

VIRTUAL WINTER ELECTIVES FAIR

*You will take two electives during your year
at the college as you work on your
master's degree. This presentation introduces
the courses that will be offered during the*

WINTER 2022-23 TRIMESTER

*Please review the following course flyers to
decide which courses pique your interest, then*

MEET THE PROFS ONLINE

Thursday ~ November 3rd

Available between 14:00 ~ 15:30

Zoom link emailed 1st week of November

Verify your zoom is current for breakout rooms

❄️❄️ **SEE BREAKOUT ROOM NUMBERS ON COURSE LIST** ❄️❄️

WINTER 2022-2023

COURSE#	AOS	TITLE	INSTRUCTOR/S	SPECIAL PGM	BREAKOUT ROOM #
562B	4	Understanding Russia, Ukraine, & the Former Soviet Union	Krol, G. (Adjunct Professor)		1
576	2	World War II in the Pacific	Oard, R. & O'Brien, T.		2
577	4	Churchill: Statesman and War Leader	Maurer, J.		3
580	10,12	Colonial Wars: 1841-1918	Norton, R.		4
592B	13	Foundations of Moral Obligation, Contemporary Applications	Shanks-Kaurin, P.	EEMT	5
594	13	Ethics in the Military: A Multi Disciplinary Approach	Creely, T. & Brown, L.	EEMT	6
605	10	Science, Technology, and Strategy	Schultz, T. & Dennis, M.	EEMT	7
664	5	African Maritime Safety and Security	Landsman, J. & Nordhill, J		8
665	2, 5	China and Africa	Singh, N. & Dahlin, R.		9
668B	12	Irregular Warfare Across Eras and Empires	McGraw, J.		10
681	11	Information Warfare, Electromagnetic Maneuver Warfare and Cyberspace Operations (TS/SCI)	Pham, Clarity, Boutwell, & Griffin		11
707	9	International Maritime Security Law	CAPT Larson , CDR Layne, & Pedrozo		12
717	10,13	Strategy, Leadership, and Ethics in Thucydides' Peloponnesian War	Pavkovic, M. & Hammond, J.		13
751	10	Expeditionary Warfare, Blockades, Commerce Raiding, Coalitions, & Grand Strategy	Elleman, B.	GCMH	14
770C	10	Seapower in the Age of Steam, 1815-Present	Wadle, R.	GCMH	15
775B	10	Climate Security Around the World	Cameron, A.		16
778	10	Cyber Seas: U.S. Navy Command in a Wireless World	Kohnen, D.		17
780	10	AI for Strategic Leaders - Unpacking the Black Box (Open to U.S. students only)	O'Hara, M. & Hanus, J.	EEMT	18
789	8	Introduction to Logistics in the National Defense	Gannon, J.		19
790	10	Research and Data Analysis: Becoming a Confident Consumer and Producer of Knowledge	Rosen, A.		20

562B ~ UNDERSTANDING RUSSIA, UKRAINE, & THE FORMER SOVIET UNION



The course will analyze and discuss how these states have incorporated as well as tried to distance themselves from their Soviet past, including in key transnational regional and global relationships in the energy, economic, political, security and cultural spheres. The elective will also discuss the policies and approaches of the United States and China toward the former Soviet states since the end of the Cold War.

Although the Union of Soviet Socialist Republics (USSR) ceased to exist over 30 years ago, its domestic and external legacies, its institutions, mindsets and conflicts live on in Russia, Ukraine and the other 15 states that emerged out of the Soviet Union, profoundly affecting their societies, politics and relations with each other and the world. Indeed, the current war between Russia and Ukraine is very much a product of their Soviet past.

This elective will examine the post-Cold War political, social, economic and security evolution of the states of the former Soviet Union to include the Russian Federation, Ukraine, Belarus, Moldova, Georgia, Armenia, Azerbaijan, Kazakhstan, the Kyrgyz Republic, Tajikistan, Turkmenistan, Uzbekistan, as well as Estonia, Lithuania, and Latvia.



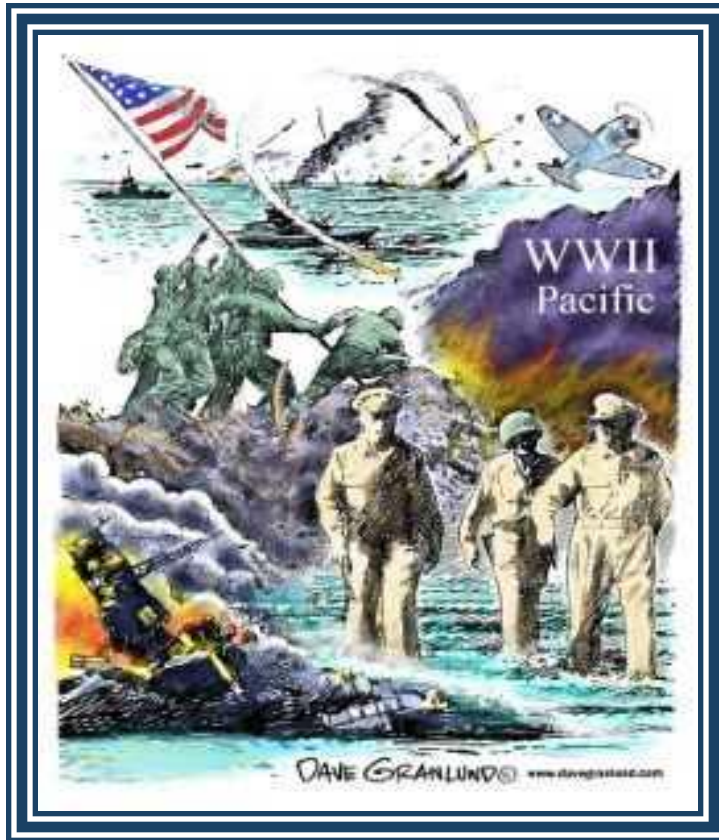
In the course of my 36-year career in the U.S. Foreign Service, I have either worked in or dealt with all the states of the former Soviet Union including, inter alia, as U.S. Ambassador to Belarus, Uzbekistan and Kazakhstan, Deputy Assistant Secretary of State for Central Asian Affairs, Political Officer at U.S. Embassy Kyiv, Director of the State Department's Office of Russian Affairs and Minister Counselor for Political Affairs at U.S. Embassy Moscow. Throughout the course, I will draw on my experiences directly interacting with many of these countries' leaders, including Vladimir Putin as well as with senior U.S. officials responsible for policy toward the states of the former USSR. I will conduct the course as a graduate seminar focused on active student input, readings, discussion and possible virtual guest participation of senior officials and experts of the region.

