

**UNITED STATES NAVAL WAR COLLEGE  
COLLEGE OF NAVAL COMMAND AND STAFF  
AND  
NAVAL STAFF COLLEGE**

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**THE JOINT MILITARY OPERATIONS DEPARTMENT  
SYLLABUS AND STUDY GUIDE  
FOR THE  
JOINT MARITIME OPERATIONS  
INTERMEDIATE LEVEL WARFIGHTER'S COURSE  
FEBRUARY 2024**

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**FOREWORD:**

This syllabus provides a comprehensive overview of the Naval War College Joint Military Operations Department course on Joint Maritime Operations. Prepared for the College of Naval Command and Staff and the Naval Staff College, this syllabus, along with the JMO Blackboard website, provides session-by-session material to assist the student in daily seminar preparation and development of a personal plan of study. Administrative information is also included.

  
John Porado, CAPT, USN  
Chairman, Joint Military Operations Department

Approved:

  
Tim P. Schultz, Dean of Academics (Interim)

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## **COURSE STUDY GUIDES**

### **INTRODUCTORY SESSIONS**

- JMO-01 Chairman's Introductory Lecture (Lecture)
- JMO-02 Introductory Seminar (Seminar)
- JMO-03 The JMO Research Paper (Seminar)

### **NAVAL TACTICS**

- JMO-04 The Maritime Domain (Seminar)
- JMO-05 Theory of Naval Tactics (Seminar)
- JMO-06 Naval Capabilities: Platforms, Sensors, and Weapons (Seminar)
- JMO-07 Naval Combined Arms Tactics (Seminar)
- JMO-08 Commander's Estimate of the Situation (CES) (Seminar)
- JMO-09 Tabletop Exercise: Organizing Naval Forces and the CES (Exercise)

### **OPERATIONAL ART**

- JMO-10 Introduction to Operational Art (Seminar)
- JMO-11 Military Objectives and the Levels of War (Seminar)
- JMO-12 Operational Factors and Theater Geometry (Seminar)
- JMO-13 Operational Functions (Seminar)
- JMO-14 Critical Factor Analysis and the Operational Idea (Seminar)
- JMO-15 Operational Design: The Battle of Leyte Gulf (Seminar)
- JMO-16 CES / Op Idea: The Battle of Leyte Gulf (Exercise) [Seminars 8-17 only]
- JMO-17 The Battle of Leyte Gulf (Wargame) [Seminars 8-17 only]

### **OPERATIONAL WARFARE AT SEA**

- JMO-18 Objectives of Naval Warfare (Seminar)
- JMO-19 Obtaining and Maintaining Sea Control (Seminar)
- JMO-20 Disputing Sea Control / Sea Denial (Seminar)
- JMO-21 Exercising Sea Control (Seminar)
- JMO-22 Maritime Trade Warfare (Seminar)
- JMO-23 Operational Design: The Falklands / Malvinas Conflict (Lecture / Seminar)
- JMO-24 CES / Op Idea: The Falklands / Malvinas Conflict (Exercise)
- JMO-25 The Falklands / Malvinas Conflict (Wargame)
  
- JMO-26 Operational Art Examination (Individual Effort)

## **JOINT OPERATIONS IN THE COMPETITION CONTINUUM**

- JMO-27 Naval Operations Across the Competition Continuum (Lecture / Seminar)
- JMO-28 Maritime Operational Law (Lecture / Seminar)
- JMO-29 Unconventional Statecraft (Seminar)
- JMO-30 Military Leadership (Lecture / Seminar)
- JMO-31 Russian Way of War (Lecture / Seminar)
- JMO-32 The Joint Force and How It Fights: RUS/UKR Lessons (Seminar)
- JMO-33 Operational Command and Control: RUS/UKR Lessons (Seminar)
- JMO-34 Operational Intelligence: RUS/UKR Lessons (Seminar)
- JMO-35 Information in Joint Operations: RUS/UKR Lessons (Seminar)
- JMO-36 Operating in Cyberspace: RUS/UKR Lessons (Seminar)
- JMO-37 Strategic Deployment and Operational/Strategic Logistics & Sustainment:  
RUS/UKR Lessons (Lecture / Seminar)
- JMO-38 Sea Control in a Contested Environment (Classified Lecture)
- JMO-39 Emerging Naval Concepts (Classified Seminar)
- JMO-40 Chinese Way of War (Lecture / Seminar)

## **JOINT PLANNING**

- JMO-41 Global Force Management (Seminar)
- JMO-42 The Commander's Estimate and Planning (Exercise)
- JMO-43 The Joint Planning Process (Exercise)

## **FINAL EXERCISE**

- JMO-44 Final Exercise (Wargame)

## THE JOINT MARITIME OPERATIONS COURSE

*It cannot be too often repeated that in modern war, especially in modern naval war, the chief factor in achieving triumph is what has been done in way of thorough preparation and training before the beginning of war.*

~President Theodore Roosevelt,  
U.S. Naval Academy Address, 1902

### 1. Mission

During the Joint Maritime Operations (JMO) course of the College of Naval Command and Staff / Naval Staff College (CNC&S / NSC), students will enrich their ability to think operationally and develop skills for employing maritime power across the range of military operations in order to achieve tactical and operational objectives in support of a joint force.

### 2. Course Learning Outcomes

The JMO course outcomes are supportive of the Naval War College (NWC) Program Learning Outcomes for Intermediate Level Education (ILE). Together, they outline what students will be able to do successfully upon completion of the JMO course.

- Apply critical thinking, creative thinking, and problem-solving skills to support decision making in joint maritime operations.
- Apply operational art to operational and high-tactical objectives in the maritime environment.
- Apply the principles of naval warfare theory to joint maritime objectives across the competition continuum.
- Apply the Joint Planning Process to communicate how to employ maritime power to achieve military objectives.

### 3. Course Objectives

The objectives below are derived from CJCS and CNO guidance, the NWC Mission, and the above learning outcomes. Each seminar or lecture has tailored session objectives that support these course objectives.

- Expand critical and creative thinking and refine problem-solving skills to support sound decision making in joint operations.
- Develop students grounded in operational art and naval warfare theory and practice.
- Apply the Joint Planning Process to complex problems in an operating environment characterized by uncertainty, ambiguity, and rapid change. As an output of planning, assist in translating Commander's decisions into operational directives.
- Understand how to employ maritime power as part of a joint effort to achieve military objectives.

#### 4. Course Overview

The JMO course presented by the Joint Military Operations Department is an in-depth study of the tactical and operational levels of war throughout the full spectrum of military operations with an emphasis on mid to high-intensity combat in a maritime operating environment.

***The JMO course in the CNC&S/NSC is first and foremost a warfighter's course that recognizes the inherent difficulties associated with planning and executing major combat operations.***

The emphasis in this course is on expanding students' warfighting, command, and staff skills through the lens of operational art and the theory of naval warfare to develop creative solutions to ill-structured problems prevalent in today's global environment. An underlying theme is on refining students' analytical skills and enhancing critical and creative thinking abilities essential to the profession of arms. Exercises emphasize decision making amidst uncertainty using military capabilities as part of joint operations.

The trimester will flow from tactical fundamental concepts to joint operational warfare, culminating in a final planning exercise intended to allow students to apply their comprehension of the employment of joint power and to demonstrate critical and creative thinking skills. Course themes underlying the course design and objectives include critical thinking, operational art, naval warfighting, leadership, and joint operational planning based on a commander's estimate. Through extensive study of multiple historical case studies, the JMO student is challenged with enduring questions from the perspective of maritime and Joint Force Commanders (JFC) and their staff planners:

- What are the objectives and desired end state? (Ends)
- What sequence of actions is most likely to achieve those objectives and end state? (Ways)
- What resources are required to accomplish that sequence of actions? (Means)
- What is the likely chance of failure or unacceptable results in performing that sequence of actions? (Risk)

The ability to answer these questions is the very essence of being able to successfully plan and lead joint operations.

#### 5. CJCS Officer Professional Military Education Policy

Title 10 of U.S. Code, §668 identifies joint matters as "The development or achievement of strategic objectives through the synchronization, coordination, and organization of integrated forces in operations conducted across domains, such as land, sea, or air, in space, or in the information environment, including matters relating to any of the following:

- (i) National military strategy.
- (ii) Strategic planning and contingency planning.

(iii) Command and control, intelligence, fires, movement and maneuver, protection or sustainment of operations under unified command.

(iv) National security planning with other departments and agencies of the United States.

(v) Combined operations with military forces of allied nations.”

**Additional Qualification Designation (AQD) Code Qualification.** The U.S. Navy awards Additional Qualification Designation (AQD) codes of JPN (Joint Operational Planner) and JS7 (JPME Phase I) for U.S. Navy students who complete the JMO course and graduate from the resident CNC&S.

## **6. Course Organization.**

In the Joint Military Operations Department, our educational approach emphasizes the seminar method and active learning. Each academic block involves assigned readings, case studies, and practical exercises to reinforce the theory and practice of joint maritime operations. The concepts, theory, and doctrinal material presented in the course provides fundamental knowledge and skills expected of future commanders, and for officers serving on high-level staffs who support senior leader decision making. This organization facilitates students understanding problems, developing options, making decisions, and finally executing military operations in support of operational or campaign objectives. Discussion within the JMO seminar is intended to create an environment where students stretch their intellectual muscles and expand their warfighting acumen through a rigorous program of study, practical exercise, and reflection.

Following introductory sessions, the course begins with the *means*, the basic building blocks of sea power: surface, subsurface, and naval aviation platforms in *Naval Tactics*. We will broadly investigate the capabilities and limitations of the primary naval arms and their employment as a combined arms team towards achieving tactical objectives.

The next academic blocks, *Operational Art* and *Operational Warfare at Sea*, provide a theoretical background for understanding the nuances of applying organized force in the attainment of strategic and operational objectives. We will frame our approach through operational art and ask questions that help us understand the military ends, then estimate the ways, means, and risk to achieve the ends, or operational objectives. We will discover that operational art and naval warfare theory have far broader utility than the simple organization of military force in a coherent fashion. The theory provides the intellectual foundation of doctrine, allowing consumers of doctrine to evolve from basic users to professionals who understand and can logically critique the theoretical footing of the doctrine they read.

In the subsequent *Joint Operations in the Competition Continuum* and *Joint Planning* sessions, we will examine how U.S. forces organize for joint operational warfare. These sessions will delve into a practical examination of several of the operational/joint functions that we studied from a theoretical perspective in the *Operational Art* sessions. These blocks provide both a naval and joint perspective on operating in today’s complex security environment with an eye to the character of future conflict. During *Joint Planning*, we move into the creative portion of the course as students look to a future, fictitious scenario in which to conduct both conceptual and detailed planning, using the Joint Planning Process (JPP) as a guide. After completing their course of action planning, either from a “Blue” or “Red”

perspective, seminars will “fight” their plan in the *Final Exercise* as part of a tabletop wargame, either in support of, or defense against, a Joint Forcible Entry operation.

## 7. Syllabus Organization

This syllabus establishes the basis for required coursework and provides an intellectual roadmap for the trimester. In each session, the *Focus* specifies the general context of the topic. The *Objectives* cite the session goals and provide an intellectual line of departure and focus to the readings. The *Background* aids in framing the individual session, that is, how it fits into the course flow and the interrelationships of the various sessions. The *Questions* are designed to generate critical thinking, both during individual preparation and in seminar. Finally, the *Readings* enhance student understanding of each session’s topic and facilitate seminar discussion.

## 8. Methods of Instruction

A. *The Socratic Method.* The seminar is the fundamental learning forum for this course with student expertise providing a significant part of the learning process. For a seminar to succeed there must be open and candid sharing of ideas and experiences, tempered with necessary military decorum. Students will discover that even the most unconventional idea may have some merit. Successful seminars—that is, seminars whose members leave with the greatest knowledge and personal satisfaction—are those made up of students who come to each session equipped with questions based on thorough preparation. Most students leave the seminar with new insights or even more thought-provoking questions. Student preparation, free and open discussion, and the open-minded consideration of other students’ ideas all contribute to a valuable seminar experience.

The “one-third” rule is the keystone of the seminar approach. The first third is a well-constructed, relevant curriculum. The second third is a quality JMO faculty to present the material and guide the discussion, and the most important third is the participation of the individual students. Only by preparing thoroughly for seminar sessions can students become active catalysts who generate positive seminar interaction and refine critical and creative thinking skills.

B. *The Case Study Method.* This method of instruction provides intellectual stimulation for students and is designed to develop analytical and problem-solving abilities using the knowledge, concepts, and skills honed during the trimester. Through analysis of past great captains of war or specific geographic areas, the case study method provides students an expanded set of experiences from which to test the applicability of theory and doctrine. Some of the cases and problems stress individual effort and planning, while others require a team or staff approach. Cases may consist of historical events, analyzed for operational and theater strategic sessions, or postulated crisis situations that demonstrate the application of concepts such as presence, deterrence, international law, and self-defense. Case studies sometimes will be narrowly focused to illustrate a specific force and its capabilities and limitations or to highlight explicit concepts involving an aspect of operational warfare. The case study method of instruction allows students to achieve a higher level of learning while providing them with



many more data points relevant to problem solving in the volatile, uncertain, complex, and ambiguous environment. Students will be tasked with analyzing the case study material, synthesizing information, and evaluating recommended courses of action.

C. *The Lecture-Seminar Method.* In order to equitably share the vast experience of some of our faculty members and guest speakers, lectures are typically scheduled to be followed immediately by seminar discussion. Students are encouraged to critically analyze the information presented by speakers and actively engage in post-speaker seminar discussions. JMO lectures are intended to generate questions that the students may discuss in seminar and are not focused solely on the transmission of knowledge.

D. *The Practical Exercise Method.* The opportunity for students to apply information presented in the various sessions is important. Practical exercises and wargames allow students time to critically analyze information in order to develop viable solutions to ill-structured problems. Students may be assigned to practical exercises as individuals, small groups, or as an entire seminar.

## 9. Readings

All JMO seminars are supported by readings. The purpose of these readings is to assist in understanding the topics being presented. For the most part, the readings are intended to convey to the student basic information, the mastery of which will facilitate in-class discussions. Many of the readings also provide divergent points of view and are intended to foster both critical thinking and discussion. Students are reminded, however, that as critical thinkers, all readings should be questioned concerning their relationship to the topic, to other readings, and to the personal experience of the student. A thorough understanding of the following information will assist the student in using the course readings to their best advantage:

- a. Each session lists a number of readings. *Required Readings* must be read prior to the session; most are digitally available and downloadable. Required Readings are arranged in priority order. *References and Supplemental Readings* are optional and are provided to facilitate deeper study into the session material. Moderators may offer additional guidance on the readings, based on the specific needs of the individual seminar.
- b. *Finding Specific Readings.* Required Readings are typically accessed via hyperlinks located on respective syllabus pages within the Blackboard site for the JMO course. Some readings are annotated as **(Issued)**. “Issued” means that the readings are found in the JMO reading material provided to each student at the beginning of the trimester.
- c. *Management of the Reading Load.* The amount of preparatory reading required for each session depends on a variety of factors, to include topic complexity and session objectives. Students are advised to review session reading requirements at least one week in advance of the session presentation date to plan preparation time accurately. Be ready to address queries on the content of the assigned readings and to question the contents vis-à-vis the subject under discussion.

**NOTE:** The Joint Maritime Operations course does not use any classified readings. However, students may pursue classified material during individual research or professional development. In these cases, in which students have the appropriate security clearance, students are cautioned that classified readings and documents must be read on the premises of the college. These materials must be properly safeguarded at all times and may not be left unattended.

## **10. Research Paper**

The JMO Research Paper presents the opportunity to examine a problem relevant to joint/maritime operational warfare, and to demonstrate critical thinking and writing skills essential for leaders and staff officers in the profession of arms. Amplifying information and guidance will be discussed in an introductory seminar session, *The JMO Research Paper* (JMO-03), with details and guidance provided in *JMO Research Paper Guidance for ILC Students* (NWC 2063C), an assigned reading for the session.

This assignment requires independent thought and graduate-level writing; the final product is a 3,000 - 3,500 word paper that attains graduate-level standards of writing and analysis. Students select their topic, focused at the upper tactical, operational, or in some cases, a theater-strategic level issue, conduct research and analysis, and prepare a paper that advances the literature and expands the body of knowledge. The paper also serves as practice in providing clear and concisely written recommendations about employing military force.

## **11. Plagiarism, Misrepresentation, and Cheating**

Student attention is directed to the Naval War College Student Handbook which discusses the academic honor code and specifically prohibits plagiarism, cheating, and misrepresentation. The Naval War College diligently enforces a strict academic code requiring authors to properly attribute the source of materials directly cited to any written work submitted in fulfillment of diploma/degree requirements. Simply put: plagiarism is prohibited. Likewise, this academic code prohibits cheating and the misrepresentation of a paper as an author's original thought. Plagiarism, cheating, and misrepresentation are inconsistent with the professional standards required of all military personnel and government employees. Furthermore, in the case of U.S. military officers, such conduct clearly violates the "Exemplary Conduct Standards" delineated in Title 10, U.S. Code, Sections 3583 (U.S. Army), 5947 (U.S. Naval Service), and 9233 (U.S. Air Force and U.S. Space Force).

A. *Plagiarism* is the use of someone else's work without giving proper credit to the author or creator of the work. It is passing off as one's own another's words, ideas, analysis, or other products. Whether intentional or unintentional, plagiarism is a serious violation of academic integrity and will be treated as such by the command. Plagiarism includes but is not limited to the following actions:

- 1) The verbatim use of others' words without quotation marks (or block quotation) and citation.
- 2) The paraphrasing of others' words or ideas without citation.
- 3) Any use of others' work (other than facts that are widely accepted as common knowledge) found in books, journals, newspapers, websites, interviews, government documents, course materials, lecture notes, films, and so forth without giving credit.

Authors are expected to give full credit in their written submissions when using another's words or ideas. Such use, with proper attribution, is not prohibited by this code. However, a substantially borrowed but attributed paper may lack the originality expected of graduate-level work; submission of such a paper may merit a low or failing grade but is not plagiarism.

B. *Cheating* is defined as the giving, receiving, or use of unauthorized aid in support of one's own efforts, or the efforts of another student. (Note: NWC Reference Librarians are an authorized source of aid in the preparation of class assignments but not on exams). Cheating includes the following:

- 1) Gaining unauthorized access to exams.
- 2) Assisting or receiving assistance from other students or other individuals in the preparation of written assignments or during tests (unless specifically permitted).
- 3) Using unauthorized materials (notes, texts, crib sheets, and the like, in paper or electronic form) during tests.

C. *Misrepresentation* is defined as reusing a single paper for more than one purpose without permission or acknowledgement. Misrepresentation includes the following:

- 1) Submitting a single paper or substantially the same paper for more than one course at the NWC without permission of the JMO faculty.
- 2) Submitting a paper or substantially the same paper previously prepared for some other purpose outside the NWC without acknowledging that it is an earlier work.

## 12. Requirements

Students are expected to prepare fully for each seminar and to participate in classroom discussions and exercises. An objective and open attitude, and a willingness to enter into rigorous but disciplined discussion, are central to the success of the course.

A. *Workload*. Some peaks in the workload will occur. Planning and careful allocation of time will help mitigate these peaks; this is particularly true of the research paper. This course of study confers a Master's Degree after ten months of exceptionally rigorous study. As such, expect to commit significant time to reading and reflection. Student experience indicates that the total course requirements will involve a weekly average workload of approximately 9-12 hours of in-class and 18-24 hours of out-of-class work. Additionally, students should expect to dedicate 60-80 hours (6-8 hours per week) to researching, drafting, and producing an

acceptable graduate-level research paper. Time management is a critical aspect of a student's success in mastering the multiple requirements of the Joint Maritime Operations course. This syllabus is a powerful tool in that it allows students to develop a personal plan of study that leads to efficient time management and a deeper understanding of the syllabus material.

*B. Oral and Written Requirements.* The JMO Department has oral and written requirements that provide the opportunity for the student to demonstrate analysis, synthesis, and progress. In addition, these requirements provide a means for feedback and interaction between the faculty and members of the seminar. The following is a composite listing of these course requirements, type of activity, relative weights, and the key dates of graded events:

<b>Requirement</b>	<b>Type Effort</b>	<b>Weight</b>	<b>Date</b>
Op Art Examination	Written/Individual	30%	4-5 Apr
JMO Research Paper	Written/Individual	35%	14 May
Seminar Contribution	Daily Assessment	35%	26 Feb – 31 May

*C. Assignment Submissions.* Research papers and exams for JMO will be submitted to their respective professors electronically through Turnitin Assignments (via the tab titled, "Assignment Submission") within their JMO seminar course in Blackboard. Prior to final paper or exam submission, students may assess their papers through the Turnitin Student Workbook Course in Blackboard to benefit from Turnitin's Similarity Report. This will highlight for students any areas that may require additional citation, as appropriate. As students review the Turnitin report, it is important to note there is no percentage that means "all clear" and no percentage that means "big trouble." Papers with as low as a 10% similarity score may have serious plagiarism concerns while a 50% similarity score could be fine (an example is a large portion of an official document attached as an appendix). Turnitin requires students to go through the markup line by line to identify and correct any problems.

