsequent semester(s) in which the work of the course is being completed. If not registered in other classes during this period, the student must register for continuous enrollment status. For more information regarding Incompletes please review the relevant sections in the University Bulletin:

<http://bulletin.gwu.edu/university-regulations/#graduatetext>

Instructor Response Time

I will usually respond to emails within 24 hours, often considerably faster. On weekends, I may be somewhat slower. If you haven't heard back from me via email within 24 hours, please feel free to follow up.

I will return graded assignments within one week.

Statement on Inclusive Teaching

In support of inclusive excellence, the Elliott School is committed to supporting our faculty and students in exercising inclusive teaching throughout our curriculum. All faculty members are expected to practice inclusive teaching as outlined in ESIA inclusive teaching statement (<https://elliott.gwu.edu/statement-inclusive-teaching>) and to include a stated commitment in the syllabus. Resources for inclusive teaching can be found here: <https://elliott.gwu.edu/inclusive-teaching-resources>.

Inclement Weather

In-person classes may be held online in case of inclement weather. Faculty will inform students of relevant instructional continuity plans.

Late Work

Late submissions of assignments will be deducted one letter gradient (e.g., A to A-, A- to B+, etc.) for each day they are late. Extensions will be granted on a case-by-case basis for illnesses, family emergencies, religious observances, and the like. If you are seeking an extension for one of these reasons, please give me as much advance notice as is possible. Extensions will rarely be granted on or in the day or two leading up to a due date, except under extraordinary circumstances.

GW Acceptable Use for Computing Systems and Services

All members of the George Washington University must read and comply with the Acceptable Use Policy when accessing and using computing systems and services, including email and Blackboard. Please read [the Acceptable Use Policy](#) to familiarize yourself with how GW information systems are to be used ethically.

Academic Integrity

Academic dishonesty is defined as cheating of any kind, including misrepresenting one's own work, taking credit for the work of others without crediting them and without appropriate authorization, and the fabrication of

information. Note that, in accordance with [university guidelines](#), using generative artificial intelligence such as ChatGPT to write any part of any assignment is a violation of academic integrity.

Please review GW's policy on academic integrity, located at: <https://studentconduct.gwu.edu/code-academic-integrity>. All graded work must be completed in accordance with the George Washington University Code of Academic Integrity. For more information, see [Promoting Academic Integrity](#).

Sharing of Course Content

Unauthorized downloading, distributing, or sharing of any part of a recorded lecture or course materials, as well as using provided information for purposes other than the student's own learning may be deemed a violation of GW's Student Conduct Code.

Use of Student Work (FERPA)

The professor will use academic work that you complete during this semester for educational purposes in this course during this semester. Your registration and continued enrollment constitute your consent.

Copyright Policy Statement

Materials used in connection with this course may be subject to copyright protection under Title 17 of the United States Code. Under certain Fair Use circumstances specified by law, copies may be made for private study, scholarship, or research. Electronic copies should not be shared with unauthorized users. If a user fails to comply with Fair Use restrictions, he/she may be liable for copyright infringement. For more information, including Fair Use guidelines, see [Libraries and Academic Innovations Copyright page](#).

Bias-Related Reporting

At the George Washington University, we believe that diversity and inclusion are crucial to an educational institution's pursuit of excellence in learning, research, and service. Acts of bias, hate, or discrimination are anathema to the university's commitment to educating citizen leaders equipped to thrive and to serve in our increasingly diverse and global society. We strongly encourage students to [report possible bias incidents](#). For additional information, follow this link: <https://diversity.gwu.edu/bias-incident-response>.

Disability Support Services & Accessibility

If you may need disability accommodations based on the potential impact of a disability, please register with Disability Support Services (DSS) at: <https://disabilitysupport.gwu.edu/>. If you have questions about disability accommodations, contact DSS at 202-994-8250 or dss@gwu.edu or visit them in person in Rome Hall, Suite 102.

For information about how the course technology is accessible to all learners, see the following resources:

[Blackboard accessibility](#)

[Kaltura \(video platform\) accessibility](#)

[Voicethread accessibility](#)

[Microsoft Office accessibility](#)

[Adobe accessibility](#)

Religious Observances

In accordance with University policy, students should notify faculty during the first week of the semester of their intention to be absent from class on their day(s) of religious observance. For details and policy, see: <https://registrar.gwu.edu/university-policies#holidays>.

Mental Health Services

The University's Mental Health Services offers 24/7 assistance and referral to address students' personal, social, career, and study skills problems. Services for students include: crisis and emergency mental health consultations confidential assessment, counseling services (individual and small group), and referrals. For additional information call 202-994-5300 or see: <https://healthcenter.gwu.edu/counseling-and-psychological-services>.

Emergency Preparedness and Response Procedures

The University has asked all faculty to inform students of these procedures, prepared by the GW Office of Public Safety and Emergency Management in collaboration with the Office of the Executive Vice President for Academic Affairs.

To Report an Emergency or Suspicious Activity

Call the University Police Department at 202-994-6111 (Foggy Bottom) or 202-242-6111 (Mount Vernon).

Shelter in Place – General Guidance

Although it is unlikely that we will ever need to shelter in place, it is helpful to know what to do just in case. No matter where you are, the basic steps of shelter in place will generally remain the same.

- If you are inside, stay where you are unless the building you are in is affected. If it is affected, you should evacuate. If you are outdoors, proceed into the closest building or follow instructions from emergency personnel on the scene.
- Locate an interior room to shelter inside. If possible, it should be above ground level and have the fewest number of windows. If sheltering in a room with windows, move away from the windows. If there is a large group of people inside a particular building, several rooms may be necessary.
- Shut and lock all windows (for a tighter seal) and close exterior doors.
- Turn off air conditioners, heaters, and fans. Close vents to ventilation systems as you are able. (University staff will turn off ventilation systems as quickly as possible).
- Make a list of the people with you and ask someone to call the list in to UPD so they know where you are sheltering and who is with you. If only students are present, one of the students should call in the list.
- Await further instructions. If possible, visit [GW Campus Advisories](#) for incident updates or call the GW Information Line 202-994-5050.

- Make yourself comfortable and look after one other. You will get word as soon as it is safe to come out.

Evacuation

An evacuation will be considered if the building we are in is affected or we must move to a location of greater safety. We will always evacuate if the fire alarm sounds. In the event of an evacuation, please gather your personal belongings quickly (purse, keys, GWorld card, etc.) and proceed to the nearest exit. Every classroom has a map at the door designating both the shortest egress and an alternate egress. Anyone who is physically unable to walk down the stairs should wait in the stairwell, behind the closed doors. Firemen will check the stairwells upon entering the building.

Once you have evacuated the building, proceed to our primary rendezvous location: the court yard area between the GW Hospital and Ross Hall. In the event that this location is unavailable, we will meet on the ground level of the Visitors Parking Garage (I Street entrance, at 22nd Street). From our rendezvous location, we will await instructions to re-enter the School.

Alert DC

Alert DC provides free notification by e-mail or text message during an emergency. Visit [GW Campus Advisories](#) for a link and instructions on how to sign up for alerts pertaining to GW. If you receive an Alert DC notification during class, you are encouraged to share the information immediately.

GW Alert

GW Alert provides popup notification to desktop and laptop computers during an emergency. In the event that we receive an alert to the computer in our classroom, we will follow the instructions given. You are also encouraged to download this application to your personal computer. Visit [GW Campus Advisories](#) to learn how.

Additional Information

Additional information about emergency preparedness and response at GW or the University's operating status can be found on [GW Campus Advisories](#) or by calling the GW Information Line at 202-994-5050.