PROFESSOR GEORGE A. KROL

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576 ~ WORLD WAR II IN THE PACIFIC



This course will provide a comprehensive overview of World War II in the Pacific Theater at both the strategic and operational levels. It has been developed particularly with those who have an avid interest in the multifaceted personalities, strategies, operational considerations, battles, and ideologies it involved. While national security strategies and military strategies will be a key focus of the course, equal consideration will be given to the operations and campaigns through which the war played out.

The course will progress along two parallel lines or themes -- specific phases or geographical areas of the conflict and considerations of the national and military leadership of the various nations involved in the conflict. Normally each session will consist of three hour-long portions, each dealing with a different topic. Each hour-long portion will be a mixture of presentation by the faculty and seminar discussion by students based upon student readings and knowledge of the subjects. One session will be led by a leading academic who has done primary research in areas relating to the topic.

Additionally, there are two "offsites" scheduled for the class to take advantage of unique resources related to the War in the Pacific available in the War College area. While it will be necessary to maintain the focus on the Pacific due to time constraints, strategic and operational decisions made in the war within a world-wide context will also be discussed. Therefore, students should not feel constrained to limit their discussion where to do so would prevent full consideration of the context within which events took place in the Pacific War.

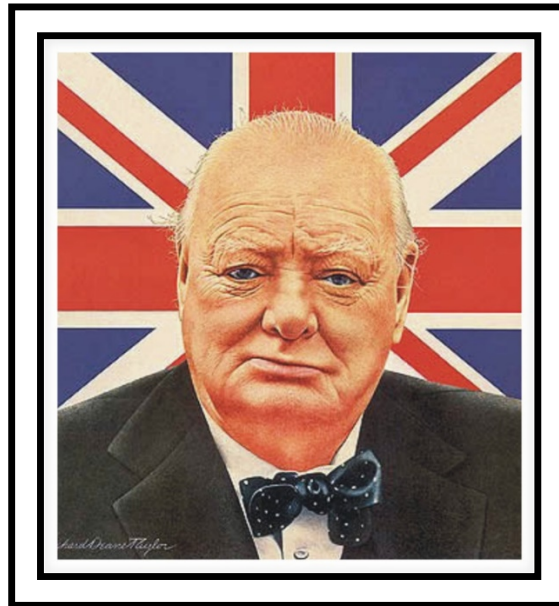
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577 ~ WINSTON CHURCHILL STATESMAN & WAR LEADER



The story of Churchill's life is that of a leader guiding the fortunes of a superpower in decline. In 1874, the year of Churchill's birth, Britain stood as a world leader in manufacturing, technology, international finance and trade, and naval power. Britain was the engine of globalization during the nineteenth century. By 1965, the year of Churchill's death, Britain's lead in these areas had vanished, and it no longer governed a global empire. This course, in an attempt to assess Churchill as a strategist, will examine the driving forces—changes in domestic politics, economy, society, technology, the international strategic environment, and military capabilities—that undermined Britain's standing as a world power during the first half of the twentieth century. Did Churchill's policy and strategy choices accelerate Britain's decline? Alternatively, would Britain have emerged in a stronger international position if it had followed Churchill's policies and strategies? In what way could Churchill's strategic prescriptions have worked to arrest Britain's decline on the world stage

The study of Churchill as a strategist and Britain's experience in the era of the two world wars also raises some important questions about the value of historical inquiry for today's policymaker. Can we derive any meaningful lessons from this earlier time that offer guidance for understanding the strategic problems currently facing the United States? If so, how can we apply what we have learned from studying Churchill's life and times to our own day? In examining these questions, this course will explore parallels between Britain's strategic predicament in Churchill's lifetime and the driving forces shaping today's world, along with the security challenges that confront the United States at the beginning of the twenty-first century.

DR. JOHN H. MAURER

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580 ~ COLONIAL WARS

1841 ~ 1918



Welcome to the Colonial Wars elective. During this trimester we will be examining one of the most interesting periods in military history. This course provides the opportunity for students to apply the critical thinking frameworks provided in the core curricula to the events of the colonial era. We will examine the use of the instruments of power by industrial states and predominately asymmetric enemies. In doing so, we will also identify some of the key events and trends that shape the characteristics and issues of many countries today, and mine the past for lessons that may be applied to current challenges. Strategic decision making, leadership in foreign policy making and execution, and issues in dealing with culturally diverse opponents and allies are the central features of the course. Graduates will be able to:

- Describe and assess the diverse elements and key drivers affecting several key colonial foreign policy and military decisions, particularly in Africa.
- Assess the effectiveness of industrialized states' use of each of its power instruments in advancing political aims over the time period.
- Assess the ability of expeditionary and colonial powers to effectively deal with indigenous opponents.
- Through the study of both defeat and victory, understand why indigenous opponents were at times able to inflict crushing defeats upon their European opponents
- Assess to what degree the present state of certain regions were affected by events during this time period.
- Describe and assess a complex array of calculated, organizational, cultural and personality-driven issues that led to these campaigns and conflicts.
- Understand the causes of these conflicts, the manner in which they were carried out and how conflict termination was achieved.