### **13. JMO Department Grading Criteria**

A course average grade of B- or higher is required for successful completion of Master's Degree requirements. A minimum grade of C- is required for successful completion of the JMO course and to earn JPME Phase I certification. Guidance for grading students is contained in this syllabus and the Naval War College Faculty Handbook. Any grade may be appealed in writing within seven calendar days after receiving the grade. Grades will be appealed to the student's seminar senior moderator and then to the Department Chairman. If deemed necessary, the Chairman may assign an additional grader who will review the assignment and provide an independent grade. Grade appeals may ultimately be taken to the Dean of Academics, whose decision will be final. Note that the review may sustain, lower, or raise the grade. The Academic Coordinator (Room C-417) can assist in preparing an appeal.

Student work that is not completed will receive a numeric grade of zero (0). Unexcused tardy student work, that is, work turned in past the deadline without previous permission by the moderator, will receive a grade not greater than C+ (78). Student work determined to be in violation of the honor code will receive a grade of F with a corresponding numeric grade

between 0 and 59 assigned. The College's Academic Integrity Review Committee, per final adjudication by the President of the Naval War College, will assign this accompanying numeric grade to the F.

Four sets of general grading criteria help in the determination of the letter grades that will be assigned during the JMO trimester. The criteria below offer the student a suggestion of the standards and requirements by which faculty assess performance. Using the Naval War College Faculty Handbook as basic guidance, the procedures below amplify the criteria as established within the Joint Military Operations Department.

A. **Criteria for the Research Paper Proposal:** While not a graded event, students are required to submit a formal research paper proposal for moderator approval. The proposal is developed from guidance in *JMO Research Paper Guidance for Students* (NWC 2063C) initial literature review, development of a working thesis, and discussions with the paper advisors and subject matter experts in the student's chosen field of study. In the proposal students will present a hypothesis, describe how they will make their argument, provide a research methodology, and conclude with an annotated bibliography for consideration by the moderator team.

B. **Grading criteria for the Research Paper:** The research paper must have a valid thesis. It must also provide sufficient background research and analysis to support the thesis, consider arguments and counter-arguments to compare conflicting points of view, present logical conclusions drawn from the material presented, and provide recommendations or lessons learned based on the conclusions. Certain research papers, because of the nature of the approved research question, may follow a slightly different flow. Students are reminded that their moderators serve as their research paper advisors, and different methodologies may be approved by the moderator team. In addition to the examples of substantive criteria specified below, the paper must be mechanically correct (spelling, punctuation, grammar, syntax, format, and so forth) or the grade will be negatively affected.

**A+ (97-100):** Offers a genuinely new understanding of the subject. Especially deserving of distribution to appropriate authorities and submission for prize competition. Thesis is definitive, research is extensive, subject is treated completely, and the conclusions and recommendations are logical and justified.

**A (94-<97):** Work of superior quality that demonstrates a high degree of original thought. Suitable for distribution and submission to Defense Technical Institute Center (DTIC) and prize competition. Thesis is clearly articulated and focused, research is significant, arguments are comprehensive, balanced and persuasive. Conclusions and recommendations are supported.

**A- (90-<94):** Above the average expected of graduate work. Contains original thought. Thesis is clearly defined, research is purposeful, arguments are balanced and persuasive. Conclusions and recommendations are valid.

- B+ (87-<90):** A solid paper. Above the average of graduate work. Thesis is articulated, research has strong points, subject is well-presented and constructed, and conclusions and recommendations are substantiated by the material.
- B (84-<87):** Average graduate-level performance. Thesis is presented, research is appropriate for the majority of the subject, analysis of the subject is valid with minor omissions and conclusions and recommendations are presented with few inconsistencies.
- B- (80-<84):** Below the average graduate-level performance. Thesis is presented, but the research does not fully support it; the analysis, conclusions, and recommendations are not fully developed. The paper may not be balanced, and the logic may be flawed.
- C+ (77-<80):** Below the standards required of graduate work. Portions of the criteria are lacking or missing, the thesis may be unclear, research may be inadequate, analysis may be incomplete, and the conclusions and recommendations may be lacking or not supported by the material.
- C (74-<77):** Fails to meet the standards of graduate work. Thesis is present, but support, analysis, conclusions, and recommendations are either missing or illogically presented. Paper has significant flaws in construction and development.
- C- (70-<74):** Well below standards. Thesis poorly stated with minimal evidence of research and/or several missing requirements. Subject is presented in an incoherent manner that does not warrant serious consideration.
- D (60-<70):** Considerably below graduate-level performance and lacking in any evidence of effort or understanding of the subject matter. In some measures, fails to address the entire question.
- F (0-<60):** Fails to meet graduate-level standards. Unsatisfactory work. Paper has no thesis. Paper has significant flaws in respect to structure, grammar, and logic. Paper displays an apparent lack of effort to achieve the course requirements. Gross errors in construction and development detract from readability of the paper. Paper displays evidence of plagiarism or misrepresentation.

*C. Grading criteria for the Operational Art Exam:* The exam requires students to apply their knowledge key concepts presented during the first half of the course, principally operational art and naval warfare theory. The exam is open-book, mandates individual work, and requires responses in essay format. Grading will be assessed using the following criteria:

- A+ (97-100):** Organized, coherent and well-written response. Completely addresses the question. Covers all applicable major and key minor points. Demonstrates total grasp and comprehension of the topic.
- A (94-<97):** Demonstrates an excellent grasp of the topic, addressing all major issues and key minor points. Organized, coherent, and well-written.

- A- (90-<94):** Above the average expected of graduate work. Demonstrates an exceptionally good grasp of the topic. Addresses all major and at least some minor points in a clear, coherent manner.
- B+ (87-<90):** Well-crafted answer that discusses all relevant important concepts with supporting rationale for analysis.
- B (84-<87):** Average graduate performance. A successful consideration of the topic overall, but either lacking depth or containing statements for which the supporting rationale is not sufficiently argued.
- B- (80-<84):** Addresses the question and demonstrates a fair understanding of the topic but does not address all key concepts and is weak in rationale and clarity.
- C+ (77-<80):** Demonstrates some grasp of topic but provides insufficient rationale for response and misses major elements or concepts. Does not merit graduate credit
- C (74-<77):** Demonstrates poor understanding of the topic. Provides marginal support for response. Misses major elements or concepts.
- C- (70-<74):** Addresses the question but does not provide sufficient discussion to demonstrate adequate understanding of the topic.
- D (60-<70):** Considerably below graduate-level performance and lacking in any evidence of effort or understanding of the subject matter. In some measures, fails to address the entire question.
- F (0-<60):** Unsatisfactory work. Fails to address the questions or paper displays evidence of cheating.

*D. Grading criteria for Seminar and Final Exercise contributions:* The seminar and final exercise contribution grades are determined by moderator evaluation of the quality of a student's contributions to sessions (seminar discussions, exercises, and wargames). All students are expected to contribute to each seminar or exercise session, and to listen and respond respectfully when seminar mates or moderators offer their ideas. This overall expectation underlies all criteria described below:

- A+ (97-100):** Peerless demonstration of wholly thorough preparation for individual sessions. Consistently involved, and contributes original and highly insightful thought. Exceptional team player and leader.
- A (94-<97):** Superior demonstration of complete preparation for individual sessions. Consistently involved, and frequently offers original and well thought-out insights. Routinely takes the lead to accomplish team projects.
- A- (90-<94):** Excellent demonstration of preparation for individual sessions. Regularly involved, and contributes original, well-developed insights in the majority of sessions. Often takes the lead to accomplish team projects.

- B+ (87-<90):** Above-average graduate level preparation for individual sessions. Involved and occasionally contributes original and well-developed insights. Obvious team player who sometimes takes the lead for team projects.
- B (84-<87):** Average graduate level preparation for individual sessions. Participates and occasionally contributes original and insightful thought. Acceptable team player who takes effective lead on team projects when assigned.
- B- (80-<84):** Minimally acceptable graduate level preparation for individual sessions. Infrequently participates or contributes well-developed insights; may sometimes speak out without having thought through an issue. Requires prodding to take lead on team projects.
- C+ (77-<80):** Generally prepared, but not to minimum acceptable graduate level. Requires encouragement to participate or contribute; contributions do not include original thinking or insights. Routinely allows others to take the lead in team projects.
- C (74-<77):** Preparation for individual sessions is only displayed when student is called upon to contribute. Elicited contributions reflect at best a basic understanding of session material. Consistently requires encouragement or prodding to take on fair share of team project workload. Only occasionally engages in seminar dialogue with peers and moderators.
- C- (70-<74):** Barely acceptable preparation. Contributions are extremely limited, rarely voluntary, and reflect minimal grasp of session material. Displays little interest in contributing to team projects.
- D (60-<70):** Considerably below graduate-level performance and lacking in any evidence of effort or understanding of the subject matter. In some measures, fails to address the entire question.
- F (0-<60):** Unacceptable preparation. Displays no interest in contributing to team projects; cannot be relied on to accomplish assigned project work. At times may be seen by peers as disruptive.

#### **14. Seminar Assignments**

The principal criteria in assigning students to a seminar are a balanced distribution among services and agencies, essentially creating a ‘joint force,’ as well as student specialties and operational expertise. The Chairman of the JMO Department will assign a minimum of two faculty members to each seminar.

#### **15. Schedule**

JMO Seminars normally meet in the mornings and NSDM seminars in the afternoons. Depending on the work assigned, students may meet for scheduled periods in seminar as a group, in smaller teams depending on tasking, or conduct individual study and research. Classes are normally scheduled from 0830–1145 hours, however, some sessions may require



additional time based on exercise/wargame requirements. Moderators may adjust these times to facilitate the learning objectives for each segment of instruction.

## 16. Key Personnel

For any additional information on the course, or if problems develop that cannot be resolved by your moderators, contact the Chairman or the Executive Assistant. Key departmental personnel are:

Chairman.....	CAPT John Porado, USN
.....	Room C-421, 856-5421
.....	john.porado@usnwc.edu
Executive Assistant / Deputy Chairman .....	PROF F. B. Horne, (USN (Ret))
.....	Room C-420, 856-5422
.....	fred.horne@usnwc.edu
Academic Coordinator.....	Ms. Susan Soderlund
.....	Room C-417, 856-5424
.....	susan.soderlund@usnwc.edu
Course Coordinator.....	PROF Chris Kidd, (USA (Ret))
.....	Room C-407, 856-5436
.....	chris.kidd@usnwc.edu
Naval Tactics .....	PROF Fred Turner, (USN (Ret))
.....	Room C-430, 856-5469
.....	alfred.turner@usnwc.edu
Operational Art.....	PROF Ivan Luke, (USCG (Ret))
.....	Room C-431, 856-5472
.....	ivan.luke@usnwc.edu
Operational Warfare at Sea.....	PROF Erik Wright, (USN (Ret))
.....	Room C-424, 856-5459
.....	erik.wright@usnwc.edu
Joint Operations in the Competition Continuum .....	PROF Matt Tackett, (USA (Ret))
.....	Room C-426, 856-5463
.....	matthew.tackett@usnwc.edu
Joint Planning .....	PROF Jim Donnellan, (USMC (Ret))
.....	Room C-404, 856-5430
.....	james.donnellan@usnwc.edu
Final Exercise.....	PROF Paul Povlock, (USN (Ret))
.....	Room C-423, 856-5442
.....	paul.povlock@usnwc.edu

## **17. Faculty Assistance**

Faculty members are available to assist students with course material, to review a student's progress, and to provide counseling as required or requested. Students with individual concerns are encouraged to discuss them as early as possible so that faculty moderators can render assistance in a timely manner. We strongly urge students to make use of this non-classroom time with the faculty. During tutorials, scheduled in conjunction with the research paper, moderators may take the opportunity to discuss student progress as well as to solicit student input on the course to date. The JMO faculty is located on the fourth deck of Connolly Hall.

## **18. Student Critiques**

The Joint Military Operations Department strives to continuously improve this course. A key part of continuous improvement is constructive feedback from students. For this purpose, students have available an anonymous running online course survey. This survey allows students to contribute timely feedback on the course on a session-by-session basis while the experience is fresh, rather than waiting until the end of the trimester. The survey includes questions on session content, execution, and individual assigned readings, but all questions are optional to make the best use of student time. Students can contribute on just those topics where they have value to add.

Students are highly encouraged to contribute feedback on a regular basis, ideally daily, but at a minimum weekly. Student constructive comments will help JMO keep the course relevant and effective in the future.

## **19. Lectures by Senior Leaders**

Enrichment lectures by senior military and interagency leaders occur periodically during the course, as scheduled by NWC leadership. Most of these presentations feature the chiefs of service or Combatant Commanders. These speakers are invited to discuss their views and ideas from the perspective as operational and theater-strategic commanders, service chiefs, or agency directors. The weekly academic schedule will specify the final date and time of each enrichment lecture. Last minute changes will be disseminated by the Dean of Students office and/or seminar moderators.

## **20. Non-attribution Policy**

The College's educational mission requires a climate conducive to the free and open exchange of ideas and opinions by students, faculty, and guest speakers. To this end and unless otherwise announced by the College or someone with authority to speak for the College, all lectures, seminars and similar academic or policy discussions (to include conferences, workshops, roundtables, etc.) at the College are subject to the Chatham House Rule (CHR). The CHR states: "When a meeting, or part thereof, is held under the Chatham House Rule, participants are free to use the information received, but neither the identity nor the affiliation of the speaker(s), nor that of any other participant, may be revealed."

To support this policy, no student, faculty, staff member, or guest of the College may, without the express permission of the College, use any electronic device or other method to record any lecture, seminar or similar event at the College, whether live, streamed, stored on any NWC network or on any removable storage device, or in any other manner.

The effect of the CHR is to separate statements from their source. For example, a student may not publicly ask a guest lecturer a question prefaced by, “Last week General Clausewitz stated that...” Similarly, statements made by faculty or students in a seminar cannot be reported and attributed outside of the seminar. Thus students, faculty, or guests cannot claim orally on a blog, or any other way, “CAPT Mahan is being hypocritical in advocating the use of mines, because in seminar he argued that they were inhumane.” Specific quotations are also to be avoided if they are likely to be traceable to specific individuals. A professor should not say, for example, “one of my [students from a demographic category in which we have few] students said that while deployed....”

The CHR is relaxed in settings such as classroom discussions that are themselves subject to the Rule. Also, the use of quotations in academic papers, professional articles or other works is allowed when the author has secured the explicit permission of the source individual. These policies apply to all students, faculty, staff and visitors. They apply not only to events on the grounds of the College but also to the College of Distance Education, remote classrooms, seminar off-sites, and other meetings run by the College. These policies are designed to support the free exchange of ideas and opinion without fear of retaliation and to encourage visiting dignitaries to speak freely. They should encourage the discussion in both formal and informal settings of ideas and concepts central to an education in JPME at the Master’s Degree level. The policies do not protect any individual against improper speech, discussion, or behavior.

## **21. Use of Artificial Intelligence Software**

The President of the U.S. Naval War College memo NWC 12271, Ser N002/0087: INTERIM GUIDANCE ON PERMISSIBLE AND IMPERMISSIBLE USES OF CHATGPT AND SIMILAR ARTIFICIAL INTELLIGENCE SOFTWARE, dated 19 February 2023 provides policy on the use of Artificial Intelligence Software. The Joint Military Operations Department policy is the same as outlined in the memo and will be updated at such time that the War College Policy is updated.

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# JMO-01

## CHAIRMAN'S INTRODUCTORY LECTURE

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*We can't wait for more resources; we need to fight with what we have. We have to move forward with a sense of purpose; purpose comes from planning. We must move forward with a sense of urgency; urgency comes from a methodical application of those things learned in rehearsal and practice.*

~ Admiral Scott H. Swift, USN(ret)  
Lecture at the U.S. Naval War College, 2019

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### Session Objectives

- Understand the requirements and objectives of the upcoming trimester.
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### 🔍 Focus

The Chairman of the Joint Military Operations Department, Captain John Porado, U.S. Navy, will provide an overview of the objectives and requirements of the Joint Maritime Operations Course.

### 📖 Background

The Tri-Service Maritime Strategy, *Advantage at Sea*, reminds us that the United States is a maritime nation and its security and prosperity depend on the sea. Further, the Naval Service, made up of the Navy, Marine Corps, and Coast Guard, “remains America’s most persistent and versatile instrument of military influence.” The Joint Maritime Operations course is purposefully designed to expose military officers and civilian professional counterparts to the upper tactical and operational levels of war where this Service is employed as part of a Joint Force. Today’s global environment demands combat-credible joint forces that are ready to deter war and to prevail and win in combat against our nation’s foes. Naval War College trimesters have (or will) exposed you to the security making apparatus and the enduring nature of war. During this trimester, you will study how to wield the military instrument of power effectively, primarily in the maritime domain, to achieve operational and theater-strategic objectives.

While many students arrive at the Naval War College with tactical knowledge and experience, intermediate level education expands the intellectual aperture. College of Naval Command and Staff / Naval Staff College students are future commanders; before that, you will serve in key staff positions that support the commander’s decision cycle. The study of military leadership, a key thread to the JMO course, is presented here in the form of Mission Command – a warfighting philosophy many would argue is needed more today than ever before.

The JMO course will expose you to questions and concepts that enhance your ability to excel in the profession of arms. Success in this course requires a significant amount of time in preparation, research, study, and reflection outside of the formal classroom. Your services, agencies, and nations are relying on you to expend the mental energy to prepare for the significant security challenges that await us all.

### ?? Questions

None.

### 📖 Required Readings (22 Pages)

[U.S. Naval War College, Joint Military Operations Department. “Joint Maritime Operations \(JMO\) Syllabus and Study Guide, 2024.” Newport, RI: Naval War College, 2024.](#) Read: v-xix.

[Dempsey, Martin E. “Mission Command.” White Paper, Washington, D.C., 3 April 2012. \(NWC 1193\).](#)

[Saltzman, B. Chance. "Barriers to Mission Command." CSO Notice to Guardians \(C-Note #7\), Washington, D.C., 24 February 2023.](#)

[U.S. Naval War College. "Resident Student Handbook." Newport, RI: Naval War College, 2023. Review.](#)

## **References and Supplemental Readings**

None.

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# JMO-02

## INTRODUCTORY SEMINAR

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*Always keep in mind the product which the country desperately needs is military leaders with the capability of solving complex problems and of executing their decisions.... You must keep your sights on problem solving as your objective.*

~ VADM Stansfield Turner, USN  
President, U.S. Naval War College, 1972-1974

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### Session Objectives

- Understand seminar guidelines, course expectations, and outcomes.
  - Discuss the syllabus, grading policy, reading and writing requirements, course calendar, student critiques, and student and faculty expectations.
  - Assign seminar administrative responsibilities.
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### 🔍 Focus

This session is devoted to the introduction of seminar moderators and students, a review of the administrative requirements and procedures for the trimester, and the general ground rules of seminar conduct.

### 📖 Background

The introductory session provides the opportunity to meet your moderators and fellow seminar members as well as discuss the opening comments from the department Chairman. Readings from JMO-01 and JMO-02 will be highlighted by the moderator team during this initial meeting, providing the first opportunity for the seminar to discuss key professional concepts. These readings are considered foundational to the course and their content will be explored throughout the following thirteen weeks.

### ?? Questions

None.

### 📖 Required Readings (30 Pages)

Familiarize yourself with: The Blackboard web site at: <http://navalwarcollege.blackboard.com>

[Headquarters, Commander in Chief United States Fleet. \*War Instructions, 1944\*. F.T.P. 143 \(A\). Washington, D.C.: Navy Department, 1 November 1944.](#) Read: Chapter 1, “The Human Element in Naval Strength” and Chapter 2, “Command and Operations.”

[Berger, David H., Michael M. Gilday, Karl L. Schultz. \*Advantage at Sea: Prevailing with Integrated All-Domain Naval Power\*. Washington, DC., December 2020.](#) Read: 1-14.

[Swift, Scott H. “A Fleet Must Be Able to Fight.” \*U.S. Naval Institute Proceedings\* 144, no. 5 \(May 2018\). \(NWC 2152\).](#)

### 📖 References and Supplemental Readings

[Turner, Stansfield. “Convocation Address \(Edited\).” \*Address given at the Naval War College, Newport, RI, 24 August 1972\*. \(NWC 1121\).](#)

[Uhlig, Frank Jr. “The Constants of Naval Warfare.” \*Naval War College Review\* 50 \(Spring 1997\): 92-105. \(NWC 1238\).](#)

[Vego, Milan. “On Naval Theory.” \*Naval War College Review\* 76, no. 3 \(Summer 2023\): 77-119.](#)

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# JMO-03

## THE JMO RESEARCH PAPER

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*A nation that will insist on drawing a broad line of demarcation between the fighting man and the thinking man is liable to find its fighting done by fools and its thinking done by cowards.*

~ Sir William Francis Butler, 1889

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### Session Objectives

- Discuss JMO research paper requirements, guidelines, expectations, and outcomes.
  - Recognize the linkage between critical and creative thinking and the research paper.
  - Understand how to submit papers for competitive prizes and awards offered by the Chairman, Joint Chiefs of Staff, the NWC, and other agencies.
- 

### 🔍 Focus

This session addresses JMO research paper requirements, to include guidance on paper topics, research and writing, paper due dates, and grading criteria.