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592B ~ FOUNDATIONS OF MORAL OBLIGATION



CONTEMPORARY APPLICATIONS



Admiral Stockdale developed a version of this course when he was the President of the Naval War College, as a moral philosophy course for officers. While the readings have changed over time, the course preserves the basic spirit and core questions of the original. It is also important that we read and discuss several of Admiral Stockdale's own written pieces in which he articulates the importance of these philosophical explorations for thoughtful and military officers and professionals.

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These readings raise fundamental questions in different voices regarding the nature of moral obligation, human nature, good, right, justice and law from a variety of times, places and viewpoints. The book is the teacher and we are in conversation with the book and one another. In addition to historical texts, we also read some more contemporary critiques and developments of the ideas, conversations and themes in moral philosophy. These critical texts are important to understanding the contemporary landscape in which we operate as moral persons, and to understanding future challenges and directions for the conversation in moral philosophy. In particular, this version of the course includes material engaging Just War Thinking, race, gender, technology, and the nature of violence in the context of the Global War on Terror, in addition to the classical historical texts and questions that defined the original version of the course.

All of us will read carefully in advance and come to class prepared to engage in close discussion of the issues raised by the text. Our role as faculty is to function as facilitators, asking questions and helping guide the discussion, but this is your space and time.

DR. PAULINE SHANKS KAURIN

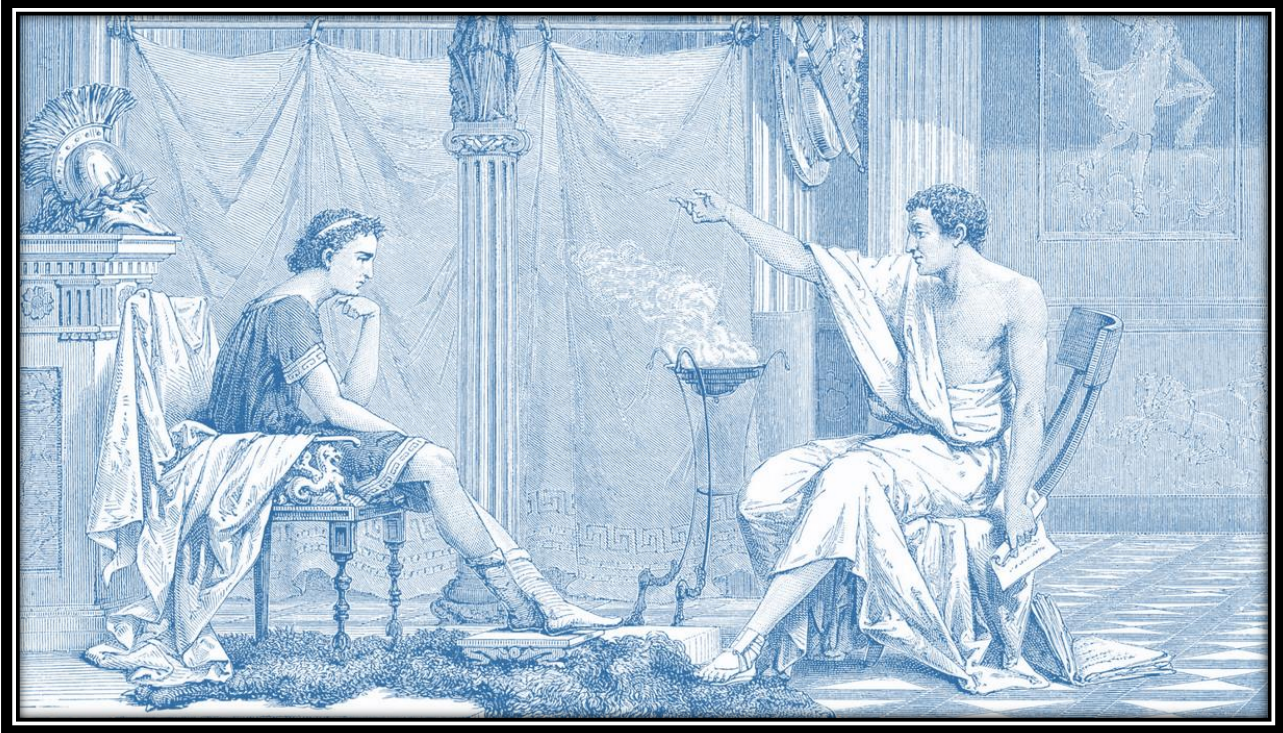
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594 ~ ETHICS IN THE MILITARY

A MULTIDISCIPLINARY APPROACH



Ethics in the Military is a foundation of the profession of arms, which reinforces the social contract with the American people and upholds our Constitutional obligation. Increasing ambiguity politically, socially, economically, culturally, and religiously on the world stage, requires a deeper understanding and probing examination of current realities and anticipated conflicts, with complex dilemmas. In order to have breadth and depth to ethical capacity, it is important to study ethics from a multi-disciplinary approach. It is through the lenses of different disciplines that we increase our knowledge, inform our decision-making skills, and develop a holistic experience. Philosophy, Arts, Technology, Religion, Just War, and Anthropology are interconnected disciplines that build intellectual capital and prepare leaders to think and engage at higher levels of responsibility.

An overview of ethical theories and terms will lay the foundation for analysis, discussion, and reflection of one's moral decision-making responsibility. The military as a profession is examined through the lenses of trust, power, and decisions. What is the nature of power? How do we leverage and protect our power? What is the cost-benefit of courageous leadership? How do I navigate moral dilemmas? How do we promote peace and security? Is technology value laden? Case studies, film, literature, webcasts, and journal articles will provide the background for contemplation and debate. Because of these and other questions, you will expand your ethical capacity across disciplines.

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605 ~ SCIENCE, TECHNOLOGY, & STRATEGY



This course has significantly evolved from previous versions and is for those interested in the relationship between strategic aspirations and technical and scientific knowledge. The material ranges widely, and there is a recurrent focus on emerging technology. You'll start with Arthur C. Clarke's classic sci-fi short story on technological hubris and, along the way, grapple with ideas underlying various topics such as chemical warfare, the convergence of technology and ideology (such as in Nazi Germany), the development of nuclear strategy, the impact of artificial intelligence, and various fetishes and phobias of today's hi-tech strategic environment. Lesson topics include:

- **Concepts of science & technology**
- **Rise of the military-industrial complex**
- **Translators and engineers of change**
- **Disruptive technology**
- **Nazi technology**
- **Apocalypse on the gleaming wings of science**
- **Humans, machines, and autonomy**
- **Strategy and the digital commons**
- **Strategy and emerging science and technology**

Each lesson emphasizes a free-flowing discussion of historical and contemporary concepts informed by the weekly readings. The professors may use the first hour or so for an informal presentation and will facilitate the broader discussion. Each week you will turn in a brief (~500 words) analysis of course material, and your insights will inform a lively seminar conversation.

COME JOIN US!

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664 ~ AFRICAN MARITIME SAFETY & SECURITY



This course will examine the African maritime sector, laying a foundation for how the oceans, seas, lakes and rivers play a critical role in the economic viability, stability, safety and security of the African continent. During the past two decades, African nations and the international community have finally started to recognize the value and the significant role the African maritime sector contributes at national, regional, and global levels. The sector provides development and economic opportunities, while at the same time, it must overcome the significant challenges relating to governance, illicit criminal activity, piracy, illegal fishing, migration, trafficking, and the protection of Africa marine ecosystem.

Classroom sessions will concentrate on the African maritime sector's history, geography, resources, trade, infrastructure, threats, regional stakeholders, maritime law and rule of law, strategies and agreements, international partner interaction, and how regional organizations support and utilize the sector. Students will apply insights gained through course topics and seminar discussions through writing, critiquing articles and resource material, in class presentation, and participating in an in-class practical tabletop game, which will further investigate possible solutions to safety and security issues and challenges within the African maritime sector.

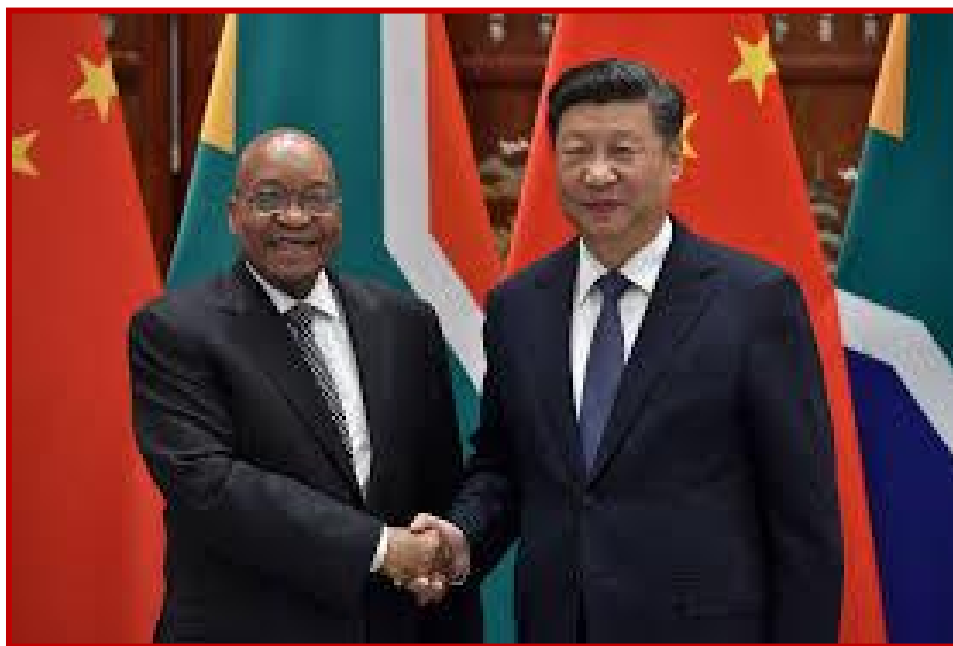
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665 ~ CHINA AND AFRICA



Course Description: Welcome to the China and Africa elective. During this trimester we will be examining China's activities in and around Africa. Our course of study will begin with a look at the history of China's engagement with Africa starting with the voyages of Zheng He. Subsequent sessions will look at the many areas where China's government, military, businesses, and citizens are active on the continent and in the waters of Africa with blocks focusing on Economics, Diplomacy/Soft Power, and Security. The course will conclude with a discussion on how African nations are responding to China's activities on the continent and if/how the U.S. should respond.

Student Learning Outcomes: Students will emerge from this course with an ability to better understand the enormous impact of China's strategic interaction with Africa. Learning outcomes will focus on developing:

1. critical reading skills – the ability to deconstruct a complex textual argument and debate its merits based on logic, sources and evidence;
2. an understanding of objective and subjective argumentation – the crucial ability to differentiate between facts and opinions;
3. a general fluency regarding both historical and modern trends in China-Africa relations – a familiarity with regional events, cultures, and political developments that will enable students to grapple with complex future policy dilemmas; and
4. enhanced analytic skills by focusing on the dynamics of China-Africa interaction, China's intentions, implications for US national interests, and potential US responses.