### 🔧 Background

The JMO research paper addresses a problem relevant to maritime or joint warfare at the high-tactical or operational levels of war, and should be of interest to a Joint Force, Service, or Functional Component Commander. The result is not a background, information, or position paper. Rather, the paper is one that considers an important operational problem, posits a hypothesis about that problem, and considers the evidence to decide whether the hypothesis is correct or not. With the advice of your faculty moderators, you will select a research question, develop a working hypothesis, and provide a cogent analysis of that hypothesis relevant to joint operational warfare. Analysis during the research process will lead you to build arguments - supported by evidence - to translate the hypothesis into the paper argument's claim. The main claim is an assertion that addresses the research question and becomes the paper's thesis. Typically, practical recommendations for action follow from the analysis. This allows you to sharpen analytical and synthetic skills; researching and drafting the paper is properly viewed as an opportunity to learn something new and to develop professionally. Appropriate topics can include ideas regarding innovative approaches to potential threats, opportunities, and risks in the current or future operational environment. Operational leadership and decision making is another subject ripe with an array of potential topics. Other valid topics may address lessons learned and operational insights from historic or contemporary operations that inform thinking on warfighting. The ideal final product is one that is suitable for publication in a professional journal or competitive for a writing award.

The research paper requires independent thought and competent writing. The range and depth of research should be adequate to support your approach and sufficient for rigorous analysis. Ideas generated from your paper may also serve to stimulate or shape thinking in Service or Joint force staffs charged with addressing the complex issues attendant to effectively employing military force. Notable papers have been published in Service journals, and the central ideas became the basis for innovation in programs, concepts, and doctrine.

#### 1. Requirements.

- a. A Research Topic and Question. The topic specifies the subject of the paper and the problem that is to be investigated.

- b. A thesis. The thesis, derived from your hypothesis, represents your major assertion that responds to the research question. A thesis is a testable/refutable assertion put forward as a premise that the paper considers given empirical evidence. The thesis is presented in the introduction.
  - c. Research appropriate to and sufficient to rigorously analyze the thesis. How will you know if your thesis is correct? Your hypothesis must be tested by critical analysis of the empirical evidence developed in your research. This is the core of the paper. You conduct your research to see if your thesis is correct—not to bolster a position or belief. Your thesis might be “common wisdom” or very plausible, but “is it true?” An acceptable outcome includes falsification of your original hypothesis, and its reformulation.
  - d. Logical conclusions drawn from the analysis that convince the reader of your claim. The conclusions allow the reader to tie together the analysis presented in the paper. In turn, your conclusions provide the foundation for your practical recommendations.
  - e. Recommendations or lessons learned, as appropriate, demonstrate the paper’s relevance to the commander or staff. This portion of the research paper requires creative but careful thought in order to make the paper of practical value to its consumer.
  - f. In sum, the JMO research paper body consists of an introduction containing your approved thesis, followed by your principal analysis, presented in logical, well-constructed paragraphs in a linear flow; then a conclusion providing a wrap-up and transition to your recommendations (or in certain cases, your lessons learned), and a bibliography containing your source material. In many cases recommendations may be included within the body of your analysis. The organization and flow are your discretion but should ultimately lead the reader to a convincing conclusion.
2. **Topics.** NWC 2063C, “The CNC&S/NSC JMO Paper Guidance for Students” contains the JMO Chairman’s guidance for selecting a suitable topic and creating a research question. It also contains guidance on developing the paper from topic selection to final draft, information on the awards program, and instructions for submission of papers to professional journals.
  3. **Paper Proposal.** Students shall submit paper proposals to their moderators; the format of the proposal is in enclosure (1) to NWC 2063C. It is intended to facilitate the topic selection and research process. Moderator acceptance of a proposal constitutes an understanding between the student and the moderator grading team. An approved proposal means that both the student and the moderators understand the depth of research, extent of analysis, and quality of writing expected of the student, in addition to the requirements discussed earlier in paragraph 1.
  4. **Research and Writing.** Research and writing must meet graduate-level standards.
  5. **Format.** The *Naval War College Pocket Writing and Style Guide* is the standard for unclassified written work. Turabian’s *A Manual for Writers of Research Papers, Theses, and Dissertations*, 9th Edition, provides additional guidance on drafting, editing, and formatting papers. You are to use the *Chicago Manual of Style* (CMS) for formatting notes and bibliography. CMS Online provides a Citation Quick Guide to assist writers. Guidance for classified papers is available from the moderators. Refer to DoD 5200.01 Vol 1-3 for the DoD Information Security Program. A JMO Research Paper Template is posted on Blackboard to save time with formatting. You may save this template as a file on your own computers *and either compose in the file directly or paste your work into the file*. Use of the template is intended to aid in formatting of page numbers and section breaks.
  6. **Length.** The text of the JMO research paper will be a 3,000 – 3,500 word, with double-spaced pages, in Times New Roman font size 12, with a one inch left and right, top and bottom margins.
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These are set in the JMO Paper Template. Your moderators may accept longer papers depending on paper purpose and topic, but this acceptance must be obtained prior to paper submission.

7. **Faculty Advisor.** The paper advisor helps the students move from topic selection to research question and hypothesis; define the scope of the research effort; keep research, analysis, and writing on track; and develop effective outlines and drafts. In JMO, seminar moderators will serve as paper advisors for the student in their seminars. A minimum of two tutorials will be conducted with your moderators. Additional subject matter expertise in a broad range of topics is resident in the faculty. Your moderator will assist you, if required or desired, in coordinating a meeting with an expert in your area of interest.

8. **Grading.** The JMO research paper represents a substantial portion of the overall course grade. The paper will be evaluated for both substance and writing quality. Grades will be based on the criteria specified in the JMO syllabus.

9. **Plagiarism is prohibited.** See the JMO Student Writing Guidance (NWC 2063C) for tips on properly citing borrowed material and preventing academic integrity violations. Additional policy can be found on the USNWC website at: <https://usnwc.edu/Academics-and-Programs/Academic-Resources/Academic-Policies>

10. **Prizes and Awards.** JMO research papers may compete for the prizes and awards bestowed annually during the June graduation ceremony. Students are encouraged to prepare their papers with the additional purpose of competing for one or more of these honors. Details on awards are provided in the Blackboard main page and through the NWC Writing Center.

#### 11. **Submission Schedule:**

28 Feb-7 March	Select a paper topic, research question, and conduct initial literature search. Determine if the topic is suitable, feasible to research, and applicable to JMO.
12-15 Mar:	Conduct initial meeting with moderator team to discuss potential paper topic. Identify items a., b. and c. in the paper proposal template.
22 Mar:	Submit completed paper proposal to moderators.
26-29 Mar:	Conduct follow-up progress review; moderators and students agree on thesis and course of action.
12 Apr:	Recommended date to terminate research and commence analysis/writing.
29 Apr:	Final allowable date to submit drafts to paper advisors for review.
14 May:	<b>JMO Research paper due NLT 0800.</b>

Per Dean of Academics Policy Letter, the JMO Research Paper will be submitted to professors electronically through *Turnitin Assignments* (the Assignment Submission tab) in each seminar Blackboard course.

## ?? Questions

None.

## ☰ Required Readings (18 Pages)

[U.S. Naval War College, Joint Military Operations Department. "CNC&S JMO Research Paper: Guidance for Students." Newport, RI: Naval War College, 2024. \(NWC 2063C\).](#)

Turabian, Kate L. *A Manual for Writers of Research Papers, Theses, and Dissertations*, 9th ed. Chicago: University of Chicago Press, 2018. Scan: Chapters 1-5. (Issued).

U.S. Naval War College. "Naval War College Pocket Writing and Style Guide." Newport, RI: Naval War College, August 2018. Scan.

———, Joint Military Operations Department. "JMO Paper Template." Scan.

## **References and Supplemental Readings**

University of Chicago Press. *The Chicago Manual of Style*. 17th ed. Chicago: University of Chicago Press, 2017. Or online at: <https://www.chicagomanualofstyle.org/home.html>.

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# JMO-04

## THE MARITIME DOMAIN

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*The first and most obvious light in which the sea presents itself from the political and social viewpoint is that of great highway; or better, perhaps, of a wide common, over which all men may pass in all directions.*

~ Captain Alfred T. Mahan, USN  
*The Influence of Sea Power Upon History, 1890*

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### Session Objectives

- Understand the physical environment of the maritime domain, including the littorals, along with challenges and advantages it presents to operations.
  - Understand the role of the electromagnetic spectrum within the maritime domain.
  - Understand the political, economic, social, infrastructure and informational aspects of the maritime domain.
- 

### 🔍 Focus

The focus of this session is on describing the components of the maritime domain and their effect on the planning and execution of major naval and joint operations.

### 📖 Background

The maritime domain is an extraordinarily complex environment in which to operate. First, the distances can be vast. The oceans cover more than 70% of the earth, with the Pacific Ocean covering nearly a third of the ocean area. Second, the oceans experience very diverse undersea conditions analogous to the earth's climate regimes. As all military sensors are dependent upon the physical properties of the environment in which they work, understanding these properties is critical to determining their effectiveness. Finally, the sea surface is influenced dramatically by the local weather as well as storms thousands of miles away.

Along with the vast expanses of the open ocean, the maritime domain also includes the littorals – the land and sea adjacent to the shoreline. Though connected and in proximity to one another, littoral and open ocean waters have very different characteristics which present different challenges to naval operations. For instance, in deep ocean waters, poor charts are of relatively little concern for surface vessels, but in shallow littoral waters, uncharted reefs, rocks, and shoals provide significant dangers to naval forces. Additionally, the land along the shore should not be dismissed when considering the maritime domain. Naval commanders will often find themselves supporting and defending (or defending from) forces operating in this area.

The maritime domain includes more than just the physical aspects that sailors can see and feel. The electromagnetic spectrum (EMS) is a fundamental and inseparable component of the maritime domain that provides the critical connective tissue which enables modern naval operations. Gaining and maintaining superiority within the EMS provides tremendous advantages to our naval forces, giving them an edge in sensing, communication, and weapons employment.

Nearly 40 percent of world's population (3+ billion people) lives within the coastal region. The ocean is critically important to their lives, providing food, resources, means of transport/trade, and communication. The presence of coastal infrastructure, civilian maritime traffic, and coastal defenses, along with related political, economic, social, and informational aspects, directly impact the employment and operation of naval forces.

The environment influences nearly all aspects of naval operations. The ability to operate safely, the enhancement or degradation of combatant sensors, and the relatively mundane task of locating forces operating in the maritime domain are all driven by environmental conditions. With this in mind, a

fundamental understanding of what conditions can be expected, and how they influence both friendly and adversary performance, is critical to the joint force and naval commanders. |

## ?? Questions

| Compare and contrast the maritime and land domains.

Discuss the physical characteristics of the maritime domain and their effect on the employment of maritime forces.

What are some differences between the combat employment of naval forces on the open ocean and within the littorals?

Why is the electromagnetic spectrum considered to be part of the maritime domain?

Explain why the operational commander should incorporate climate and weather (atmospheric and oceanic) during planning.

Discuss the effect of high-population density in coastal areas along with the economic importance of civilian maritime access on the employment of naval forces. |

## ☰ Required Readings (46 Pages)

| U.S. Department of the Navy. *How We Fight: Handbook for the Naval Warfighter*. Washington, D.C.: U.S. Government Printing Office (GPO), 2015. Read: 5-35. **(Issued)**.

[Ricciardi, Stéphane and Cédric Souque. "Modern Electromagnetic Spectrum Battlefield: From EMS Global Supremacy to Local Superiority." \*PRISM\* 9, no. 3 \(2021\): 122–39.](#)

[Berger, David H., Michael M. Gilday, and Karl L. Schultz. \*Advantage at Sea; Prevailing with Integrated All-Domain Naval Power\*. Washington, D.C., December 2020. Review.](#)

## ☰ References and Supplemental Readings

[U.S. Department of Defense. \*Electromagnetic Spectrum Superiority Strategy\*. October 2020.](#)

[U.S. Office of the Chairman of the Joint Chiefs of Staff. \*Joint Electromagnetic Spectrum Operations\*. Joint Publication \(JP\) 3-85. Washington, D.C.: CJCS, 22 May 2020.](#)

[U.S. Office of the Chairman of the Joint Chiefs of Staff. \*Joint Maritime Operations\*. Joint Publication \(JP\) 3-32. Washington, D.C.: CJCS, 04 December 2023. |](#)

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**JMO-05****INTRODUCTION TO NAVAL TACTICS**


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*Forces at sea are not broken by encirclement; they are broken by destruction.*

~ Capt. Wayne P. Hughes, Jr. USN  
*Fleet Tactics and Naval Operations*. 3rd ed. 2018

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**Session Objectives**

- Comprehend the tactical principles, elements, and processes of naval combat.
  - Recognize the influence of naval technology on the evolution of naval tactics.
- 

**Q Focus**

The purpose of this session is to build an introductory theoretical framework for student understanding of naval warfare characteristics, capabilities, and tactics. The concepts discussed will be reinforced throughout the remainder of the block.

**≡ Background**

Events such as the Falklands War in 1982, which saw a combined loss of 16 ships, including an Argentinian cruiser and four British surface combatants; the 1987 missile attack on USS Stark during the Iran-Iraq war; and the attack on the Israeli ship INS Hanit in 2006 demonstrated that tactical failure at sea can have a profound impact on operations, strategy, and even the national mood. The key tenets of naval tactics are fundamentally different from those of tactics on land or in the air, and having an understanding of those differences is vital if a Joint Force Commander intends to use the naval component of a Joint Force. Understanding these “cornerstones” (as Hughes describes them), along with the fundamental elements and processes of naval tactical combat, allows students to think about how to best employ naval forces to accomplish tactical objectives—and the risk to force and mission that such employment entails. As an operational commander or planner, understanding the fundamentals of naval tactical actions is critical to developing rational estimates of the situation, developing options, and making sound tactical and operational decisions.

To gain that understanding, it is first important to have a common definition of what exactly one is trying to understand. In broad terms, naval tactics is the theory and practice of planning and employing naval tactical actions aimed to accomplish a tactical objective. This is different from naval strategy. Naval strategy deals with how one intends to use the entire naval force. Naval tactics is how one puts those plans into actual effect; it is the handling of naval forces in battle. In the words of Hughes, “strategists plan, tacticians do.”

Naval tactical actions are conducted with and without the use of weapons. They can be planned or unplanned. They can be conducted at any time, regardless of the ratio of forces in a theater; and they are conducted in a sea/ocean area varying in size from a combat zone/sector to a maritime area of operations. When employing naval forces, it is important to understand exactly what you are tasking them to do, as well as what objective you want them to accomplish (note these are two different ideas). As Hughes describes, maneuver, firepower (fires), scouting (ISR), and command and control (C2) are functioning tactical elements of naval forces, which are opposed by the processes and elements of counterforce, anti-scouting (counter-ISR), and C2 counter measure (C2CM) systems. The naval tactician employs sensors to locate the enemy (while interfering with the enemy’s scouting) and makes command decisions (while interfering with the enemy’s C2) that transform scouting and firepower into a delivered force. The successful delivery of firepower and destruction of enemy platforms (or targets) is at the center of naval tactical action. As stated in NDP-1, “The tactical level of warfare is the province of combat, the objective of which is to defeat or destroy enemy forces at a specific time and place.”



Another way to envision the process is to view naval force-on-force combat as a “kill chain” where each opposing force seeks to find, fix, track, target, engage, and assess (F2T2EA) before the other side does the same. Each link in the kill chain leads to the next, from start to finish. This kill chain concept is not unique to naval combat. However, the imperative to “attack effectively first” by rapidly completing one’s own kill chain before the enemy completes its kill chain applies much more so to naval combat than to land combat.

## ?? Questions

Why is understanding naval tactics important to the naval operational commander?

Critique Hughes’ Six Cornerstones of naval tactics. Which seems most relevant to modern navies today? Which seems least relevant? How do the fundamentals of naval warfare compare to land warfare?

Discuss Hughes’ elements and processes of naval combat. Are these applicable to modern navies?

What is the relationship, if any, of Hughes’s elements and processes of combat (theory) to the F2T2EA “kill chain” (doctrine)?

Why is there a mutual relationship between emerging technologies and naval tactics?

How might emerging technologies change naval tactics and execution of Hughes’s elements and processes of combat or the “kill chain?”

## ☰ Required Readings (62 Pages)

Hughes, Wayne P. Jr. and Robert Girrier. *Fleet Tactics and Naval Operations*. 3rd ed. Annapolis, MD: Naval Institute Press, 2018. Read: Chapters 1 and 8. **(Issued)**.

[U.S. Coast Guard, U.S. Marine Corps, and U.S. Navy. \*Naval Warfare\*. Naval Doctrine Publication \(NDP\) 1. Washington, DC.: Commandant USCG, Commandant USMC, CNO, April 2020.](#) Read: 26-28.

[U.S. Office of the Chairman of the Joint Chiefs of Staff. \*Joint Targeting\*. Joint Publication \(JP\) 3-60. Washington, DC: CJCS, 28 September 2018.](#) Scan: II-21 - II-31.

Hornfischer, James D. *Neptune’s Inferno: The U. S. Navy at Guadalcanal*. New York, NY: Bantam, 2012. Read: Prologue. **(Issued)**.

## 📄 References and Supplemental Readings

Vego, Milan. *General Naval Tactics*. Annapolis, MD: Naval Institute Press, 2020.

[Vego, Milan. “Naval Tactical Actions.” Newport, RI: Naval War College, Joint Military Operations Department, August 2015. \(NWC 2155\).](#)



## JMO-06

# NAVAL CAPABILITIES: PLATFORMS, SENSORS, AND WEAPONS

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*But in case signals can neither be seen or perfectly understood, no captain can do very wrong if he places his ship alongside that of the enemy.*

~ Vice Admiral Horatio Nelson  
October 1805

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### Session Objectives

- Comprehend the capabilities and limitations of platforms, sensors and weapons to conduct tasks in support of tactical objectives.
  - Understand the main methods of employing naval air, surface, and subsurface platforms and their sensors and weapons to support warfare mission areas to accomplish navy tactical objectives.
  - Analyze the influence of innovation, technology, and the evolving threat environment on naval tactics development.
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### 🔍 Focus

This session provides an overview of the standard platforms, sensors, and weapons commonly found in navies today. While only provided as an overview, good tacticians must also know the capabilities and limitations of the platforms from which they fight, as well as those of their sensor and weapon systems. Developing an understanding of naval force capabilities is the foundation of effectively employing naval forces to achieve tactical objectives.

### 🔧 Background

In each domain, forces move, see, and shoot differently. The maritime domain creates challenges and opportunities for the operational commander. The successful employment of a maritime strategy through the tactical use of forces is reliant upon many factors, one of which is the effective development and use of platforms, sensors, and weapons. The rapid advance in both sensor and weapon technology during the Second World War (WWII) had an inestimable effect on naval tactics, the kind of platforms navies procured and warship design itself. In the years following the close of WWII, technologies with a direct impact on naval warfare continued to evolve and improve. Both surface and air search radar, which were in their nascent stage at the beginning of the war, became commonplace among the major naval powers shortly thereafter. Such was also the case with sonar systems designed to locate, identify, and track stealthy submarines. With the advent of the nuclear-powered submarine, the surface-to-air guided missile, the anti-ship cruise missile, and the supercarrier, the tactical considerations of naval commanders underwent considerable change.

As weapon and sensor capabilities evolved, so did warship design and the tactics of employment. Tactical formations of concentrated platforms dispersed. Ships that formerly emphasized offensive firepower switched to defensive roles and vice-versa. The advent of the guided missile, along with the increased range and capability of naval aviation and modern submarines, meant the heavy naval rifle (and the tactics to employ it effectively) was supplanted in importance. Heavily armored warships were likewise replaced with much lighter designs with an emphasis on increased sensor capability. The multi-role destroyer and frigate have now become the most prolific and capable surface combatant. Even smaller platforms such as corvettes and fast missile craft may have significant offensive firepower capabilities that must be mitigated by maritime planners.