Student Requirements:

- Students will be required to either (a) research and write a paper (10-12 pages) proposing a policy recommendation for a proposed U.S. response to China in Africa due on or before Week 9. On the final session of the course, each student who wrote a long paper will give a 5-minute presentation on their policy paper followed by class discussions of all of the ideas. OR (b) write three discussion papers (3-5 pages). Students will write one each for three out of the five blocks of the class.
- Each student will be assigned an additional task for one week during the trimester. Each week, one or more students will be required to review current events concerning an assigned African country or region looking for China-focused reporting and will informally present the results of their review to the class during the next session.
- Students receive a grade of High Pass (no more than 20% of class), Pass, or Fail, based on seminar participation, the research paper, and presentations.

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668B ~ IRREGULAR WARFARE ACROSS ERAS & EMPIRES



INTERNATIONAL & AMERICAN APPROACHES

John Waghelstein, a legendary practitioner and educator of this discipline, described the character of Irregular Warfare this way: Irregular warfare is to conventional warfare as NCAA Lacrosse is to Indian Lacrosse. The former is played under a set of rules regarding number of players in a defined arena with a time limit. There are accepted constraints on the players' conduct. The game's outcome is measured in the number of goals and the results usually accepted as final. Indian Lacrosse was played without any of the above rules on the size of the arena, on the numbers of players and on what was permitted by participants.

And there was no time limit.

In the 19th, 20th and now well into the 21st centuries, the United States and other powers were and continue to be confronted by a wide array of challenges including irregular, guerrilla or partisan warfare. This is nothing new. Throughout human history, weaker powers have successfully fought stronger opponents with asymmetric approaches. The American experiment was born of irregular warfare. And similarly, America has been challenged by irregular foes and foes that use both conventional and irregular methods together. This should not be surprising for empires and nations have long fought against (and in some cases, enabled and supported) irregular forces that sought to undermine, challenge or overthrow state power.

Hybrid warfare, the blending of conventional and irregular means of conflict, appears to be a common technique in the contemporary character of warfare. An understanding of the principles of irregular warfare, the frameworks that might be used to describe it and the environment that defines how to best employ it, may be useful in contemplating the contemporary battlefield.

COURSE DESCRIPTION:

This course examines how Empires and Nations have fought both with and against irregular forces. It examines the strategy of the insurgent, the partisan, the guerrilla and the state. Further this course seeks to understand the utility in combining both irregulars and regulars towards military objectives and policy aims, and perhaps the futility in attempting to defeat the same.

COL JOE MCGRAW, USA (Ret)

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681 ~ INFORMATION WARFARE, ELECTROMAGNETIC MANEUVER WARFARE, AND CYBERSPACE OPERATIONS

This course examines the importance of the information environment in contemporary warfare, the emergence of cyberspace as a warfighting domain, and the challenges associated with the joint military operations, as it pertains to information warfare (IW), electromagnetic maneuver warfare (EMW), and cyberspace operations (CO).

Today's operating environment requires commanders and their staffs to think beyond traditional military solutions. This is an area in which concepts are ever evolving, technology is nearly impossible to baseline, and available operational expertise is constrained. Throughout the trimester, we will investigate and seek to understand how commanders can leverage IW, EMW and cyberspace capabilities in operational planning and execution.

This course will consist of a combination of lecture and seminar discussion throughout the ten weeks. Guest speakers will augment the course through presentations of issues from their area of expertise.

EL681 is conducted at the Top Secret Sensitive Compartmented Information (TS/SCI) classification level.

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Prof Matt Griffin, CDR/USN (Ret)
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707 ~ INTERNATIONAL MARITIME SECURITY LAW



"We live around the seas" said Socrates, "like frogs around a pond".

This seminar will help students understand how law of the sea affects the exercise of sea-power at the tactical, operational, and strategic levels while shaping the actions of national leaders and joint force commanders.

We will discuss the law of armed conflict and peacetime international law of the sea, to include the U.N. Convention on the Law of the Sea (UNCLOS) and various other treaties and international agreements. We will examine how these bodies of law relate and intersect in the oceans and how the law of the sea affects events on land. Using several case studies, lectures, videos, and class discussions, we will explore how international rules, regimes, and institutions help promote peace, as well as their role in conflict at sea.

Topics include: freedom of navigation; transnational crime; ship hijacking and maritime piracy; maritime drug and human trafficking; maritime terrorism; seaborne proliferation of weapons of mass destruction; asymmetric maritime warfare and blockade; maritime access and boundary disputes; marine pollution; fisheries enforcement; and unmanned and autonomous systems..

STOCKTON CENTER FOR INTERNATIONAL LAW

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CAPT Amy Larson, JAGC, USN

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CDR Charles "Mike" Layne, JAGC, USN

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717 ~ STRATEGY, LEADERSHIP, & ETHICS IN THUCYDIDES' PELOPONNESIAN WAR



This elective focuses on Thucydides' *War of the Peloponnesians and Athenians* and combines the disciplines of ancient history and strategic studies. The elective will be run as a seminar and employs the Socratic method. We will read Thucydides' account of the Peloponnesian War as slowly and carefully as time permits and try to discuss four or five big questions per seminar about Thucydides and the Peloponnesian War thus deeply diving into the text. This elective should be valuable for any War College student: in the summer of 1972 Admiral Stansfield Turner proclaimed that the study of strategy at the College would be through the use of historical case studies and said "We will not be concerned with history as chronology, but with its relevancy and application to today and tomorrow." We will start with Thucydides' *War of the Peloponnesians and Athenians*. For those currently taking or waiting to take the strategy course, Thucydides offers a superb introduction to the study of strategy. The course may be even more valuable for those who have completed one of the strategy courses and desire a capstone integrating all of their course themes, with a special focus on the relation of strategy, leadership, and ethics in war.

Thucydides wrote his account of the great war between Athens, leader of the Delian League, and Sparta, leader of the Peloponnesian League, as a "possession for all time." It is meant to reveal the essence not merely of the Peloponnesian War, but of war as such. In that respect, his account of the Peloponnesian War is meant to be the greatest (most insightful, most moving, and most comprehensive) account of war ever written. It is a microcosm of all war, and as such, useful for understanding any war.

We will test Thucydides' claim to have written the perennially useful account of war against the text by examining such classic issues as the causes of war, land vs. sea power, limited and unlimited war, coalitions, intervention, peripheral operations, political, economic, and revolutionary warfare, escalation, war termination, civil-military relations, the match between strategy and policy, strategic and operational leadership, strategic communications and rhetoric, and the struggle for power among political leaders and parties in time of war. We shall pay special attention to Thucydides' understanding of the strengths and weaknesses of Athenian democracy at war in order to see whether they have any bearing on the problems of strategic leadership in democracy at war in our own time. Thoughtful students of Thucydides have long recognized that his book is about much more than strategy and leadership, however. It is the beginning of Western political science, some even say, of Western political philosophy, so we will engage with these perennial issues too, especially as they pertain to justice and ethics in war, as they come up in our conversations.

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751 ~ EXPEDITIONARY WARFARE, BLOCKADES, COMMERCE RAIDING, COALITIONS & GRAND STRATEGY



Can continental and maritime powers both conduct the full array of naval operations to equal strategic benefit? Specifically, can the United States, China, and Russia employ naval forces with equal effect? Over the past twenty years, the instructor has edited and written eight books on maritime operations. There is one volume each on mutinies, blockades, naval coalitions, expeditionary warfare, commerce raiding, non-military naval operations, plus a final volume. Together, they cover one hundred case studies, each by a specialist. Assigned chapters from these books will constitute the basis for seminar discussions and written work.

The course will focus on the operational and strategic prerequisites for these operations; the feasible, desired, and undesired strategic effects from them; and the relative capacity of continental versus maritime powers to conduct or neutralize them. Analytical topics will include the Eurasian heartland versus the maritime commons, sea control versus sea denial, cumulative versus sequential effects, limited versus unlimited wars, regional versus global wars, and joint versus combined operations. Applications will include the relative capacity of the United States, China, or Russia to engage or neutralize such operations. The instructors will circulate short, current news items on the maritime competition among the United States, China, and Russia as articles appear in the press.

REQUIREMENTS: Each seminar session will focus on a different type of maritime operation. In preparation, each student will read a different selection of approximately four-five short case studies plus a chapter from the assigned textbook. The last two sessions will be devoted to student presentations on topics of their choice based on the previously assigned readings.

(1) Seven of the ten seminar sessions (2-8) will have students subdivided into three groups (A, B, and C). Each group will read a different selection of case studies and base their classroom discussion on their assigned case studies.

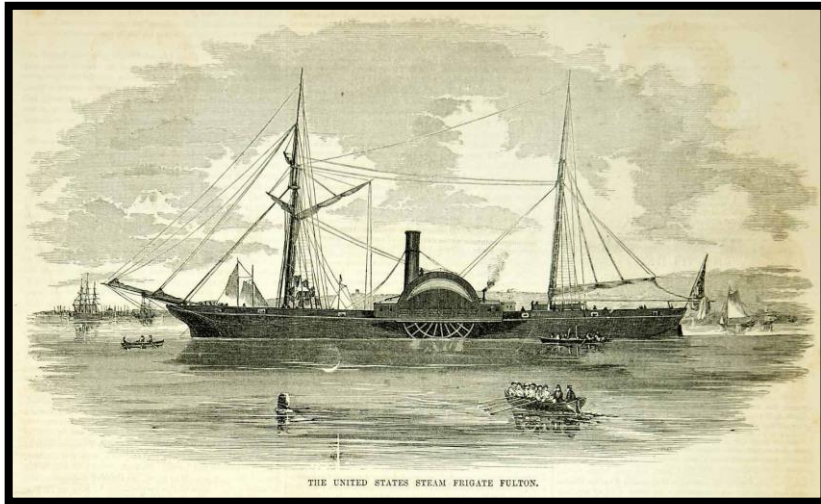
(2) One final PowerPoint presentation of at least twelve slides plus an eight-page, footnoted paper, summarizing the presentation, will be presented during one of the final two seminar sessions. Presentation topics will be chosen in consultation with the instructors. They will require no additional readings besides those assigned in the course.

BRUCE ELLEMAN, PH.D.

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770C ~ SEA POWER IN THE AGE OF STEAM



1815 to PRESENT



DESCRIPTION: This course will examine the roots of sea power theory and the peacetime and wartime development of sea powers since 1815. Sea power has a long history and has traditionally allowed nation-states to project power beyond their borders, often granting them increased wealth through the development of imperial possessions and also conferring strategic advantages over their enemies in times of war.

THESIS & SCOPE: This course is intended to provide students with a broad understanding of the uses of sea power, both in the past and present. The course will discuss the roles of sea power from 1815 to the present. In particular, this course will cover the *Pax Britannica* period of 1815-1914 and the *Pax Americana* since 1945 that resulted from British and American maritime dominance. This course will examine those two navies with strong emphasis upon roles and missions, key leaders, and technology. The course material is accessible for students with no background in naval history, but should also challenge students of sea power.

DR. RYAN WADLE, Ph.D.

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This course is included in the **Graduate Certificate in Maritime History**.