Due to the interdependent relationship between maneuver, sensors, firepower, and command and control, as new weapon and sensor systems are developed and capabilities evolve, so do tactics. Increases in the range and lethality of offensive firepower, coupled with increases in detection capabilities, shortened the decision cycle of commanders in both the defensive and offensive aspects of naval combat. Leaps in

non-nuclear propulsion technology, such as air-independent propulsion, have made the diesel submarine an extremely capable platform which in some environments is more desirable than its larger nuclear-powered cousin. Modern subsonic and supersonic long range anti-ship cruise missiles continue to proliferate with ever increasing levels of accuracy and lethality. These weapons, which may be launched from surface, subsurface and air platforms, put surface forces increasingly at risk. Likewise, improvements in the performance of undersea mines as well as modern torpedoes further threaten naval forces. Moreover, the introduction and proliferation of remotely piloted or unmanned platforms throughout the maritime and air domains present new challenges to naval warfighters now and into the foreseeable future. Lastly, the extended ranges of shore based anti-ship cruise missiles, the introduction of shore and sea based anti-ship ballistic missiles and the advent of hypersonic missiles have potentially decreased the available "safe" open ocean maneuver space as well as compressed available decision time, threatening to overwhelm capabilities designed to protect naval forces.

The proper synchronization of platforms, sensors, and weapon systems is, therefore, a critical component in massing effective naval firepower on a desired target – before the enemy masses effective firepower against friendly forces. By overwhelming a target’s defensive capabilities with coordinated attacks and/or strikes, a naval force may gain significant tactical advantage. As naval forces cannot be regenerated as quickly as ground forces, such an event may prove operationally or strategically decisive.

## ?? Questions

What type of sensors and weapon systems are commonly found on most air, surface and subsurface combatants?

Describe the tactical advantages and disadvantages in the combat employment of one’s naval air forces.

Describe the tactical advantages and disadvantages in the combat employment of one’s naval surface forces.

Describe the tactical advantages and disadvantages in the combat employment of one’s submarine forces.

Describe the relationship between platform, sensor, and weapon systems and naval tactics. How have technological innovations in these capabilities influenced naval warfare tactics in the past?

How will the introduction of technologies such as more advanced anti-ship missiles, anti-ship ballistic missiles, hypersonic weapons, unmanned or remotely piloted vehicles, artificial intelligence, new information warfare capabilities, and other technological innovations influence naval warfare tactics in the future?

## Required Readings (63 Pages)

Hughes, Wayne P. and Robert P. Girrier. *Fleet Tactics and Naval Operations*. 3rd ed. Annapolis, MD: Naval Institute Press, 2018. Read: Chapter 5, “World War II: The Revolution in Sensors” and 210-213 (summary of Chapter 9, “The Great Constants”). **(Issued)**.

Till, Geoffrey. *Seapower: A Guide for the Twenty-First Century*. 4th ed. London and New York: Routledge, 2018. Read: 147-148 and 154-169 of Chapter 5, “Navies and Technology.” **(Issued)**.

[U.S. Naval War College, Joint Military Operations Department. “Forces/Capabilities Handbook.” Newport, RI: Naval War College, January 2023. Read: 9-26. \(NWC 3153T\). \(Issued\).](#)

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\_\_\_\_\_. “Platforms, Weapons and Sensors Brief.” Newport, RI: Naval War College, December 2023. Scan. (NWC 1248).

\_\_\_\_\_. “Selected U.S. Navy and The Peoples Liberation Army (Navy) (PLA (N)) Tactical Capability Handbook.” Newport, RI: Naval War College, February 2024. Scan. (NWC 2164H).

## References and Supplemental Reading

Filipoff, Dmitry. “Fighting DMO, Pt. 6: Naval Platforms Advantages and Combined Arms Roles.” *Center for International Maritime Security*, 10 April 2023. See pages 11-27.

Leighton, Bruce G. “The Relation of Aircraft to Sea-Power.” *U.S. Naval Institute Proceedings* 16, no. 4 (November 1928): 728-745. (NWC 4109).

Lautenschlager, Karl. “The Submarine in Naval Warfare, 1901-2001.” *International Security* 11, no. 3 (Winter 1986-1987): 94-111. (NWC 4077).

Vego, Milan. “Fundamentals of Surface Warfare.” Newport, RI: Naval War College, Joint Military Operations Department, May 2016. Read: 10-11 and Appendix A. (NWC 1164A).

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# JMO-07

## NAVAL COMBINED ARMS TACTICS

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*The difference between a good officer and a poor one is about ten seconds.*

~ Admiral Arleigh Burke  
March 1943

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### Session Objectives

- Analyze the importance of combined arms in naval warfare.
  - Understand the dominant principles of surface, undersea, air warfare/air and missile defense, strike, and information warfare.
  - Explain the primary objectives and tactical methods of employing combined arms, including joint approaches, in surface, undersea, air warfare/air and missile defense, strike, and information warfare.
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### 🔍 Focus

This session will introduce students to the employment of naval forces synchronized across multiple domains to achieve tactical objectives. Using naval tactical theory and their understanding of naval capabilities learned in earlier sessions, students will explore how navies employ forces in practice as a cohesive whole using combined arms concepts.

### 📖 Background

Historically, naval combat elicits visions of glorious individual ship-to-ship actions like the USS Constitution versus HMS Guerriere or line of battle ships (thus “ship of the line”) slugging it out in major fleet actions such as the Battle of Trafalgar. Despite the invention of naval mines in the late 18<sup>th</sup> century and steam propulsion, armor and turreted guns in the 19<sup>th</sup> century, naval tactics did not change dramatically for almost 400 years. They remained focused on surface combat between ships or fleets roughly between the early 16<sup>th</sup> and early 20<sup>th</sup> centuries. However, rapid technological changes from the late 19<sup>th</sup> to the 21<sup>st</sup> century led to the invention of submarines, airplanes, improved forms of naval propulsion, increasingly powerful and sophisticated weapons, and pervasive information related technology. This changed naval warfare from one encompassing primarily a single domain to one where multiple domains were in play simultaneously. In each of these domains, navies developed platforms, sensors and weapons intended to provide an advantage in combat over those in another domain. As the 20<sup>th</sup> century progressed, and particularly during World War II and the Cold War, navies realized the advantages of synchronizing capabilities across multiple domains to defeat enemy forces on, under, over, or adjacent to the sea. Thus was born combined arms at sea.

Modern naval combined arms concepts are best expressed in the areas of Surface Warfare (SUW), Undersea Warfare (USW), Air Warfare/Air and Missile Defense (AW/AMD), Strike Warfare (STW), and Information Warfare (IW). While there are many other missions and tasks undertaken by navies, these warfare areas probably best encapsulate how navies employ combat power to achieve tactical objectives. SUW is the oldest form of naval warfare and is conducted against targets on the surface of the oceans. A more modern concept arising in World War I, the purpose of USW is to destroy or defeat enemy submarines and other undersea capabilities (e.g., mines). Providing freedom of action to conduct these and other naval warfighting tasks, AW/AMD is designed to contest for airspace within the maritime domain and protect naval forces from air and missile attacks that have arguably dominated war at sea since World War II to the present. However, as Hughes states, “The seat of purpose is on the land,” so STW employs naval capabilities to attack targets ashore. Last but not least, the relatively recent exponential increase in the reliance on information related technologies for combat at sea has led navies to perhaps recognize IW as equal to the traditional warfighting functions.

Integrating platforms, sensors, and weapons, to achieve effects within each of these warfare areas, and then linking the warfare areas together as a cohesive whole, is an immense command and control challenge. Synchronizing naval capabilities in time and space to damage, destroy, or defeat enemy targets while protecting one's own forces will require the continued evolution of technology, doctrine, and perhaps most importantly, creative thinking. An attempt to respond to this challenge is represented by the U.S. Navy's Distributed Maritime Operations concept. Furthermore, with the dramatic technological changes of the past 100 plus years, the intertwining of warfare domains, and the modern international arena, warfare at sea is not only a navy fight but a joint and coalition fight. These are many of the challenges going forward.

## ?? Questions

What is "naval combined arms?" What is the purpose in fighting in this manner?

Describe SUW, USW, AW/AMD, STW, and IW. What is the purpose of and how might each be executed? What are the advantages and challenges found in each warfare area? How does the physical environment affect the execution of each warfare area?

How do navies integrate or synchronize platforms, sensors and weapons across warfare domains to achieve tactical objectives? How do Hughes' elements and processes of combat (theory) and F2T2EA (doctrine) apply?

How might continuing advances in technology change the way navies execute combined arms warfare at sea in the future?

How might joint or combined forces contribute to combined arms warfare at sea, and what are some of the advantages and challenges in integrating these capabilities?

How might navies execute distributed maritime operations successfully in high-end conflict? How will joint and combined forces contribute?

## Required Readings (60 Pages)

Polmar, Norman. *Guide to the Soviet Navy*. Annapolis, MD: United States Naval Institute, 1986. Read: 29-35, 37-40. (NWC 1104). [This item available via Leganto.](#)

[Filipoff, Dmitry. "Fighting DMO, Pt. 1: Defining Distributed Maritime Operations and the Future of Naval Warfare." \*Center for International Maritime Security\*, 20 February 2023.](#)

[Wise, Harold Lee. "One Day of War". \*Naval History\* 27, no. 2. Annapolis, MD: Naval Institute Press, 2013. \(NWC 4173\).](#)

[Chang, Edward. "'Smoke 'Em.'" \*War Is Boring\*, 5 December 2017. \(NWC 1106\).](#)

[Navy Warfare Development Command, Concepts Directorate. "Primer on Naval Command and Control and the Composite Warfare Organization." Norfolk, VA: NWDC, January 2020.](#)

[U.S. Naval War College, Joint Military Operations Department. "Forces/Capabilities Handbook." Newport, RI: Naval War College, January 2023. Read: 197-203. \(NWC 3153T\). \(Issued\).](#)

[U.S. Coast Guard, U.S. Marine Corps, and U.S. Navy. \*Naval Warfare\*. Naval Doctrine Publication \(NDP\) 1. Washington, DC.: Commandant USCG, Commandant USMC, CNO, April 2020. Read: 33-35.](#)

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## References and Supplemental Reading

Angevine, Robert G. "Hiding in Plain Sight: The U.S. Navy and Dispersed Operations under EMCON, 1956–1972." *U.S. Naval College Review* 64, no. 2 (Spring 2011): 79-92. (NWC 2178).

Eyer, Kevin, and Steve McJessy. "Operationalizing Distributed Maritime Operations." *Center for International Maritime Security*, 5 March 2019. (NWC 1247).

Filipoff, Dmitry. "Fighting DMO, Pt. 6: Naval Platforms Advantages and Combined Arms Roles." *Center for International Maritime Security*, 10 April 2023. See pages 1-11.

Mosier, Richard. "Distributed Maritime Operations – Becoming Hard-to-Find." *Center for International Maritime Security*, 12 May 2022.

U. S. Naval War College. Joint Military Operations Department. "Selected USN/USMC and PLA/(N)/(AF) Tactical Capability Handbook." Newport, RI: Naval War College, February 2024. (NWC 2164H).

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## JMO-08

## COMMANDER'S ESTIMATE OF THE SITUATION

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*Before undertaking a task the commander makes an estimate of the situation and formulates a plan of action ... Even when time is so short as to permit only a mental estimate, the same logical process is used.*

—Navy Department, *War Instructions*  
Paragraph 217, 1944

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### Session Objectives

- Understand the reasoning applied in the process of estimating a situation and making a sound decision.
  - Understand the evolution of the Commander's Estimate in U.S. Navy planning doctrine.
  - Understand the relationship between intent and mission command.
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## Q Focus

This session addresses the fundamental challenges of military problem solving and decision-making. Recognizing that every situation is unique, the session focuses on the mental process of military decision-making, referred to here as the *estimate of the situation*. This mental process will be applied throughout the course, both through analysis of past leaders' decisions in historic case studies as well as in the formulation of original ideas (or *ways*) of “how to” address a military problem.

## ≡ Background

Joint Maritime Operations' foundational theories of naval tactics, operational art, and maritime warfare have roots in the Prussian Army's nineteenth century concept of *Lagebeurteilung*, or the *assessment of the situation*—a mental process of reasoning used to reach a sound decision. In 1909, the U.S. Army leveraged this model to publish *Estimating Tactical Situations and Publishing Field Orders*, later developed by the Naval War College into curriculum entitled *The Estimate of the Situation*. Prior to World War II, the *Estimate* was revised by multiple war college presidents and the educational product varied greatly in length and substance depending on each admiral's guidance. Following the war, ADM Spruance became the college's new president and drafted an entirely new, substantially shorter, doctrinal planning guide for the Department of the Navy based on his wartime experiences, known today as NWP 5-01 *Navy Planning*.

The commander's *estimate of the situation* is presented in the JMO curriculum as a theoretical construct with direct linkages to today's doctrine. Dr. Milan Vego describes it as foundational to any decision-making process, and his writing focuses on the mental process of reasoning that allows a commander to make a sound decision. While it is this mental process that matters most, as opposed to a format, a standard format for developing an *estimate* is “highly useful.” A review of U.S. Navy planning doctrine over the last 75 years shows great consistency in such a format – originally referred to as the “Armed Forces Estimate Form” and today as the “Commander's Estimate.”

When determining an *estimate*, a commander considers several factors, tangible and intangible aspects of the environment, affecting a military situation. Given a potentially extensive list of situational elements, one way to simplify the process is to group them into three broad categories: physical/human environment, enemy situation, and friendly situation. These three distinct but interrelated and overlapping situations help the commander reduce a complex military problem into manageable parts. With additional time and detailed staff study/analysis, this simple construct will eventually be communicated in the “Situation” paragraph of a formal order. Therefore, the *estimate of the situation* can be understood within the modern construct of Joint Planning because one's *estimate* follows the same logical steps (e.g. Mission Analysis and COA Development/Comparison/Decision) as the Joint Planning Process (JPP) studied later in the course.

While the JPP will be analyzed in detail during JMO-43, the commander's role in the early steps of planning is studied here. Complementing the decision made by the commander from their estimate of the situation is the *commander's intent* - a key aspect of how a commander translates their operational vision to subordinates. Defined simply by Dr. Vego, *intent* is the "description of a desired military endstate that a commander wants to see after the given mission is accomplished." Further, the purpose of *intent* is "to provide a framework for freedom to act for subordinate commanders." This latitude of action links directly to the concept of Mission Command and the conscious decision of the commander to allow subordinates to apply their own critical thinking to their assigned tasks.

This session is intended to be foundational to help students' critical thinking when confronting a military problem. JMO-09, conducted the same day, provides a relatively simple tactical problem in which to apply the theoretical construct of the Commander's Estimate of the Situation.

## ?? Questions

Why is the commander's estimate of the situation defined as a "logical process of reasoning"?

How are the differences of deductive and inductive reasoning applied to military problems?

How do the elements of a commander's estimate of the situation interact?

How has the concept of the commander's estimate evolved in U.S. Navy planning doctrine?

Given the historical roots of Mission Command, what is the role of commander's intent within this warfighting philosophy?

## ☰ Required Readings (29 Pages)

[Vego, Milan. "Logic of the Commander's Estimate of the Situation." Newport, RI: Naval War College, Joint Military Operations Department, June 2016. \(NWC 2158\).](#)

[Vego, Milan. "Operational Commander's Intent." \*Joint Force Quarterly\* 57, no. 2 \(2010\): 138-143.](#)

[U.S. Naval War College, Joint Military Operations Department. \*Commander's Estimate of the Situation – U.S. Navy Doctrinal Compendium\*. Newport, RI: Naval War College, 2024. \(NWC 1249\).](#)

## 📖 Supplemental Reading

[Cullen, Charles W. "From the Kriegssademie to the Naval War College: The Military Planning Process." \*Naval War College Review\* 23, No. 1 \(1970\): 6-18.](#)

[Facione, Peter A. \*Critical Thinking: What It Is and Why It Counts\*. Millbrae, CA: Measured Reasons and The California Academic Press, 2015. \(NWC 4164\).](#)

[Fitch, Roger S. \*Estimating Tactical Situations and Composing Field Orders\*. Fort Leavenworth, KS: U.S. Infantry and Cavalry School, 1909.](#)

[McKnight, Austin M. "The Estimate of the Situation." \*U.S. Naval Institute Proceedings\* 41, No. 157 \(May 1915\): 765-784.](#)

[U.S. Naval War College. \*Sound Military Decision\*. Annapolis, MD: Naval Institute Press, 1942. \(NWC 6047\).](#)

# JMO-09

## TABLETOP EXERCISE: ORGANIZING NAVAL FORCES AND THE CES

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*This is not a game! This is training for war! I must recommend it to the whole Army.*

~ General von Muffling  
Chief of the Prussian General Staff, 1824

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### Session Objectives

- Demonstrate the formation of a Commander's Estimate for a simulated naval scenario.
  - Apply critical and creative thinking skills and knowledge of naval power in task organizing a naval force based on objective, environment, threat, and friendly capabilities and vulnerabilities.
  - Demonstrate a general understanding of executing command and control of tactical naval forces and the employment of those forces to achieve tactical objectives in the maritime domain.
  - Demonstrate the utility of a wargame to aid decision-making.
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### 🔍 Focus

The focus of this session is on tactical level command and control, disposition and employment of surface, submarines, and naval air forces in the maritime domain. Students will work together, using critical and creative thinking, to form a Commander's Estimate and solution to a modern-day tactical naval problem within a fictional scenario.

### 🚩 Background

Tabletop exercises, sand table exercises, and all manner of wargames and educational tools have been in use since the Indians devised the game of chaturanga—modern day chess—to teach military strategy and maneuver. From a cursory scan of the reading, we discover map exercises, staff or command post exercises, training trips, tactical talks, and sand-table exercises are common forms of wargames. These “games” provide a relatively low-cost way to exercise the thinking and decision making under stress that are necessary for successful military operations.

Successful wargames are a combination of science and art – as are successful operations. Clausewitz said, “War is the province of chance...It increases the uncertainty of every circumstance and deranges the course of events.” Chance is an expression of risk versus potential, which is a fundamental concept that all military decision-makers should be experienced in calculating and managing. Wargaming facilitates this experiential learning in a low-risk, “safe-to-fail” environment.

This tabletop exercise will help reinforce the students' understanding of course material and concepts. Students will first need to form their estimate of the situation to include physical/human environment, enemy situation, and friendly situation. Based on their estimate, the students will then build a plan to achieve the objective stipulated within provided guidance. Finally, students will “experience” the employment of various naval platforms, sensors, and weapons while considering their capabilities and limitations. This includes how command and control principles enable individual platforms to be employed as an effective combined force utilizing scouting, firepower, and maneuver to attack effectively first. Students should be ready to present their decision(s) and then argue (support) and defend them based on what they know of naval capabilities and platforms learned up to this point.

This session will also serve as an introduction to the gaming systems used throughout the course. From this rudimentary beginning, the complexity of our wargames will increase as we use them to examine historical case studies before culminating in a modern Pacific-based scenario. Throughout, these

wargaming sessions will help to illustrate and reinforce student understanding of joint and maritime warfare concepts.

This tabletop event is intended to exercise and sharpen students' critical thinking and decision-making skills. It is, in the language of critical thinking, a logic exercise and presents an opportunity for students to demonstrate their understanding of the challenges and characteristics of naval warfare discussed thus far.

## ?? Questions

Describe the utility of wargaming as a training and educational tool.

Develop, propose, and support your potential solution(s) to the given problem regarding the deployment of naval power in terms of task and purpose.

Discuss how the development of a disposition of forces translates into warfare or task organization and a force requirement list. How does your disposition and organization of forces exploit capability advantages and mitigate vulnerabilities?

Discuss how command and control can affect tactical decision making in the maritime domain. What is the role of leadership and the human element?

## Required Readings (20 Pages)

[Hoffman, Rudolf M., Franz Halder, Friedrich Fangor, and Wilhelm List. "A Synopsis of War Games." U. S. Army Historical Division, 1952. \(NWC 4143\).](#)

[U.S. Coast Guard, U.S. Marine Corps, and U.S. Navy. \*Naval Warfare\*. Naval Doctrine Publication \(NDP\) 1. Washington, D.C.: Commandant USCG, Commandant USMC, CNO, April 2020. Read: 42-57.](#)

## References and Supplemental Readings

[U. S. Naval War College. Joint Military Operations Department. "Selected USN/USMC and PLA/\(N\)/\(AF\) Tactical Capability Handbook." Newport, RI: Naval War College, February 2024. \(NWC 2164H\).](#)

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# JMO-10

## INTRODUCTION TO OPERATIONAL ART

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*The future of operational art depends on today's officer corps understanding the historical and theoretical basis of the concept. . . . In an era of diminishing resources, understanding operational art will be an invaluable asset to the decision-makers who will have to select which technological advances will be pursued and which will not.*

~ James J. Schneider, School of Advanced Military Studies  
"Theoretical Implications of Operational Art," 1990

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### Session Objectives

- Comprehend the meaning of the term operational art.
  - Understand the historical emergence of operational art.
  - Comprehend how operational art links strategy to tactics.
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### 🔍 Focus

This session focuses on the historical roots of operational art and introduces the linkages between operational art, strategy, and tactics. The study of the theory known as operational art is presented here using mid to high-intensity combat scenarios because that is the most direct manner in which to discern the nature of the art. That is not to say, however, that operational art does not apply to lower intensity combat scenarios as we shall see later in the trimester.