775B ~ CLIMATE SECURITY AROUND THE WORLD



Climate security affects the United States, our allies and partners as well as our adversaries. The current and future security of countries and peoples around the world is affected by trends in the local, regional, and global climate changes. This course explores how the different regions of the world will be affected by climate change. We will examine:

☐ If climate change, is it an existential threat? ☐ How is climate security defined? ☐ What are the benefits of securitizing climate?

This course introduces students to the basics of climate change and how climate security is interpreted through the lens of U.S. national security. The first part provides a basic understanding of climate change and how the Arctic, Antarctic, and four oceans play a significant role. This section also introduces the students to a basic framework for assessing the climate threat. The second part of the course divides the world into geographic/regional areas to evaluate the unique characteristics of how the changing climate affects each region. Students will examine the region through a climate security lens, understand the international governance and actors, relate key environmental security issues, and discuss US foreign policy. The course has a current events focus that is practical, policy focused, and solution oriented.

Climate and environmental security topics will play an increasingly important role in future thinking about national security strategy and the geostrategic environments where forces will operate. Understanding this connection is essential for national security practitioners in any field. Each student has an opportunity to explore a case study of their choice within this field as their principal deliverable.

PROF ANDREA H. CAMERON, PH.D., ED.D

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778 ~ “CYBER” SEAS: U.S. NAVY COMMAND IN A WIRELESS WORLD



The U.S. Navy achieved unprecedented supremacy at sea by orchestrating global operations with intelligence. During the twentieth century world wars, the U.S. Navy harnessed the advantages of electronic communications and intelligence to conduct global maritime operations with unprecedented efficiency. In peacetime, the U.S. Navy used electronic communications to place forces in position to safeguard the strategic interests of the United States. Given the significance of the Internet in the twenty-first century, the U.S. Navy remained a strategic force in developing technical means to orchestrate operations with greater efficiency with intelligence. By 2015, the term, “cyber,” diverted discussions about U.S. Navy organization, seagoing operations, and tactics. The term itself overshadowed the original thought in that the technical question of “cyber” became the driving concept.

Cyber theories frequently clashed with traditional U.S. Navy conceptions of strategy and organization. Doctrinal questions also loomed within the “new” context of “cyber warfare.” Although concepts of “cyber” appeared to represent a new challenge, the U.S. Navy had pioneered this technical *subfield* for nearly *two centuries*. In fact, cyber is by no means a “new” aspect of maritime strategy. Rather, cyber is simply a new way of discussing old problems of strategy, operations, and intelligence. Cyber warfare is arguably a tactical problem, which requires a holistic strategic approach in executing operations at sea with intelligence.

Through selected readings and seminar discussions, students may reconsider the underlying historical trends which influenced transcendent strategic questions of command in maritime operations. Students will be encouraged to consider alternative interpretations, challenge existing bureaucratic assumptions, and draw perspective from past models of command in communications and intelligence for application in future U.S. Navy organization. Ultimately, our course is designed to serve as a forum for practitioners to reconsider the basic influence of history upon sea power through critical discussions concerning the contemporary military policy of the United States.

This course is designed to provide students an opportunity to reconsider the U.S. Navy strategy for “cyber” operations by examining the technological influences and organizational dynamics, which have defined American conceptions of communications security and sea power.

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780 ~ AI FOR STRATEGIC LEADERS: UNPACKING THE BLACK BOX

**This is a project-based course delivered in partnership
with Massachusetts Institute of Technology Lincoln Laboratory (MIT-LL).**



Students will achieve a working knowledge of AI subsystem components and understand the key technical drivers for AI solutions. Using their operational domain knowledge and field experience, students will identify an operational problem and design a proposal for AI-based solution in accordance with expectations and protocols of authorities such as the Defense Innovation Unit and the Rapid Reaction Technology Office (DASD EC&P). These proposals will be briefed to senior leaders and shared broadly. Experts from MIT-LL will provide one hour of asynchronous lectures each week. Registered students will receive credentials to access the EdX platform via <https://llx.mit.edu>. The purpose of these lectures is to provide fundamental understanding of machine learning, neural networks, image processing, etc., and to prompt questions for discussion in seminar. Lincoln experts will attend seminars to provide additional information, respond to technical questions, etc.

This is not a class to learn how to code or to become a data scientist. This course leverages the deep domain expertise of students from a variety of fields and disciplines. Using this preexisting knowledge, students will decompose operational problems and design proposals for AI solutions. Although some students will arrive with significant background in computing and data science, there are no prerequisites for this course. The course prioritizes seminar time for collaboration with technical experts, among student teams, and for developing external partners in industry, academia, operational units, and federally funded research and development centers. Students will be expected to network aggressively beyond NWC to leverage the technical expertise of computer scientists, engineers, data scientists, and other technical experts to complete the final assignment.

This course is limited to U.S. citizens only.

Upon completion of this course, students will be able to:

- Remember the terminology and taxonomy of interrelated technologies known as artificial intelligence (NLP, computer vision, textual, machine learning, neural networks, deep learning)
- Understand the fundamental concepts of data science and how they apply in operational contexts
- Understand the strengths, weaknesses, opportunities of, and threats to systems employing Artificial Intelligence
- Apply artificial intelligence concepts to historical and contemporary operational challenges

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789 ~ INTRODUCTION TO LOGISTICS IN THE NATIONAL DEFENSE

"The battle is fought and decided by the quartermasters before the shooting begins." Erwin Rommel,
in John Lynn, *Feeding Mars: Logistics in Western Warfare from the Middle Ages to the Present* (1993)



"If I had to give credit to the instruments and machines that won us the war in the Pacific, I would rank them in this order: submarines first, radar second, planes third, bulldozers fourth." FADM W.F. Halsey

Joint Logistics involves many of the essential ways and means for designing and executing effective military operations. Logistics has been called an arbiter of strategic opportunity, and is a critical element contributing to military success. One can't win a war with logistics, but one can lose a war without it. Colin Gray argues *"logistics is, inter alia, what enables armies to function a armies... that which is logistically infeasible is strategically infeasible."* Concepts for sustainment and logistics must be designed into strategies, campaigns, and operations to accomplish military objectives. Since WWII, the U.S. military has become much more dependent on the private sector and global supply chains to support military operations. There are significant opportunities and risks associated with the way the armed forces plan and execute operations in today's strategic environment.