### 📖 Background

In Strategy and War you discussed, or in some cases will discuss, Clausewitz, Mahan, and Douhet—military theorists who looked to the past to predict how wars could be better fought in the future. These theorists lived in turbulent times, highlighted by technical advancements. As the size, speed, and diversity of military forces grew—as well as the space they occupied and in which they fought, these men understood that a good strategy alone could not guarantee victory; conversely, one could win every tactical engagement and still lose the war. To achieve victory, they understood that one must effectively link strategy and tactics to ensure that tactical actions support strategic objectives. In modern warfare, the strategic perspective is often too broad to ensure the decisive employment of one's sources of power; likewise, the tactical framework is often too narrow.

Another field of study and practice exists to synchronize multiple sources of power properly in order to accomplish the ultimate strategic or operational objective. This third component of military art, operational art, occupies an intermediate position between the realm of policy and strategy and that of tactics—and is inextricably linked to both. Without operational art, war would be a set of disconnected engagements, with relative attrition the only measure of success or failure.

Operational art, as defined by Dr. Milan Vego is the component of military art concerned with the theory and practice of planning, preparing, conducting, and sustaining campaigns and major operations aimed at accomplishing operational or strategic objectives in a given theater. Operational art emerged in the nexus of societal change and advancements embodied by industrialization and technology. As the size of military forces and the resultant complexity of their movement and sustainment grew, military leaders and theoreticians, both on land and at sea, sought effective methods for conducting war on a greater scale. This interaction among study, theory, and practice continues today.

The application of operational art is a cognitive process; the conduct of warfare at the operational level preceded the emergence of formal operational art. Operational art is not strategy; strategy is developed and implemented at the national and theater level. Operational art helps commanders make sound decisions and use resources efficiently and effectively to achieve strategic objectives. It requires broad vision—the ability to anticipate—and effective joint and multinational cooperation. Finally, operational

art is practiced not only by Joint Force Commanders, but also by their senior staff officers and subordinate commanders.

## ?? Questions

Is operational art a matter of pure theory or practical experience? Or both?

When and why did operational art develop as a field of military theory?

Can a force prevail in war without employing operational art? If so, at what cost or risk?

What is the significance of the return to great power competition on the relevance of operational art?

## ☰ Required Readings (32 Pages)

[Hime, Douglas N. "The Leyte Gulf Case Study." Newport, RI: Naval War College, Joint Military Operations Department, December 2013. Read: 1-23. \(NWC 1196\).](#)

[Vego, Milan. \*Joint Operational Warfare: Theory and Practice\*. Newport, RI: Naval War College, 2009. Read: I-3 to I-11, "On Operational Art." \(Issued\).](#)

## 📄 References and Supplemental Readings

[Matt Turn \(@mattturn6590\). "Battle 360 Episode 9 'Battle of Leyte Gulf'." YouTube, 29 October 2018.](#)  
A 55-minute video retelling of the battle.

*Op Art Primer*. A concise overview of some key aspects of the topic. Available here: [Op Art Primer.pdf](#).

*Op Art Workbook, Battle of Leyte Gulf*. A PowerPoint note-taking guide, available for download at: [OP ART Workbook- Battle of Leyte Gulf.pptx](#).

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# JMO-11

## MILITARY OBJECTIVES AND THE LEVELS OF WAR

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*Pursue one great decisive aim with force and determination—a maxim which should take first place among all causes of victory.*

~ Carl von Clausewitz  
*Principles of War*, 1812

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### Session Objectives

- Understand the relationship between the strategic, operational, and tactical levels of war and their corresponding objectives.
  - Understand the concept of regressive planning.
  - Analyze how the “Four Questions” of warfare can help operational-level commanders employ assets in the pursuit of strategic objectives.
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### 🔍 Focus

This session focuses on primacy of the objective in warfare. This includes an examination of the relationships between strategy and policy; the strategic, operational, and tactical levels of war and their corresponding objectives; the interrelationships between the four elements of national power (diplomatic, informational, military, and economic) with respect to accomplishments of strategic objectives; and an introduction to the idea of regressive planning.

### 📖 Background

The selection of an objective is the first and most critical step in undertaking any military enterprise. Without a clearly attainable objective, any military effort expended is unlikely to contribute to the political aims for the conflict. Determining a military objective, however, is often the most difficult aspect of operational planning, requiring a careful analysis of the enemy’s factors of space, time, and force. Determining military objectives is more an art than a science and requires planning regressively: working backwards from the desired end state to ensure that the required conditions are created at each step prior to executing the operation.

A useful cognitive approach is to ask four fundamental questions that can assist the commander in visualizing the scope of their operation:

- What are the objectives and desired military end state? (Ends)
- What sequence of actions is most likely to achieve those objectives and military end state? (Ways)
- What resources are required to accomplish that sequence of actions? (Means)
- What is the likely chance of failure or unacceptable results in performing that sequence of actions? (Risk)

### ?? Questions

What is the relationship between strategy, policy and operational art?

How can the “four questions” help an operational commander respond to strategic guidance?

What should the relationship be between strategic and military objectives?

Some theorists claim that technology has compressed the levels of war to the point that the differences are no longer relevant. Do you agree?

Why should an operational commander care about the “other” instruments of power?

What were the strategic and military objectives of the opponents in the Battle of Leyte Gulf?



## Required Readings (32 Pages plus an 8-minute video)

[Vego, Milan. \*Joint Operational Warfare: Theory and Practice\*. Newport, RI: Naval War College, 2009. Read: I-35 to I-50, “Policy-Strategy-Operational Art Nexus.” \(Issued\).](#)

———. *Operational Warfare at Sea: Theory and Practice* 2d ed. New York: Routledge, 2017. Read: 23-39, “The Objectives.” (Issued).

Watch the 8-minute micro-lecture, **Military Objectives**. Available at: [JMO Spring 2024 Micro lecture videos](#).

## References and Supplemental Readings

[Buckel, Chad. “A New Look at Operational Art: How We View War Dictates How We Fight It.” \*Joint Force Quarterly\* 100, no. 1 \(2021\): 94–100. \(NWC 1234\).](#)

*Op Art Primer*. A concise overview of some key aspects of the topic. Available here: [Op Art Primer.pdf](#).

*Op Art Workbook, Battle of Leyte Gulf*. A PowerPoint note-taking guide, available for download at: [OP ART Workbook- Battle of Leyte Gulf.pptx](#).

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# JMO-12

## OPERATIONAL FACTORS AND THEATER GEOMETRY

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*Armies do not burst from one theater of war into another; rather a projected strategic envelopment may easily take weeks and months to carry out. Besides, distances are so great that the chances of even the best measures finally achieving the desired result remain slight.*

~ Carl von Clausewitz  
*On War*, 1832

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### Session Objectives

- Comprehend the interrelationship between the operational factors of space, time, and force.
  - Analyze the process by which an operational commander balances the operational factors in order to expose opportunities and risks towards the achievement of the objective.
  - Understand the key terms pertaining to theater geometry (positions, bases of operations, lines of operation, decisive points, lines of communication and objectives).
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### 🔍 Focus

This session addresses a foundational aspect of operational art—the analysis of operational factors of space, time, and force and the interrelationship between these factors in achieving objectives. The concept of using information obtained from the analysis of operational factors in order to understand the operating environment better and to make sound operational decisions is examined in this session. The Leyte Gulf case study provides context for illustrating applications of operational factors in planning and conducting military operations to achieve a given objective.

### 🔧 Background

When developing a solution to a military problem, the operational commander evaluates the objective through the lens of factors space, time, and force to expose opportunities and risks towards the achievement of the objective. This visualization is the genesis of the operational idea and subsequently, the concept of the operation. As the commander develops the operational idea, operational functions can help mitigate disadvantages and exploit advantages in space, time, and force in order to accomplish the objective.

Analysis of operational factors begins with the objective. Critical aspects of the enemy and friendly military situations are included in this analysis. Although operational commanders may not be able to choose their space, they do have the ability to manage the characteristics of time and force. The size, shape, and nature of a space will affect the quantity and type of forces employed, as well as the time required to conduct a successful military operation. Managing aspects of all three of these factors allows the commander to shape the operational environment to their advantage and mitigate operational and tactical risks.

Any theater contains a variety of natural and artificial features, called “theater geometry,” that significantly affect the planning and execution of military action at any level of war. These theater elements include positions, distances, bases of operation, physical objectives, decisive points, lines of operation (LOO), lines of effort (LOE), and lines of communication (LOC)—any of which may have tactical, operational, or even strategic significance. Operational commanders and their staffs must understand the advantages and disadvantages of these elements to ensure the most effective employment of their forces against the enemy, and also to protect friendly forces from reciprocal actions by the enemy.

### ?? Questions

What is the theoretical relationship between the operational factors space/time, space/force, and time/force as they relate to an objective?

What are some examples of how an operational commander might balance these relationships to achieve objectives?

### **Leyte Case Study:**

Given the operational objectives for your assigned team (Allies or Japan), how effectively did the commanders estimate the factors space, time, and force as they planned for the accomplishment of this objective?

- What advantages or opportunities did time, space or force offer?
- What disadvantages or risks did time, space or force reveal?
- How did time, space or force affect their assessment of likely enemy courses of action?
- What were the advantages and disadvantages presented by the positions and lines of operation?

### **Required Readings (47 Pages plus a 9-minute video)**

[Hime, Douglas N. "The Leyte Gulf Case Study." Newport, RI: Naval War College, Joint Military Operations Department, December 2013.](#) Review: 1-23, Read: 23-32. (NWC 1196).

Vego, Milan. *Joint Operational Warfare: Theory and Practice*. Newport, RI: Naval War College, 2009. (Issued). Read the following:

- "[Operational Factors](#)," III-3 to III-4,
- "[The Factors of Space, Time, and Force](#)," III-51 to III-60,
- "[Theater Geometry](#)," IV-49 to IV-74.

Watch the 9-minute recorded micro lecture, **Operational Factors**. Available at: [JMO Spring 2024 micro-lecture videos](#).

### **References and Supplemental Readings**

*Op Art Primer*. A concise overview of some key aspects of the topic. Available here: [Op Art Primer.pdf](#).

*Op Art Workbook, Battle of Leyte Gulf*. A PowerPoint note-taking guide, available for download at: [OP ART Workbook- Battle of Leyte Gulf.pptx](#).

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# JMO-13

## OPERATIONAL FUNCTIONS

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*I don't know what the hell this 'logistics' is that Marshall is always talking about, but I want some of it.*

~ Admiral Ernest King  
Commander-in-Chief of the Fleet and  
Chief of Naval Operations (CNO), 1942-1945

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### Session Objectives

- Comprehend the role and importance of operational and joint functions in operational planning and execution.
  - Understand how operational and joint functions support major operations and campaigns.
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### 🔍 Focus

This session addresses one of the key aspects of operational art— operational functions. Operational commanders and their subordinate forces synchronize functions to ensure effective and efficient mission accomplishment in both peace and war. A firm understanding of functions and related activities at the operational level of war is critically important to properly plan, employ, and sustain forces in the attainment of assigned objectives. Functions also serve as useful tools to examine how a potential enemy synchronizes their resources to generate combat power. Attacking an adversary's ability to conduct or perform functions is one way to degrade combat power and gain a friendly advantage.

### ≡ Background

In *Joint Operational Warfare*, Milan Vego argues that for maximum effectiveness in combat, commanders and staffs must organize, develop and leverage a number of supporting structures and activities. Dr. Vego labels these *operational functions*, and states that these functions should be sequenced and synchronized at the operational level of war prior to and in the course of campaigns or major operations. He lists operational functions as command organization (or command structure), intelligence, command and control warfare (C2W), fires, logistics, and protection, but Dr. Vego recognizes that there is no common agreement on what should or should not be considered an operational function.

Building on theoretical foundations such as Dr. Vego's, U.S. joint doctrine presents *joint functions* as “a grouping of capabilities and activities that enable JFCs to synchronize, integrate, and direct joint operations.” Current U.S. joint doctrine lists seven joint functions: C2, information, intelligence, fires, movement and maneuver, protection, and sustainment. Here again, the list of functions is not static, but evolves over time and differs between services and nations. For example, information was only adopted as a joint function in recent years.

By any name, whether Dr. Vego's *operational functions*, or *joint functions* in joint doctrine, or *warfighting functions* in USA and USMC service doctrine, they are activities with which planners and commanders can mitigate disadvantages and exploit advantages in space-time-force. Operational commanders should ensure these functions are balanced and integrated with due consideration of competing resources, support capabilities, shifting operational priorities, and differences among service component practices. Careful analysis of operational factors and their relationship to an objective allows operational functions to emerge that are most relevant to the major operation.

### ?? Questions

What is the relationship between operational factors and operational functions?

Combatant commanders establish, maintain, and protect operational functions for routine peacetime activities as well as for war. What risks does the commander assume in an immature theater in which these operational functions have not yet been fully established?

### Leyte Case Study:

Given the operational objectives for your assigned team (Allies or Japan), identify and assess the commander's planned use of operational functions to balance space, time and force to achieve their objectives. Topics to consider include the following:

- To what degree were functions managed to offset disadvantages in space, time, or force?
- To what degree were functions managed to exploit advantages in space, time, or force?
- What was the impact on combat power of the availability of resources at that point in the war?
- Assess their C2 Structure (Command Organization) and its impact on success or failure to achieve objectives.

### Required Readings (61 Pages plus a 9-minute video)

[U.S. Office of the Chairman of the Joint Chiefs of Staff. \*Joint Campaigns and Operations\*. Joint Publication \(JP\) 3-0. Washington, D.C.: CJCS, 18 June 2022. Read: Chapter III, "Joint Functions."](#)

[Vego, Milan. \*Joint Operational Warfare: Theory and Practice\*. Newport, RI: Naval War College, 2009. Read: VIII-3 to VIII-4, "Operational Functions." \(Issued\).](#)

[Crosbie, Thomas. "Getting the Joint Functions Right." \*Joint Forces Quarterly\* 94, no. 3 \(2019\): 96-100. \(NWC 2190\).](#)

Watch the 9-minute recorded micro-lecture, **Operational Functions**. Available at: [JMO Spring 2024 Micro lecture videos](#).

### References and Supplemental Readings

*Op Art Primer*. A concise overview of some key aspects of the topic. Available here: [Op Art Primer.pdf](#)

*Op Art Workbook, Battle of Leyte Gulf*. A PowerPoint note-taking guide, available for download at: [OP ART Workbook- Battle of Leyte Gulf.pptx](#).

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## JMO-14

## CRITICAL FACTOR ANALYSIS AND THE OPERATIONAL IDEA

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*What the theorist has to say here is this: one must keep the dominant characteristics of both belligerents in mind. Out of these characteristics a certain center of gravity develops, the hub of all power and movement, on which everything depends. That is the point at which all our energies should be directed.*

~ Carl von Clausewitz  
*On War*, 1832

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### Session Objectives

- Understand the concepts of ‘center of gravity,’ ‘critical factors,’ and ‘culminating point.’
  - Using the Leyte Gulf case study, deduce and analyze the opposing side’s centers of gravity.
  - Deduce the operational ideas developed by opposing commanders during planning for the invasion of Leyte.
- 

### Q Focus

The focus of this session is how a careful analysis of the critical factors can enable a commander to develop an operational idea for achieving assigned objectives by defeating the enemy’s center of gravity (COG) while protecting one’s own. The point of culmination is also examined, including how it relates to center of gravity.

### # Background

The concepts of center of gravity and critical factors have great utility for operational commanders and their staffs in planning and executing combat operations to achieve assigned objectives in the shortest time at the least cost in blood and treasure. It is a proven maxim that commanders should focus the major portion of their efforts against the strongest source of the enemy’s power: the COG. Commanders risk wasting scarce resources and time, and put mission success in peril, when combat power is applied to sources of power that do not lead to the accomplishment of the objective.

COGs are identified through an analysis of the operational factors and functions as part of the Commander’s Estimate of the Situation (CES). This allows planners and commanders to identify critical factors: those activities and requirements that are crucial for accomplishing the objective or for the enemy to accomplish its objective. Always tied to an objective, the foremost critical strength is the center of gravity. Centers of gravity arguably exist at all levels of war. It is important, therefore, to be clear when discussing COGs to always tie it to a specific objective at a given level of war. Moreover, like objectives, COGs are nested; destruction of an operational-level COG should undermine the strength of the strategic COG. If not, then one’s critical factor analysis is likely flawed.

This analysis during the CES forms the basis for a commander’s operational idea—the concept of how the commander envisions accomplishing the objective. This operational idea includes a concept of the defeat of the enemy COG and the broad sequence of events required for operational success—in sufficient detail to allow subordinate tactical commanders to plan for their respective forces. By applying focused combat power against the enemy’s COG (while protecting one’s own), the astute commander avoids early culmination while forcing culmination upon their opponent.

### ?? Questions

How are the objective and COG related? Is there ever more than one COG at any one time? Can the COG ever change?

How does one deduce the enemy COG?

How can critical capabilities and critical requirements be used during the CES to determine how to defeat the enemy COG?

When might an indirect rather than a direct approach be appropriate?

What is culmination and what is its significance to the commander?

What is the relationship between defeat and stability mechanisms and center of gravity?

### **Leyte Gulf Case Study:**

What were the Japanese and Allied operational-level centers of gravity (from the perspective of the opponents in 1944; not in hindsight)? How well did the respective commanders identify and exploit critical factors?

How did the opposing commanders plan to use functions to create or exploit their opponent's critical vulnerabilities?

Did either the Japanese or the Allies approach or reach culmination? If so, what were the indications?

What were the Japanese and Allied operational ideas for the invasion and defense of Leyte, as developed during planning? How well did those operational ideas properly focus on the objective and on defeating the opposing COG?

## **Required Readings (90 Pages plus two 10-minute videos)**

### **First day:**

[U.S. Naval War College, Joint Military Operations Department. "Joint Planning Process Workbook." Newport, RI: Naval War College, January 2022.](#) Read: Appendix D. **(NWC 4111K). (Issued).**

[Vego, Milan. \*Joint Operational Warfare: Theory and Practice\*. Newport, RI: Naval War College, 2009.](#) Read: VII-13 to VII-26, "Concept of Critical Factors and Center of Gravity." **(Issued).**

Watch the 10-minute micro-lecture video, **COG and Related Concepts**. Available at: [JMO Spring 2024 Micro lecture videos](#).

### **Second day:**

[Strange, Joseph L. and Richard Iron. "Understanding Centers of Gravity and Critical Vulnerabilities, Part 2: The CG-CC-CR-CV Construct: A Useful Tool to Understand and Analyze the Relationship between Centers of Gravity and Their Critical Vulnerabilities." Newport, RI: Naval War College, 1996. \(NWC 1098\).](#)

[Vego, Milan. \*Operational Warfare at Sea: Theory and Practice\*, 2nd ed. New York: Routledge, 2017.](#) Read: Chapter 8, "Operational Idea." **(Issued).**

———. *Joint Operational Warfare: Theory and Practice*. Newport, RI: Naval War College, 2009. **(Issued).** Read the following:

- ["Methods of Combat Force Employment" and "Campaigns,"](#) V-3 to V-9,
  - ["Major Operations,"](#) V-33 to V-36,
  - ["Misconceptions on Center of Gravity,"](#) VII-29 to VII-33.
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Watch the 10-minute micro-lecture video, **Butch Cassidy COG Example**. Available at: [JMO Spring 2024 Micro lecture videos](#).

## References and Supplemental Readings

[Strange, Joseph L. "Centers of Gravity & Critical Vulnerabilities: Building on the Clausewitzian Foundation So That We All Speak the Same Language." \*Marine Corps University Perspectives on Warfighting Number Four Second Edition\*. Quantico, VA: Marine Corps University, 2005.](#)

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# JMO-15

## OPERATIONAL DESIGN: THE BATTLE OF LEYTE GULF

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*Designing a maritime campaign or major naval operation is not a simple job amenable to a few hours of discussion. It requires time, imagination, hard work, and above all, sound military thinking and commonsense on part of both operational commanders and their staffs. The main purpose of operational design is to make this exhaustive effort a coherent one.*

~ Milan Vego  
*Operational Warfare at Sea*

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### Session Objectives

- Analyze the logic of developing an operational idea into an operational design through the application of operational art.
  - Compare the conduct of the Leyte invasion/defense to the respective operational designs developed during planning and evaluate major decisions made by the commanders.
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### 🔍 Focus

This session serves as a synthesis of the previously discussed operational art concepts. The focus is on the logic behind the development of an operational idea into a full operational design with emphasis on sequencing and synchronization, selection of intermediate objectives, and the use of functions to exploit advantages and mitigate disadvantages in time, space, and force. The operational designs of the opposing commanders in the historical case study are compared to the actual conduct of the battle leading to analysis and evaluation of the key decisions the commanders made as conditions on the battlefield changed.

### ⚙️ Background

An operational design includes a number of interrelated elements that collectively achieves unity of effort toward the ultimate objective. The main elements of a sound operational design include the desired strategic end state; ultimate and intermediate objectives; force requirements; balancing of operational factors against the ultimate objective; identification of critical factors and centers of gravity; initial positions and lines of operations; directions/axes; and operational sustainment. Warfare, by its very nature, is a series of trade-offs. In each instance, the operational commander and staff should properly balance competing demands for scarce resources while still accomplishing assigned operational or strategic objectives. The operational idea and operational design developed by the commander and planning team prior to a campaign provide a sound starting point for the accomplishment of the objective but do not remain static, especially once combat is joined. A good operational design incorporates a high degree of flexibility to accommodate such changes.

### ?? Questions

How are the concepts of operational idea and operational design related?

How are intermediate objectives selected?

What is the purpose of operational sequencing and synchronization?

How may operational functions be used to exploit advantages and mitigate disadvantages in time, space, and force?

What are the best practices for deriving useful operational lessons learned from past experience?

**Leyte Gulf Case Study:**

To what degree did the plan for the Leyte invasion survive contact with the enemy? Were the major decisions made by the Allied commanders during the operation reasonable in hindsight?

To what degree did the Japanese SHO-1 plan survive contact with the enemy? Were the major decisions made by the Japanese commanders during the operation reasonable in hindsight?

To what extent was the Japanese plan for operational deception in support of their naval defense of the Philippines successful and why?

What is one operational lesson learned that you might find valuable in the future from either the Allied or Japanese experience during the Battle of Leyte Gulf?

**☰ Required Readings (51 Pages plus a 6-minute video)**

[Vego, Milan. \*Operational Warfare at Sea: Theory and Practice\*, 2nd ed. New York: Routledge, 2017.](#)  
Read: Chapter 7, "Operational Design." (Issued).

[U.S. Naval War College, Joint Military Operations Department. "Joint Planning Process Workbook."](#)  
[Newport, RI: Naval War College, January 2022.](#) Read: 3-9 to 3-11, "Methods of Defeat." (NWC 4111K). (Issued).

[Hime, Douglas N. "The Leyte Gulf Case Study." Newport, RI: Naval War College, Joint Military Operations Department, December 2013.](#) Read: Appx A-F. (NWC 1196).

[Vego, Milan . "A Guide for Deriving Operational Lessons Learned." Newport, RI: Naval War College, Joint Military Operations Department, 2006.](#) (NWC 1159).

Watch the 6-minute micro-lecture video, **Op Design**. Available at: [JMO Spring 2024 micro-lecture videos](#).

**Additional readings for seminars using the War at Sea wargaming system (seminars 8-17):**

[U.S. Naval War College \(@usnavalwarcollege\). "War at Sea." YouTube, 13 July 2020.](#) Watch: "Introduction" (3 min), "Game Components" (6 min), and "Turn Overview" (6 min).

[U.S. Naval War College, Joint Military Operations Department. "War at Sea Instruction Book v2.5." Newport, RI: Naval War College.](#) Read: Appendix C, "Quick Start Guide." (NWC 2204). (Issued in seminar).

**📄 References and Supplemental Reading.**

Note: The following two articles were written by principal participants in the battle; while not required reading, they provide valuable insight into the commanders' thinking at the time.

[Koyanagi, Tomiji. "With Kurita in the Battle for Leyte Gulf." \*U.S. Naval Institute Proceedings\* 79, no. 2 \(February 1953\).](#)

[Halsey, William F. "The Battle for Leyte Gulf." \*U.S. Naval Institute Proceedings\* 78, no. 5 \(May 1952\).](#)

# JMO-16

## CES / OP IDEA: THE BATTLE OF LEYTE GULF

### SEMINARS 8-17 ONLY\*

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*...all too often it is forgotten that the main-in fact, the sole-purpose of the estimate is to reach a quick and good, not the best, decision.*

~Milan Vego

“The Logic of the Commander’s Estimate of the Situation”

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#### Session Objectives

- Apply the logic of the Commander’s Estimate of the Situation and operational art concepts to balance ends, ways, means and risk during conceptual planning for a military operation.
  - Create an original Operational Idea for employing forces and capabilities to accomplish assigned objectives during a wargame.
  - Understand the wargame rules, materials, and game mechanics sufficiently to play and achieve the game’s learning objectives.
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#### **Q Focus**

The focus of this session is the application of the previously studied “Commander’s Estimate of the Situation” (CES) approach to military problem solving and decision making. Students will leverage their just-completed analysis and critique of the 1944 Battle of Leyte Gulf to take a prospective view of the same military situation in preparation for an upcoming wargame. Given the same military problems as the historical commanders, but unconstrained by their historical decisions, students will estimate the friendly and enemy situations through the lens of factors time, space, and force, then evaluate options, decide, and create an original operational idea to be tested in simulated combat against a thinking enemy.

This session is also preparation for the upcoming two-sided educational wargame. An additional focus is establishing a working understanding of the game rules, materials, and mechanics sufficient to achieve the game’s educational objectives.

#### **≡ Background**

The “Commander’s Estimate of the Situation” is the logical reasoning process by which a military commander considers all factors that affect a military situation in order to make sound decisions about how to accomplish a given mission. The commander makes an assessment of the friendly and enemy military situations, the various factors of the operating environment that constrain or enable action, and then generates and evaluates various alternatives to achieve the objective. Properly done, the CES leads to a sound, timely decision.

The CES is related to, but not the same as, the various formal planning processes such as the NPP, JPP, or MDMP. Because the CES mental process is at the heart of any properly done planning effort, the CES is often conducted at the conceptual level before the formal planning process is initiated. It is a common mental trap to put too much faith in formatted, step-by-step planning processes and discount the importance of the underlying disciplined, logical reasoning. No format alone, no matter how well executed, will result in a sound decision without the reasoned judgment of an experienced commander.

\*During the periods scheduled for JMO-16 and JMO-17, Seminars 1-7 will use a traditional tabletop exercise as the method for conducting a prospective analysis of the Battle of Leyte Gulf while Seminars 8-17 execute this analysis as a wargame. The objectives and discussion questions for JMO-16 and JMO-17 are applicable to all seminars. All seminars will wargame the Falklands / Malvinas conflict during JMO-25.

## ?? Questions

What is the logic underpinning the Commander's Estimate of the Situation?

How is the Commander's Estimate of the Situation related to the various doctrinal planning processes (JPP, MDMP, MCPP, NPP)?

In what way do factors time, space and force constrain or enable your side's options for achieving your assigned objectives? In other words, what T-S-F advantages or disadvantages do you face?

Same question for the enemy. What are the enemy's options and T-S-F advantages and disadvantages?

Given the same military situation as your team's historical commander (objectives, factors time, space and force), but unconstrained by their decisions, how would you employ your forces to accomplish your assigned objectives? How would you defeat the enemy COG while protecting your own? Keep in mind that your enemy is not constrained by their historical counterpart's decisions either.

## 📖 Required Readings (26 Pages plus 88 minutes of video)

[Vego, Milan. "Logic of the Commander's Estimate of the Situation." Newport, RI: Naval War College, Joint Military Operations Department, June 2016. Review. \(NWC 2158\).](#)

[U.S. Naval War College, Joint Military Operations Department. "War at Sea Instruction Book v2.5." Newport, RI: Naval War College. Review: Appendix C, "Quick Start Guide – Leyte." \(NWC 2204\). \(Issued in seminar\).](#)

War at Sea Team Specific Objectives and Forces document. **(Issued in seminar).**

[U.S. Naval War College \(@usnavalwarcollege\). "War at Sea." YouTube, 13 July 2020.](#) Watch or review as appropriate: "Introduction" (3 min), "Game Components" (6 min), "Building a Dice Cup" (7 min), "Turn Overview" (6 min), "Basics of Movement" (8 min), "Movement Planning" (16 min), "Basics of ISR" (12 min), "ISR Planning" (16 min), "Basics of Fires" (13 min), "Fires Planning" (12 min), "Trip-over Example" (5 min).

## 📖 References and Supplemental Readings

[U.S. Naval War College, Joint Military Operations Department. "War at Sea Instruction Book v2.5" Newport, RI: Naval War College. \(NWC 2204\). \(Issued in seminar\).](#) This is the full rules document for the War at Sea wargame. While the QuickStart Guide (Appx C, assigned above) is adequate for initial gameplay, students may wish to reference the body of this document for more detail. Only the text in black font applies to this (Leyte Gulf) wargame. Text in blue and red can be ignored at this point because it applies to later, more advanced games.

# JMO-17

## WARGAME: THE BATTLE OF LEYTE GULF

### SEMINARS 8-17 ONLY\*

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*Wargames are extremely valuable means for enhancing training of commanders and their staffs in decision making and writing plans and orders. This is especially the case in an era of shrinking forces and resources. Wargames greatly help to focus the minds of the participants on all aspects of warfare. They are excellent tools to enhance tactical or operational thinking of future commanders and their staffs.*

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~ Milan Vego

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#### Session Objectives

- Apply operational art and naval warfare concepts to balance ends, ways, means and risk during simulated naval combat.
  - Make sound time-constrained military decisions that support commander's intent based on ambiguous and incomplete information.
  - Assess simulated combat actions against a thinking enemy and adjust as necessary to accomplish assigned objectives.
  - Evaluate the results of simulated combat and draw lessons learned of future value.
- 

#### Focus

This session is a two-sided educational wargame based on the 1944 Battle of Leyte Gulf. The focus is active military decision-making in the presence of a thinking enemy in order to reinforce and synthesize theoretical concepts studied to date. Students play the roles of the Allied and Japanese commanders and engage in simulated combat in a realistic, time-constrained context. Students begin with the historical military situation, including the same objectives and factors of time, space, and force that the commanders faced in 1944, but are not constrained by the historical actions or outcomes. Instead, based on a clean-sheet commander's estimate of the situation conducted in the prior session, students employ forces in accordance with their own original operational idea. They must deal with ambiguous and incomplete information as well as the element of chance and luck inherent in combat as they assess and adjust as necessary. At the conclusion of the simulation, students will evaluate the results of the game during a moderated self-critique to draw lessons learned of future value.

#### Background

This session is a follow-on to the Commander's Estimate of the Situation (CES) conceptual planning exercise in JMO-18. In that session, students took a fresh look at the historical case and developed their own approach to applying force to achieve the objectives, unconstrained by historical decisions or outcomes. Here, students test their operational ideas in simulated combat, making decisions in a time-constrained environment against a thinking enemy.

There are many kinds of wargames, each serving a different purpose. Some wargames are predictive, aiming to foreshadow how certain weapons or tactics will perform against a specific enemy. Other wargames are developmental, intended to test and refine operational or strategic concepts. This game is educational. Its purpose is to provide an opportunity for active learning—learning through the experience of making decisions and seeing their effects in real time.

\*During the periods scheduled for JMO-16 and JMO-17, Seminars 1-7 will use a traditional tabletop exercise as the method for conducting a prospective analysis of the Battle of Leyte Gulf while Seminars 8-17 execute this analysis as a wargame. The objectives and discussion questions for JMO-16 and JMO-17 are applicable to all seminars. All seminars will wargame the Falklands / Malvinas conflict during JMO-25.

Active learning has become increasingly important in post-secondary education in recent years because it is particularly effective for adult learner. The U.S. Joint Force is moving toward greater use of wargaming and other active learning techniques. For example, one of the policy recommendations of the Department of the Navy's 2018 *Education for Seapower* final report was for the Navy to "institute naval wargaming and competitive team learning as a necessary part of a continuum of learning." This wargame aims to do exactly that: provide students with the opportunity to apply theory in an active learning competitive simulated combat environment.

## ?? Questions

Questions prior to playing the wargame:

- What is your team's operational idea for achieving your assigned objectives in this wargame?
- What is your commander's intent regarding prioritization of functions, defeat mechanism, sequencing and synchronization, and main vs. supporting efforts?
- Where does your team's greatest risk lay and how will you mitigate it?

Questions after gameplay:

- To what degree did your team follow the operational idea developed beforehand? If you deviated from the plan, why, and was it justified?
- What key decisions had the most decisive impact on the wargame outcome?
- To what degree did your team follow the precepts of mission command during the wargame?
- What one lesson learned would you want to remember from this wargame for the future?

## ☰ Required Readings (No new readings)

[U.S. Naval War College, Joint Military Operations Department. "War at Sea Instruction Book v2.5." Newport, RI: Naval War College. Review: Appendix C, "Quick Start Guide – Leyte." \(NWC 2204\). \(Issued in seminar\).](#)

War at Sea Team Specific Objectives and Forces document. Review. **(Issued in seminar).**

[U.S. Naval War College \(@usnavalwarcollege\). "War at Sea." YouTube, 13 July 2020.](#) Review: "Introduction" (3 min), "Game Components" (6 min), "Building a Dice Cup" (7 min), "Turn Overview" (6 min), "Basics of Movement" (8 min), "Movement Planning" (16 min), "Basics of ISR" (12 min), "ISR Planning" (16 min), "Basics of Fires" (13 min), "Fires Planning" (12 min), "Trip-over Example" (5 min).

## ☰ References and Supplemental Readings

[U.S. Naval War College, Joint Military Operations Department. "War at Sea Instruction Book v2.5." Newport, RI: Naval War College. \(NWC 2204\). \(Issued in seminar\).](#) This is the full rules document for the War at Sea wargame. While the QuickStart Guide (Appx C, assigned above) is adequate for initial gameplay, students may wish to reference the body of this reference for more detail Only the text in black font applies to this (Leyte Gulf) wargame. Text in blue and red can be ignored at this point because it applies to later more advanced games.



# JMO-18

## OBJECTIVES OF NAVAL WARFARE

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*Knowledge of naval matters is an art as well as any other and not to be attended to at idle times and on the by...*

~ Pericles  
460 BC

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### Session Objectives

- Comprehend the relationship between Operational Art and operational-level Naval Warfare Theory.
  - Comprehend the objectives associated with naval warfare.
  - Comprehend the concept of sea control, its evolution and its variations.
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### 🔍 Focus

This session commences Block III of the curriculum, Operational Warfare at Sea. The purpose of this session is to initiate discussion on operational warfare at sea by considering the main objectives associated with naval warfare and the role of navies and naval forces. The concept of sea control, arguably the most significant objective associated with naval warfare, will be introduced during this session. The session will also broadly consider the relationship between the concepts that exist within operational-level naval warfare theory and operational art. Thus, this block of instruction should build upon both Block I (Naval Tactics) and Block II (Operational Art). Block I explored the maritime domain and principles and concepts associated with the tactical employment of naval forces. Block II highlighted concepts within the realm of Operational Art that are helpful to the operational design of major operations and campaigns. Block III will refocus on the maritime domain and naval warfare, but at the operational level of war, and it will consider relevant objectives and methods of attaining them that guide the employment of fleets and joint forces. The concepts associated with this Block will be explored as complementary to Operational Art, as they are important for designing and executing operations and campaigns in a maritime environment.

### ≡ Background

Operational and strategic objectives shape the operational design of campaigns and operations, and they also influence the role each service plays in war. Given that the “seat of purpose is on the land,” accomplishment of those objectives normally requires the coordinated employment of all the services of a country’s armed forces. War at sea should be considered intrinsically related to war on land and in the air. In particular, the highest degree of cooperation among the services is necessary in conducting war at sea.

In generic and broad terms, the main objectives associated with warfare at sea are sea control, choke-point control/denial, basing/deployment area control/denial, and destroying enemy and preserving friendly military or economic potential at sea. These objectives, in turn, support respective political and military/theater strategic objectives. Foremost among these objectives is the concept of sea control.

In its simplest and broadest definition, sea control can be described as *one’s ability to use a given part of the sea/ocean and associated air (space) for military and nonmilitary purposes and deny the same to the enemy*. Sea control implies sufficient and extensive control of a major part of a given maritime theater by a stronger side. During conflict, an ocean or sea area may be considered under control when friendly maritime forces and assets can operate with minimal risk, while the enemy cannot do the same except at considerable risk. Control of a specific sea/ocean area enables use of the sea to pursue or support other objectives.

At times, the terms “sea control” and “sea denial” have mistakenly been used interchangeably, as if they mean the same thing. Although related, they are distinct concepts. Sea control is primarily focused on assuring the ability to use the sea for a specific purpose, while sea denial, which will be covered in more detail in JMO-20, can be defined as *one’s ability to deny partially or completely the enemy’s use of the sea for military and commercial purposes*. Sea denial tends to be the principal naval objective of the weaker side at sea, unable to control and use large portions of the sea for its own purposes.

## ?? Questions

How are theory and concepts associated with naval warfare at the operational level related to operational art?

What are the primary objectives associated with naval warfare? To what extent do these objectives relate to each other? To what extent do they relate to other objectives?

What are the roles and functions of navies and naval forces?

What is sea control? How is it characterized?

To what extent are the objectives of naval warfare evident or relevant regarding the Russia-Ukraine conflict?

## ☰ Required Readings (38 Pages)

[Vego, Milan. “The Objectives of Naval Warfare.” Newport, RI: Naval War College, Joint Military Operations Department, June 2015. Read: 1-15. \(NWC 1102\).](#)

Till, Geoffrey. *Seapower: A Guide for the Twenty-First Century*. 4th ed. London and New York: Routledge, 2018. Read: 184-193 (sections 6.2, 6.3 and 6.4) of Chapter 6, “Command of the sea and sea control.” **(Issued)**.

[U.S. Coast Guard, U.S. Marine Corps, and U.S. Navy. \*Naval Warfare\*. Naval Doctrine Publication \(NDP\) 1. Washington, D.C.: Commandant USCG, Commandant USMC, CNO, April 2020. Read: 21-25. Scan: 58-60.](#)

[Mongilio, Heather. “A Brief Summary of the Battle of the Black Sea.” \*USNI News\*, 15 November 2023.](#)

[Kirichenko, David. “Ukraine’s Strategy for winning the Battle of the Black Sea.” \*Center for Maritime Security\*, 2 November 2023.](#)

## ☰ References and Supplemental Readings

Vego, Milan. *Maritime Strategy and Sea Control: Theory and Practice*. London and New York: Routledge, 2016.

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## JMO-19

# OBTAINING AND MAINTAINING SEA CONTROL

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*[My operations] must depend absolutely upon the naval force which is employed in these seas... No land force can act decisively unless accompanied by a maritime superiority.*

~ General George Washington  
To the Marquis de Lafayette, 15 November 1781

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### Session Objectives

- Comprehend prerequisites that facilitate obtaining and maintaining sea control.
  - Comprehend methods for obtaining and maintaining sea control.
  - Comprehend the challenges associated with obtaining/maintaining sea control in war against a peer adversary.
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## 🔍 Focus

This session will focus on sea control, methods for obtaining/maintaining sea control, and the challenges associated with sea control in war against a peer adversary. The session builds on JMO-18 by laying a foundation of theory for subsequent sessions in this block of the curriculum.

## 📖 Background

Sea control represents a desired condition associated with the operating environment and it presumes an enemy who actively seeks to prevent one's use of the sea. However, that desired condition is rarely static or absolute. Rather, the degree of sea control one has at any given moment or location is often highly dynamic because enemy actions to relocate assets or regenerate combat power can contest that control. In warfare at sea, sea control tends to be an ongoing struggle between adversaries. Once initial objectives to obtain a degree of sea control in a given space are attained, persistent and efforts must be made to maintain sea control to support continued use the sea for intended purposes with minimal risk. With this in mind, at the most basic level, obtaining and maintaining sea control involves ongoing actions to neutralize or eliminate the various aspects of enemy forces which could prevent, inhibit, or diminish one's freedom of action at sea.

The main focus this session concerns the methods (ways) of obtaining and maintaining sea control that have been codified in naval theory. Seminar discussion may also consider the naval combined arms warfare concepts covered in Block I of the course and their contributions to sea control. Additionally, contributions of land and air forces, capabilities in the space and cyber domain as well as the information environment should also be considered as relevant ways of obtaining sea control.

Your recent analysis of the Leyte Operation in World War II during the Operational Art sessions should offer insights regarding the relevance of sea control to each side's ultimate operational and theater strategic objectives. Reflection on that case should yield examples of some of the various methods to obtain and maintain sea control which were either leveraged or not pursued by each side.

## ?? Questions

How is sea control obtained? Drawing upon the two readings, contemplate various methods for obtaining and maintain sea control. What factors might be relevant to leveraging or pursuing each of these methods?

To what extent do any of the naval combined arms warfare areas briefly broached in Block I, such as anti-submarine warfare, air and missile defense, anti-surface warfare, information warfare, and mine warfare, contribute to obtaining sea control?

Consider the contributions of forces operating in other domains (land, air, space, cyber) with respect to the various methods of obtaining and maintaining sea control. Are there particular methods of obtaining sea control where such forces can have an impact?

Reflecting on the Leyte case recently studied during Block II, which methods of obtaining sea control were attempted by either side? To what extent did land or air forces contribute to sea control?

Regarding the Russia Ukraine conflict, where does each side desire to obtain sea control? Which methods of obtaining sea control have been evident as the conflict has progressed?

### Required Readings (39 Pages)

[Vego, Milan. "Obtaining & Maintaining Sea Control." Newport, RI: Naval War College, Joint Military Operations Department, June 2015.](#) Read: 4-33, beginning with 'Main Methods.' (NWC 1108).