At its core, logistics and sustainment include ways and means that provide the commander with critical capabilities and critical requirements necessary to achieve objectives at each level of war. Logistics must be conceived in force design, and concepts for supporting military operations must start at the strategic level. Ultimately, properly designed logistics provides the commander with several critical capabilities: readiness of the force, responsiveness to operational requirements, global and operational reach, freedom of action, and the endurance to prevent culmination or unplanned operational pauses. In today's environment where threats are trans-regional, all-domain, and multifunctional, joint commanders and their planners must clearly appreciate the logistics implications and apply creative approaches to solving complex problems.

This course explores the evolution of defense logistics, based on industrialization and campaigns in WWII through the present. We will examine themes that drive strategy and operational decision making, such as defense planning priorities, capacity, mobility, risk, opportunities, organizations, and emerging trends with the industrial base and commercial supply chains. The course is not necessarily aimed at logisticians, but rather for those who want to fully understand more about a critical joint function that permeates every aspect of military operations, and one that is essential for accomplishing objectives at the strategic, operational and tactical levels.

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790 ~ RESEARCH & DATA ANALYSIS



BECOMING A CONFIDENT CONSUMER AND PRODUCER OF KNOWLEDGE

Leadership requires the ability to efficiently sort through contradictory information and positions to make evidence-informed decisions. Understanding how knowledge is produced and consumed is essential to this decision-making process. This course will not give you in-depth knowledge of a particular region of the world, insight into naval operations, or insight into particular military thinkers. Instead, it will train you in how to quickly and effectively sort through information, create and ethically test claims about that information, and efficiently communicate that information using data, tables, and graphs. This is a skills course that will help you in your other coursework and in life outside the War College by developing your expertise in research and data analysis skills such as analyzing sources, developing hypotheses, constructing an ethics-grounded research project, collecting data, conducting qualitative and quantitative analysis, and writing up results.

NOTE: This class is intended for the novice researcher who has never taken a research methods or statistic class and whose math skills may be a bit rusty or non-existent.

After completing this course, students will be able to:

- ❖ Articulate the principles, components, and practices of strong, ethical research.
- ❖ Recognize instances of academic dishonesty and relate how to engage in ethical research practice.
- ❖ Evaluate the quality of sources of information and distinguish between scholarly, high quality non-scholarly, and low-quality sources.
- ❖ Create a research output that communicates findings using high quality sources, qualitative and/or quantitative data, and professional visuals.
- ❖ Evaluate research products and give effective feedback.

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How many electives? The Electives Department offers over 60 elective courses plus several special programs during the academic year, with a very limited number of electives offered more than once. Students take two elective courses plus the required Leadership in the Profession of Arms (LPA) course during the academic year, one each trimester.

Do I select all my electives when I start my program year? **NO**

Students select one elective before each trimester. Each trimester, different Elective course offerings and the Elective Program Schedule for the Academic Year are posted on the Blackboard (BB) Dean of Students (DoS) Information Center under the ELECTIVE INFORMATION CENTER tab.

Can I choose the trimester for LPA? **NO**

LPA will be assigned, with approximately one third of the incoming JUNE students assigned during the FALL trimester. NOVEMBER and MARCH off-cycle students will take LPA in the FALL trimester, unless they are in a special program.

Where can I find a list of courses running during the entire academic year?

The current Course Catalog, broken down by Areas of Study with brief descriptions of each course, is posted on the ELECTIVE INFORMATION CENTER (located on DoS BB site). The catalog may also be found on the USNWC website under the ELECTIVES Program. **The Academic Year Catalogue is subject to change.** Trimester Course Offerings with the most current information will always be posted to the Blackboard (BB/DoS) under the ELECTIVE tab. Course syllabi and student evaluations are also available so that you can make informed decisions.

If I commit to an Area of Study, but decide I don't want to continue, can I drop the AoS for the second two trimesters? **NO**

Once you choose an AoS, you are locked in that Area of Study for both of your elective trimesters. **NOTE:** If a student starts with AoS 0-NA (open to all electives offered), then decides he/she would like to concentrate in an AoS in which his/her first course was listed, we will add an AoS to the record at the end of the first trimester for second course priority registration.

Where can I find the time of day (morning or afternoon) the elective is scheduled?

Electives will run in person on campus for the winter trimester on Monday mornings and afternoons. Time of day is not available until late in the registration process. **PLEASE do not select your elective based on time of day, as there may be last minute changes.**

How can I sign up to audit a course?

Audits are rare and require a compelling reason due to the heavy nature of the overall Core/Elective academic load. They are considered on a space available basis following registration and **MUST** be requested with the Electives office staff first, **NOT** by asking the professor. If an audit is granted, plan to be a passive participant since class participation for students enrolled in the course is included in their grade.

How many students are in an elective course?

We usually cap the courses at 12 seats, but not all electives fill to capacity, and occasionally we may go to 14.

Where is the Electives Office?

Hewitt Hall, 2nd deck: Jen Sheridan, Patty Duch, and Jessica Boggs are in Room 248 - just off the north elevator.

We are not in the office everyday, but are always available by email.

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Associate Dean Schultz - down the hall in Room 222, available by email also.

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