Till, Geoffrey. *Seapower: A Guide for the Twenty-First Century*. 4th ed. London and New York: Routledge, 2018. Read: 201, 207-211, and 224-229 (sections 7.1, 7.5, and 7.9) of Chapter 7, "Securing Command of the Sea." (Issued).

### References and Supplemental Readings

Vego, Milan. *Maritime Strategy and Sea Control: Theory and Practice*. London and New York: Routledge, 2016.

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## JMO-20

### DISPUTING SEA CONTROL / SEA DENIAL

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*Sea denial is accomplished by conducting a series of combat actions and measures over time. This is collectively called disputing (or contesting) sea control.*

~Milan Vego

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#### Session Objectives

- Comprehend the concept of sea denial.
  - Comprehend methods for disputing sea control and conducting sea denial.
  - Comprehend the concept of sea control as a persistent struggle between opponents in war at sea.
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#### 🔍 Focus

The session will explore the perspective of the weaker side in a war at sea (a war with a significant maritime component). It will concentrate on the concept of sea denial and examine various methods (ways) to dispute control of the sea and deny its use.

#### 📖 Background

When one cannot gain complete sea control, the only two options available are to relinquish control entirely, thereby accepting great risk with any attempted use of the sea, or to dispute sea control (pursue sea denial as an alternative objective until strong enough to obtain sea control). As discussed in JMO-18 and 19, **sea control** can be described as *one's ability to use a given part of the sea/ocean and associated air (space) for military and nonmilitary purposes and deny the same to the enemy*. Conversely, **sea denial** refers to *actions and activities to disrupt, prevent, or challenge use of the sea by the opposing side*. While a state or belligerent may not have the capabilities or capacity to gain sea control to the extent desired against a stronger adversary at sea, there are many ways a belligerent can contest (i.e. dispute) an opponent's control of the sea, reducing their freedom of action. Upon commencement of hostilities, it is not always clear that one side is initially stronger at sea. It can be argued, as Corbett has done, that in war, command of the sea is normally in dispute. There are many instances in the history of war where two sides struggled for extended periods of time, disputing the other's attempts to control the sea, until one side ultimately proved strong enough to obtain sea control to a significant degree in a desired area. Even in instances where a particular nation may not have operational or strategic reasons to use the sea during war for either military or commercial purposes, an objective of sea denial may yet be necessary to prevent the enemy from using the sea in harmful ways.

The selected readings for this session discuss sea denial and the various methods for achieving this objective. The various methods of disputing sea control often depend on the relative strength of each side, particular capabilities each side possesses, and theater geography and geometry. Nations tend to pursue multiple methods of sea denial simultaneously, as no single method is likely sufficient to fully and effectively achieve sea denial in a given theater or area of operations.

#### ?? Questions

What is sea denial? How does sea denial differ from sea control?

Why might a nation pursue an objective of sea denial?

What are methods for disputing sea control (i.e. attaining sea denial)? What factors should be considered when pursuing each of these methods?

Consider the role of land and air forces, or capabilities in other domains, in disputing sea control / sea denial.

Regarding the Russia Ukraine conflict, where does each side seek sea denial? Which methods of disputing sea control (sea denial) have been evident as the conflict has progressed?

### Required Readings (27 Pages)

Vego, Milan. *Maritime Strategy and Sea Denial: Theory and Practice*. London and New York: Routledge, 2019. Read: 116-120 of Chapter 4, “Disputing Sea Control.” [This item available via Leganto](#).

———. “Disputing Sea Control.” [Newport, RI: Naval War College, Joint Military Operations Department, June 2015](#). Read: 2-17. (NWC 1139).

Till, Geoffrey. *Seapower: A Guide for the Twenty-First Century*. 4<sup>th</sup> ed. London and New York: Routledge, 2018. Read: 218-224 (section 7.8) of Chapter 7, “Securing Command of the Sea.” (Issued).

[Mongilio, Heather. “A Brief Summary of the Battle of the Black Sea.” \*USNI News\*, 15 November 2023](#). Review.

[Kirichenko, David. “Ukraine’s Strategy for winning the Battle of the Black Sea.” \*Center for Maritime Security\*, 2 November 2023](#). Review.

### References and Supplemental Readings

Till, Geoffrey. *Seapower: A Guide for the Twenty-First Century*. 4<sup>th</sup> ed. London and New York: Routledge, 2018. See pages 193-196 (section 6.5) of Chapter 6, “Command of the sea and sea control.” (Issued).

Vego, Milan. *Maritime Strategy and Sea Denial: Theory and Practice*. London and New York: Routledge, 2019.

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# JMO-21

## EXERCISING SEA CONTROL

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*A Navy performs one or more of four functions and no others: At sea it (1) assures that our own goods and services are safe and (2) that the enemy's are not. From the sea, it (3) guarantees safe delivery of goods and services ashore, and (4) prevents delivery ashore by an enemy navy.*

~Capt. Wayne P. Hughes Jr. USN  
*Fleet Tactics* 2<sup>nd</sup> ed., 1999

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### Session Objectives

- Comprehend main methods of exercising sea control (exploiting command of the sea).
  - Comprehend the relationship between the concepts of sea control and power projection.
  - Comprehend requirements and challenges associated with amphibious landings and the projection of power ashore.
  - Comprehend emerging concepts and the contributions of various capabilities within the Joint Force to exercising sea control.
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### 🔍 Focus

The session will explore objectives, concepts, and methods associated with exercising sea control.

### ≡ Background

In a broad sense, the primary purpose of a navy in wartime is to guarantee the unimpeded use of the sea to influence events on land while concurrently preventing the same by the enemy. This entails setting the conditions to use the sea at low risk (obtaining sea control) and then using the sea to perform other functions and tasks. Thus, obtaining sea control is not an end in and of itself, as naval theorist Wayne Hughes reminds us with his one Cornerstone which is arguably more of an operational, vice tactical, maxim, “The Seat of Purpose is on Land.” As the Hughes maxim suggests, sea control represents a condition that better enables use of the sea, and effective use of the sea in turn supports the attainment of higher ends or objectives. Thus, *exercising sea control* (effective use of the sea) is the ultimate purpose of struggling to *obtain sea control*. In Dr. Milan Vego’s words, exercising sea control “...equates to exploitation of the operational or strategic success.”

Logically, one should only choose to expend the significant effort and resources to obtain control of the sea if there is intent or need to use the sea for some specific purpose. In Dr. Geoffrey Till’s words, one primary “use to which commanding the sea could be put” is to attack the enemy’s maritime trade and/or protect friendly trade. This is often generically called maritime “trade warfare,” and was specifically codified as one of the objectives of naval warfare introduced in JMO-18: *destroying enemy and preserving friendly military and economic potential at sea*.

The other broad way in which the sea might be used in war is to project power. In codifying the main functions of navies, when Wayne Hughes used the term “delivery of goods and services ashore,” as mentioned in the quote at the top of this page, his intended concept was broad; he did not intend this phrase to be narrowly perceived as purely equating to logistics - i.e. the delivery of food, munitions, fuel, and so forth. Rather, Hughes’ conceptualization of this broad navy function includes the delivery of other “goods:” the projection of combat power in the form of kinetic or non-kinetic fires (cruise missile strikes, carrier aviation, naval gunfire, electronic attack, etc.) or insertion of combat forces ashore (whether by amphibious assault or more permissive offload of ground combat units). In the latter case, transportation of personnel and equipment, one can think of a navy as a means to expand the available maneuver space for a ground force by exercising sea control, as demonstrated many times throughout history in places such as Normandy and Inchon. Some may argue that the era of amphibious assault is over, given the advancements in lethality of littoral systems and coastal defenses. However, the era of expeditionary operations in a broader sense is certainly not over; delivering combat power from the sea to the land in

some form will likely remain an important consideration for the foreseeable future and remains one of the most important facets of exercising sea control.

This session will initially consider various ways of exercising sea control, and then will focus more specifically on naval power projection, to include amphibious warfare. Maritime trade warfare will be covered in greater detail in the following session, JMO-22.

## ?? Questions

What does it mean to “exercise” sea control?

How are the concepts of *power projection* and *sea control* related?

What are the main methods (ways) of exercising sea control?

How does a commercial blockade differ from a naval blockade?

What are some considerations for projecting power via amphibious landing or amphibious assault?

## ☰ Required Readings (36 Pages)

Vego, Milan. *Exercising Control of the Sea: Theory and Practice*. London and New York: Routledge, 2021. Read: 139-163 of Chapter 2, “Objectives and Main Methods.” [This reading available via Leganto.](#)

Till, Geoffrey. *Seapower: A Guide for the Twenty-First Century*. 4<sup>th</sup> ed. London and New York: Routledge, 2018. Read: 250-262 (sections 9.1 through 9.4) of Chapter 9, “Exploiting Command of the Sea: Operations from the Sea.” **(Issued)**.

## ☰ References and Supplemental Readings

[Deputy Commandant of the Marine Corps. \*Expeditionary Advanced Base Operations \(EABO\) Handbook\*. Quantico, VA: Marine Corps Warfighting Lab, Concepts and Integration Division, June, 2018. See pages 5-6 and 23-26.](#)

[Heinl, Robert D. “The Inchon Landing: A Case Study in Amphibious Planning.” \*Naval War College Review\*, 51 no. 2, Spring 1998.](#)

[Hough, Frank, Verle Ludwig, and Henry Shaw Jr. “Origins of a Mission and the Evolution of Modern Amphibious Warfare.” \*History of U. S. Marine Corps Operations in WWII Pearl Harbor to Guadalcanal\*. Vol. One. Washington D.C.: Government Printing Office, 1957.](#)

Till, Geoffrey. *Seapower: A Guide for the Twenty-First Century*. 4<sup>th</sup> ed. London and New York: Routledge, 2018. See pages 232-247 of Chapter 8, “Exploiting Command of the Sea: The Control of Maritime Communications.” **(Issued)**.

[Vego, Milan. “Maritime Trade Warfare.” Newport, RI: Naval War College, Joint Military Operations Department, July 2015. \(NWC 1135\).](#)

# JMO-22

## MARITIME TRADE WARFARE

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*You're on your own. U.S. sealift cannot count on Navy escorts in the next big war. The Navy has been candid enough with Military Sealift Command and me that they will probably not have enough ships to escort us. It's: "You're on your own; go fast, stay quiet."*

~ Rear Admiral Mark Buzby, USN  
Maritime Administrator  
*Defense News*, October 2018

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### Session Objectives

- Understand the theory and practice of maritime trade warfare at the operational level of war.
  - Understand the objectives, ways, means, and associated risk of attacking an enemy's maritime trade while protecting friendly maritime trade.
  - Analyze the utility of maritime trade warfare across the competition continuum in the current operational environment.
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### 🔍 Focus

This session will focus on the objectives, methods, and tenets employed in attacking an enemy's maritime trade and in defending friendly maritime trade at the operational level of war. This will include the possibility of attacks on military and commercial sealift ships. Both the theory and practice of maritime trade warfare will be examined, with attention given to its conduct in the littorals, as well as its direct, indirect, and secondary effects and issues a combatant commander must review with respect to commerce warfare in a modern threat environment. The roles of submarine, mine, and air warfare in attacking and defending trade, and the importance of port and intermodal transportation in sustaining wartime economies and supplying forward deployed militaries, will be explored.

Seabed Warfare, the art of attacking and defending/protecting a nation's undersea communications cables, pipelines, sensors, and other infrastructure, as well as associated land-based capabilities, will also be considered in this session. The U.S. and its allies are highly dependent on submarine cable networks, which carry some 95% of telephone and internet traffic and are essential to financial, commercial, and military communications. The objectives and methods of seabed warfare and the Maritime Administration's (MARAD) creation of the U.S. Cable Security Fleet (CSF) to defend and maintain U.S. subsea cable access, will be addressed.

### 📖 Background

In the era prior to aircraft, a principal task of any navy was to attack enemy shipping at sea while, at the same time, defending and protecting friendly shipping. This situation changed drastically in World War II and afterward, when land and carrier-based aircraft were used to attack not only shipping but also other elements of maritime trade: ships in port and port facilities, shipyards/ship repair facilities, storage areas, and intermodal rail, road, and waterborne transport systems. Yet these considerable changes were often not recognized by naval theoreticians and practitioners.

The strategic and operational importance of commercial shipping in time of war is reflected in the use of terms such as "anti-SLOC," "pro-SLOC," and "naval control of shipping." The term applied here, "maritime trade warfare," is more accurate because it encompasses both attack and defense/protection of all the facets of maritime trade, not only of merchant shipping.

Maritime trade warfare is directly related to establishing, maintaining, and exercising sea control for the purposes of attacking and defending trade and the projection of power ashore. Historically, the focus of a weaker side at sea is often on attacking the enemy's maritime trade, while the stronger side tends to focus on defense and protection of friendly maritime trade. The size of the sea area and the peculiar



features of the physical environment influences the way maritime trade warfare is conducted on the open ocean versus in the way it is waged in enclosed or semi-enclosed seas (popularly called “narrow seas”).

In the broader context, attacking enemy maritime trade is conducted in support of a strategic objective to weaken enemy military-economic potential (i.e., weaken a nation’s economy and/or its ability to project and sustain forward deployed military forces). Operationally, the objective is to destroy or neutralize the flow of maritime trade in a given part of a maritime theater. This is accomplished by the employment of one’s naval forces and those of other services to disrupt, interdict, curtail, or prevent the enemy’s maritime trade. The main methods of employment of one’s combat forces consist of a series of major and minor tactical actions conducted over a relatively long period of time. From time to time, major naval/joint operations may be conducted as well.

Defense of maritime trade is one of the most important responsibilities of a government and its armed forces. It pertains to both defensive and offensive employment of one’s combat forces to protect commercial ships and other elements of trade that support economic security and military operations.

Today, there are some maritime and naval experts who assert that in the era of globalization, there will be no major attacks on an enemy’s maritime trade. According to this reasoning, no belligerent would take such an action due to business related interdependency, and/or because his own trade would suffer considerable losses. However, as illustrated during the 2022-2023 conflicts in Ukraine and the Middle East, experience shows that, in any significant war, all belligerents will engage in a struggle to destroy/neutralize and defend/protect maritime trade to the greatest degree possible. Hence, in any future high-intensity conventional war at sea, both the stronger and the weaker side may be expected to conduct maritime trade warfare.

A country that fails to safeguard its seaborne trade may suffer significant economic harm, and its entire war effort may also be crippled. Consequently, defense and protection of maritime trade is among a navy’s principal operational tasks during high-intensity conventional war. However, given limited assets, maritime trade warfare can be a big challenge for the U.S. Navy - or any navy - today. To prevail against a peer maritime power in today’s contested environments, strategic and operational commanders must fully consider military and commercial sealift operations, as well as other aspects of maritime trade, when planning and conducting operations. |

## ?? Questions

What role does maritime trade play in projecting joint military forces to distant regions of the world? How does the U.S. military leverage maritime trade for this purpose?

Describe the elements of maritime trade. How might the differences between maritime trade conducted on the open ocean and in enclosed/semi-enclosed seas affect a commander’s operational planning?

Is unrestricted commerce warfare, such as occurred in WWII, even possible in the 21st century? What are some relevant lessons learned in World War II regarding maritime trade warfare?

Discuss the main methods of attacking an enemy’s maritime trade. Consider various capabilities within the Joint force which may contribute to this objective.

What are the principal methods traditionally employed in the defense and protection of friendly maritime trade? How should a Joint Force Commander plan to protect maritime trade, both military and/or commercial, in a modern threat environment?

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What are some legal, environmental, and economic issues associated with attacking commercial vessels?

Can commerce warfare be conducted via non-military means? If so, how (think DIME)?

What are some key considerations for the commander concerning attacking or defending submarine cable communications systems? |

### **Required Readings (40 Pages)**

[Vego, Milan. "Maritime Trade Warfare." Newport, RI: Naval War College, Joint Military Operations Department, July 2015. Read: 32-48, "Defense and Protection of Trade." \(NWC 1135\).](#)

[McMahon, Christopher. "Maritime Trade Warfare – A Strategy for the Twenty-First Century?" \*Naval War College Review\* 70, no. 3 \(2017\). Read: 15-35. \(NWC 1215\).](#)

[Burnett, Douglas. "Repairing Submarine Cables Is a Wartime Necessity." \*U.S. Naval Institute Proceedings\* 148, no. 10 \(October 2022\).](#)

### **References and Supplemental Readings**

[Poirer, Michael T. "Results of the German and American Submarine Campaigns of World War II." U.S. Navy, Office of the Chief of Naval Operations, Submarine Warfare Division, 1999. \(NWC 3173\).](#) |

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# JMO-23

## OPERATIONAL DESIGN: THE FALKLANDS / MALVINAS CONFLICT

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*A senior officer said after the war that it had proved that 'the things we did on the basis of well-trying and proven formations worked, and the ad-hoc arrangements turned out much less happily.' Joint-service liaison and staff work left much to be desired.*

~ Hastings and Jenkins  
*The Battle for the Falklands*

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### Session Objectives

- Apply and analyze the components of operational art and maritime warfare theory studied to date.
  - Analyze and evaluate how commanders and their staffs applied operational art in a historical case study.
  - Analyze the operational lessons valid for the employment of modern, combined, and joint forces.
  - Apply and analyze concepts of maritime warfare theory in order to evaluate specific tactical actions and operational design.
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### 🔍 Focus

This session serves as a synthesis event for the components of naval warfare theory and operational art discussed in preceding sessions. It also provides collective preparation for the upcoming examination. The emphasis of the session is placed on the decisions, instructions, and actions of operational-level commanders on both sides of the conflict. How could they have achieved different outcomes with an improved application of operational art?

### 📖 Background

This case study is spread over five working days, and three JMO sessions (JMO-23 through JMO-25), and focuses on historical analysis of the application of operational art and naval warfare theory. This commences with a presentation of the historical/strategic background to the conflict by the JMO Royal Navy exchange officer (Tue 26 Mar). Students will then have seminar time to discuss and analyze the motivations, planning, and actions of both sides in the conflict in order to derive operational level lessons learned (Wed 27 and Thu 28 Mar). The final two days of the case study analysis are spent discussing the CES/Op Idea (JMO-24 on Tue 2 Apr) and culminating with an academic wargame (JMO-25 on Wed 3 Apr) to help visualize the results of operational decision-making.

### ?? Questions

Applying the principles and elements of operational design, analyze the Falklands/Malvinas conflict.

How did each side use the concepts of operational design in developing its plan?

To what extent were the objectives for each side appropriate? Why?

How well did each side employ forces relative to theater geometry to achieve its objectives?

Critique the British and Argentinian operational theater organization and the relevant command structures. Based on this, critique the operational leadership on both sides. What could each have done differently?

What key aspects of naval warfare theory does the conflict illuminate and are these aspects still relevant today?

What major operational lessons learned can be derived from this conflict?

### 📖 Required Readings (76 Pages)

**Day 1 (Lecture).**

[Hime, Douglas N. "The 1982 Falklands-Malvinas Case Study." Newport, RI: Naval War College, Joint Military Operations Department, 2010. Read: 1-18. \(NWC 1036\).](#)

**Day 2 (Seminar).**

[Hime, Douglas N. "The 1982 Falklands-Malvinas Case Study." Newport, RI: Naval War College, Joint Military Operations Department, 2010. Read: 19-47. \(NWC 1036\).](#)

For students assigned to Team UK:

Woodward, Sandy. *One Hundred Days – The Memoirs of the Falklands Group Commander*. Annapolis MD: Naval Institute Press, 1992. Read: Chapter 4. (NWC 3259). [This item available via Leganto.](#)

For students assigned to Team Argentina:

[Selected Extracts from Conflictio Malvinas: Official Report of the Argentine Army. Translated by CAPT Robert C. Rubel, USN. Newport, RI: Naval War College, 2006. \(NWC 1038\).](#)

**Day 3 (Seminar).**

[Turner, Stansfield. "The Unobvious Lessons of the Falklands War." \*U.S. Naval Institute Proceedings\* 109, no. 4 \(April 1983\): 50-57.](#)

[Vandenengel, Jeff. "Fighting Along a Knife Edge in the Falklands." \*U.S. Naval Institute Proceedings\* 145, no. 12 \(December 2019\): 62-67. \(NWC 3248\).](#)

Vego, Milan. *Operational Warfare at Sea: Theory and Practice, 2d ed.* New York: Routledge, 2017. Review: [Chapter 7](#) and [Chapter 8](#). (Issued).

[\\_\\_\\_\\_\\_. "A Guide for Deriving Operational Lessons Learned." Newport, RI: Naval War College, Joint Military Operations Department, 2006. Review. \(NWC 1159\).](#)

** References and Supplemental Readings**

A 45-minute documentary on the conflict is available via the JMO Shared Course in BlackBoard, under "Reference Items."

Freedman, Lawrence. *The Official History of the Falklands Campaign, Vol 2*. London: Routledge, Taylor and Francis Group, 2005.

Hastings, Max and Simon Jenkins. *The Battle for the Falklands*. New York: Norton, 1983. |

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# JMO-24

## CES / OP IDEA: THE FALKLANDS / MALVINAS CONFLICT

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*Making a decision is one of the most important responsibilities of a military commander at any level of command and is especially critical in combat.*

~ Milan Vego

*The Bureaucratization of the U.S. Military  
Decisionmaking Process*

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### Session Objectives

- Apply the logic of the Commander's Estimate of the Situation and operational art concepts to balance ends, ways, means and risk during conceptual planning for a military operation.
  - Create an original Operational Idea for employing forces and capabilities to accomplish assigned objectives during a wargame.
  - Understand the wargame rules, materials, and game-play mechanics sufficiently to play and achieve the game's learning objectives.
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### 🔍 Focus

The focus of this session is the application of the "Commander's Estimate of the Situation" (CES) approach to military problem solving and decision making. Students will leverage their just-completed analysis and critique of the 1982 Falklands / Malvinas conflict to take a prospective view of the same military situation in preparation for an upcoming wargame. Given the same military problems as the historical commanders, but unconstrained by their historical decisions, students will estimate the friendly and enemy situations through the lens of factors time, space, and force, then evaluate options, decide, and create an original operational idea to be tested in simulated combat against a thinking enemy.

This session is also preparation for the upcoming two-sided educational wargame. An additional focus is establishing a working understanding of the game rules, materials, and mechanics sufficient to achieve the game's educational objectives.

### 📖 Background

The "Commander's Estimate of the Situation" is the logical reasoning process by which a military commander considers all factors that affect a military situation in order to make sound decisions about how to accomplish a given mission. The commander makes an assessment of the friendly and enemy military situations, the various factors of the operating environment that constrain or enable action, and then generates and evaluates various alternatives to achieve the objective. Properly done, the CES leads to a sound, timely decision.

The CES is related to, but not the same as, the various formal planning processes such as the NPP, JPP, or MDMP. Because the CES mental process is at the heart of any properly done planning effort, a CES is often conducted at the conceptual level before the formal planning process is initiated. It is a common mental trap to put too much faith in formatted, step-by-step planning processes and discount the importance of the underlying disciplined, logical reasoning. No format alone, no matter how well executed, will result in a sound decision without the reasoned judgment of an experienced commander.

### ?? Questions

What is the logic underpinning the Commander's Estimate of the Situation process?

How is the Commander's Estimate of the Situation related to the various doctrinal planning processes (JPP, MDMP, MCPP, NPP)?

In what way do factors time, space and force constrain or enable your side's options for achieving your assigned objectives? In other words, what T-S-F advantages or disadvantages do you face?

Same question for the enemy. What are the enemy's options and T-S-F advantages and disadvantages?

Given the same military situation as your team's historical commander (objectives, factors time, space and force), but unconstrained by their decisions, how would you employ your forces to accomplish your assigned objectives? How would you defeat the enemy COG while protecting your own? Keep in mind that your enemy is not constrained by their historical counterpart's decisions either.

## Required Readings (26 Pages plus 8 minutes of video)

[Vego, Milan. "Logic of the Commander's Estimate of the Situation." Newport, RI: Naval War College, Joint Military Operations Department, June 2016. Review. \(NWC 2158\).](#)

**Additional reading for seminars using the Operational Wargame System (OWS) wargaming system (seminars 1-7):**

[U.S. Naval War College, Joint Military Operations Department. "Operational Wargame System \(OWS\) Falklands-Malvinas 1982 Game Book v2.1." Newport, RI: Naval War College, 6 September 2023. \(NWC 1036-Supplement\). \(Issued in seminar\).](#)

**Additional readings for seminars using the War at Sea wargaming system (seminars 8-17):**

[U.S. Naval War College, Joint Military Operations Department. "War at Sea Instruction Book v2.5." Newport, RI: Naval War College. Read: Appendix D, "Quick Start Guide - Falklands/Malvinas." \(NWC 2204\). \(Issued in seminar\).](#)

War at Sea Team Specific Objectives and Forces document. **(Issued in seminar).**

[U.S. Naval War College \(@usnavalwarcollege\). "War at Sea." YouTube, 13 July 2020. Review: "Fuel Points Tracking" \(8 min\) and other videos as necessary.](#)

## References and Supplemental Readings

Marine Corps University, Brute Krulak Center for Innovation and Warfare. "Operational Wargame System (OWS) Series Rules Version 2.2." Quantico, VA: Marine Corps University, October 2023. **Seminars 1-7 only.**

[U.S. Naval War College, Joint Military Operations Department. "War at Sea Instruction Book v2.5." Newport, RI: Naval War College. \(NWC 2204\). \(Issued in seminar\).](#) This is the full rules document for the War at Sea wargame. While the QuickStart Guide (Appx D, assigned above) is adequate for initial gameplay, students may wish to reference the body of this reference for more detail. The text in blue font denotes the differences between this Falklands/Malvinas wargame and the previous game. Text in red applies to a later more advanced game. **Seminars 8-17 only.**

# JMO-25

## WARGAME:

### THE FALKLANDS / MALVINAS CONFLICT

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*In the context of training, wargaming needs to be used more broadly to fill what is arguably our greatest deficiency in the training and education of leaders: practice in decision-making against a thinking enemy.*

~ General David H. Berger, USMC  
38<sup>th</sup> Commandant's Planning Guidance

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#### Session Objectives

- Apply operational art and naval warfare concepts to balance ends, ways, means and risk during simulated naval combat.
  - Make sound time-constrained military decisions that support commander's intent based on ambiguous and incomplete information.
  - Assess simulated combat actions against a thinking enemy and adjust as necessary to accomplish assigned objectives.
  - Evaluate the results of simulated combat and draw lessons learned of future value.
- 

#### Focus

This session is a two-sided educational wargame based on the 1982 Falklands / Malvinas conflict. The focus is active military decision making in the presence of a thinking enemy in order to reinforce and synthesize theoretical concepts studied to date. Students play the roles of the UK and Argentine commanders and engage in simulated combat in a realistic, time-constrained context. Students begin with the historical military situation including the same objectives and factors of time, space, and force that the commanders faced in 1982, but are not constrained by the historical actions or outcomes. Instead, based on a clean-sheet commander's estimate of the situation conducted in a prior session, students employ forces in accordance with their own original operational idea. They must deal with ambiguous and incomplete information as well as the element of chance and luck inherent in combat in order to assess and adjust as necessary. At the conclusion of the simulation, students will evaluate the results of the game during a moderated debrief to draw lessons learned of future value.

#### Background

This session is a follow-on to the Commander's Estimate of the Situation (CES) conceptual planning exercise conducted in JMO-26. In that session, students took a fresh look at the historical case and developed their own operational idea about how to employ force to achieve the objectives, unconstrained by historical decisions or outcomes. Here, students test their operational ideas in simulated combat, making decisions in a time-constrained environment against a thinking enemy.

There are many kinds of wargames, each serving a different purpose. Some wargames are predictive, aiming to foreshadow how certain weapons or tactics will perform against a specific enemy. Other wargames are developmental, intended to test and refine operational or strategic concepts. This game is educational. Its purpose is to provide an opportunity for active learning—learning through the experience of making decisions and seeing their effects in real time.

Active learning has become increasingly important in post-secondary education in recent years because it is particularly effective for adult learners. The U.S. Joint Force is moving toward greater use of war gaming and other active learning techniques. For example, one of the policy recommendations of the Department of the Navy's 2018 *Education for Seapower* final report was for the Navy to “institute naval wargaming and competitive team learning as a necessary part of a continuum of learning.” This wargame aims to do exactly that: to provide students with the opportunity to apply the theory in an active learning competitive simulated combat environment.

## ?? Questions

Questions prior to playing the wargame:

- What is your team's operational idea for achieving your assigned objectives in this wargame?
- What is your commander's intent regarding prioritization of functions, defeat mechanism, sequencing and synchronization, and main vs. supporting efforts?
- Where does your team's greatest risk lay and how will you mitigate it?

Questions after gameplay:

- To what degree did your team follow the operational idea developed beforehand? If you deviated from the plan, why, and was it justified?
- What key decisions had the most decisive impact on the wargame outcome?
- To what degree did your team follow the precepts of mission command during the wargame?
- What one lesson learned would you want to remember from this game for the future?

## ☰ Required Readings (No new readings)

For seminars using the Operational Wargame System (OWS) wargaming system (seminars 1-7):

[U.S. Naval War College, Joint Military Operations Department. "Operational Wargame System \(OWS\) Falklands-Malvinas 1982 Game Book v2.1." Newport, RI: Naval War College, 6 September 2023. \(NWC 1036-Supplement\). \(Issued in seminar\).](#)

For seminars using the War at Sea wargaming system (seminars 8-17):

[U.S. Naval War College, Joint Military Operations Department. "War at Sea Instruction Book." Newport, RI: Naval War College v2.5. Review: Appendix D, "Quick Start Guide - Falklands/Malvinas." \(NWC 2204\). \(Issued in seminar\).](#)

War at Sea Team Specific Objectives and Forces document. Review. **(Issued in seminar).**

[U.S. Naval War College \(@usnavalwarcollege\). "War at Sea." YouTube, 13 July 2020. Review: "Fuel Points Tracking" \(8 min\) and other videos as necessary.](#)

## 📖 References and Supplemental Readings

Marine Corps University, Brute Krulak Center for Innovation and Warfare. "Operational Wargame System (OWS) Series Rules Version 2.2," Quantico, VA: Marine Corps University, October, 2023. **Seminars 1-7 only.**

[U.S. Naval War College, Joint Military Operations Department. "War at Sea Instruction Book v2.5." Newport, RI: Naval War College. \(NWC 2204\). \(Issued in seminar\).](#) This is the full rules document for the War at Sea wargame. While the QuickStart Guide is adequate for initial gameplay, students may wish to reference the body of this reference for more detail. The text in blue font denotes the differences between this Falklands/Malvinas wargame and the previous game. Text in red applies to a later, more advanced game. **Seminars 8-17 only.**



# JMO-26

## OPERATIONAL ART EXAMINATION

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*No wonder then, that war, though it may appear to be uncomplicated, cannot be waged with distinction except by men of outstanding intellect.*

~ Carl von Clausewitz  
*On War*, 1832

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### Session Objectives

- Synthesize operational art and maritime warfare theory concepts through the analysis of a historical, real-world case study.
  - Create a coherent response to the examination question(s) that demonstrate an internalization of various concepts of operational art.
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### 🔍 Focus

This session is intended to permit the Command and Naval Staff College / Naval Staff College student to demonstrate a synthesis of the material presented to date and to further demonstrate higher order thinking skills.

### 📖 Background

Written examinations serve three fundamental purposes: to evaluate student understanding of a given subject, to evaluate the student's ability to think critically and respond to a complex question, and last, to evaluate the faculty's ability to convey information and to create new knowledge. This session presents the student with the opportunity to demonstrate mastery of the first two purposes stated above and further allows the moderators to ensure that no intellectual gaps exist in student learning to this point.

Students will be provided with a case study that contains sufficient information to address the exam question(s) presented. This case study will be issued in sufficient time to allow students to prepare as individuals and as a group. Students are encouraged to prepare as a seminar; however, once the exam is issued, it is an individual effort. The examination will be issued at 1200 hrs on Thursday, 4 April 2024 and is due to the moderators, via the Assignments Submission module on Blackboard, no later than 1600 hrs on Friday, 5 April 2024. Grading criteria for the examination may be found in the course syllabus.

The exam response to the assigned question(s) shall demonstrate student mastery of the various concepts studied thus far. All additional administrative and formatting guidance will be provided on the examination.

### ?? Questions

See examination question sheet.

### 📖 Required Readings TBD

A case study will be issued prior to the examination with sufficient time for students to conduct a thorough analysis and prepare for the examination.

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## JMO-27

## NAVAL OPERATIONS ACROSS THE COMPETITION CONTINUUM

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*For in this modern world, the instruments of warfare are not solely for waging war. Far more importantly, they are the means for controlling peace. Naval officers must therefore understand not only how to fight a war, but how to use the tremendous power which they operate to sustain a world of liberty and justice, without unleashing the powerful instruments of destruction and chaos that they have at their command.*

~ Admiral Arleigh Burke, CNO  
Change of Command Address, 1 Aug 1961

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### Session Objectives

- Comprehend the competition continuum as an environment of enduring competition conducted through a mixture of cooperation, competition below armed conflict, and armed conflict.
  - Comprehend the uniqueness of the maritime environment as a venue for cooperation and competition between nations.
  - Appreciate the difference between naval warfare theory and the theory of naval operations other than combat.
- 

### 🔍 Focus

The focus of this lecture/seminar is the competition continuum and more specifically the role of naval forces in the simultaneous cooperation and competition that characterize the current maritime operating environment. Rather than a world either at peace or at war, we increasingly face a world of enduring competition conducted through a mixture of cooperation, competition below armed conflict, and, potentially, armed conflict. Due to the unique nature of the maritime operating environment, naval forces are on the front line of this strategic competition every day. Much of the course to date has focused on naval warfare, but the day-to-day missions that naval forces accomplish in the global commons have increasing strategic importance in this era of great power competition.

### 🔧 Background

Day-to-day international relations at sea involve a mixture of cooperative and coercive activities in support of policy objectives. This is nothing new. Naval forces have always contributed toward national policy aims in ways other than fighting. Nelson's Royal Navy, for example, spent far more time protecting British trade than engaging in Trafalgar-like pitched battles. This is even more the case today in a time of great power competition and maritime globalization. Sustained naval combat has been a rarity since the Second World War and yet the navies and coast guards of the world are busier than ever operating in what we now view as the competition continuum.

Naval warfare has long been studied; the theory and practice of combat at sea are the subject of a robust body of work. In contrast, naval operations short of armed conflict have received comparatively scant attention from theorists. As a result, planners and operators do not have the benefit of anything as tangible and focused as Wayne Hughes' "Six Cornerstones" to guide operations at the lower end of the continuum. Nonetheless, much of Operational Art can be applied across the board; the principle of the primacy of the objective being perhaps the most important. Also, the joint principle of legitimacy bears special consideration. Success often hinges on naval actions being perceived as legitimate. In all cases, success in achieving policy aims through naval operations other than combat requires a clear-eyed understanding of the complexity inherent in employing naval forces in the global commons.

### ?? Questions

In what ways do naval forces contribute to foreign policy aims through cooperation? Through competition?

What aspects of the global commons enable or constrain naval forces in achieving foreign policy aims in competition below armed conflict?

Joint Pub 3-0 states that a defining feature of competition below armed conflict is that competitors will rarely have equal willingness to commit resources and accept risk in furtherance of their policy objectives. To what degree does this asymmetry exist between the United States and the PRC regarding our incompatible regional objectives? What are the implications for commanders employing the Joint force?

Luke argues in “Legitimacy in the Use of Seapower” that legitimacy in the eyes of key audiences can be decisive in operations short of armed conflict. Others disagree and believe that within great power competition, ‘might makes right’. Which perspective do you most agree with and why?

In “Win Without Fighting,” Stires asserts that our U.S. Navy is increasingly focused on preparing for high-end combat against a peer leaving us “inadequately equipped, trained, and postured to compete and defend U.S. and allied interests against subtler forms of attack below the level of armed conflict,” Do you agree or disagree? Why?

Valencia challenges conventional wisdom in “China, U.S. Both Using Lawfare in the South China Sea” by asserting that the United States is equally as adept as China at using the competition mechanism of “lawfare” to prevail in the so-called gray zone. Do you agree? Why or why not?

## Required Readings (36 Pages)

[Luke, Ivan T. “Legitimacy in the Use of Seapower.” Newport, RI: U.S. Naval War College, Joint Military Operations Department, February 2020. \(NWC 2133A\).](#)

[U.S. Office of the Chairman, Joint Chiefs of Staff. \*Joint Campaigns and Operations\*. Joint Publication \(JP\) 3-0. Washington, D.C.: CJCS, 18 June 2022. Read: Chapter V, “The Competition Continuum.”](#)

[Lin, Bonny, et al. \*A New Framework for Understanding and Countering China's Gray Zone Tactics\*. Santa Monica, CA: RAND Corporation, 2022.](#)

[Stires, Hunter. “Win Without Fighting.” \*U.S. Naval Institute Proceedings\* 146, no. 6 \(June 2020\): 20-25. \(NWC 6066\).](#)

[Valencia, Mark J. “China, U.S. Both Using Lawfare in the South China Sea.” \*The Diplomat\*, 12 October 2017. \(NWC 4177\).](#)

[Harvison, Melissa. “Operational Law Primer.” Newport RI: U.S. Naval War College, Joint Military Operations Department, September 2023. Read: 23-32 of Part 3, “Naval Operations Short of Armed Conflict.” \(NWC 2147B\).](#)

## References and Supplemental Readings

[Berger, David H., Michael M. Gilday, Karl L. Schultz. \*Advantage at Sea: Prevailing with Integrated All-Domain Naval Power\*. Washington, D.C., December 2020.](#)

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# JMO-28

## MARITIME OPERATIONAL LAW

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*Law is a strategic partner for military commanders when it increases the perception of outsiders that what the military is doing is legitimate.*

~ David Kennedy  
*Of War and Law*

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### Session Objectives

- Analyze the relationship between Policy, LOAC, ROE, Legitimacy, and maritime operations.
  - Comprehend law of the sea and freedom of navigation issues in disputed maritime areas.
  - Analyze the application of international law to the competition continuum and naval warfare.
  - Evaluate the use of lawfare by states and non-state actors to achieve operational objectives.
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### 🔍 Focus

The purpose of this session is to provide a common understanding of several key aspects of operational law, as well as foster critical thinking on how the law is integrated into military operations Force. Students arrive at the NWC with a wide range of operational experience across the competition continuum from cooperation to conflict, many of which include the involvement of legal issues in today's complex operating environment. Along with these experiences, the readings and the Operational Law Primer provide a foundational knowledge of the areas of operational law critical to the planning and execution of joint military operations.

During seminar, students will be given an opportunity to discuss the implications of operational law on military operations and naval warfare using the Russia/Ukraine War, Hamas/Israel War, Taiwan Strait, Falklands/Malvinas Conflict, and Tanker Wars. These different real-world cases will be used to discuss the following in the context of the competition continuum: justification for war; legitimacy; rules of engagement (ROE); exclusion zones; the law of armed conflict (LOAC); law of naval warfare; law of the sea; sovereignty; neutrality; and lawfare. Finally, students will discuss how all these concepts apply to great power competition with China and Russia.

### ≡ Background

Operational law is a broad term encompassing those facets of international law, U.S. domestic law and policy, U.S. military regulations, and the domestic law of other nations affecting military planning and operations. When planning and conducting military operations, commanders and their subordinates must take into consideration a wide range of international and domestic laws and ensure they have the appropriate authorities to accomplish the mission.

Freedom of movement in international waters and airspace is fundamental to implementing national and military strategies. The legal basis for these navigational freedoms is the customary international law of the sea and the United Nations Convention on the Law of the Sea (UNCLOS). Navigational freedom allows access to strategic areas of the world, facilitates support and reinforcement of forward-deployed forces, enables military forces to operate worldwide, and ensures uninterrupted global commerce. In the maritime domain, compliance with international law, particularly the law of the sea, is part of everyday operations.

Based on the current conflicts and the geopolitical environment, a future U.S. armed conflict will likely involve warfare in the maritime domain; therefore, it is helpful to evaluate the effects and application of international law in the context of warfare at sea. The Falklands/Malvinas Conflict and the Tanker Wars are useful historical case studies for a discussion of operational law, particularly naval warfare, as these operations occurred in the age of surface-to-surface missiles, jet aircraft, and nuclear-powered

submarines. They are particularly helpful when compared and contrasted with the current war at sea in the Russia/Ukraine War and the Houthis attacking commercial shipping in the Red Sea.

Commanders and operational planners must be aware of how international law, domestic law, and policy impact their actions and the many facets of factor space. For example, state sovereignty requires us to gain permission from a State before transiting their air or land and utilize the regime of innocent passage to traverse their territorial seas. They must take law and policy into consideration to develop lawful military operations to accomplish the military objective with the least loss of blood and treasure.

ROE is a critical planning consideration for the commander and their staff. While LOAC may allow the use of force, a higher-level commander may use the ROE to restrict the use of force further. The strategic objectives and policy of the State shape the ROE more than the law. Since ROE is determined at higher levels, planners must consider early in the planning process what ROE needs to be requested in order to obtain the military objectives of the operation.

Compliance, or perceived compliance, with international law conveys legitimacy. The international community, including allies and partners, and domestic populations judge the use of military force largely based on whether the action taken is perceived to be in accordance with international law. The term “lawfare” has been defined as “using – or misusing – law as a substitute for traditional military means to achieve an operational objective.” (Maj Gen C. Dunlap, USAF (ret.)) Lawfare is increasingly utilized by States, as well as non-state actors, to achieve not only operational objectives but also strategic objectives across the spectrum from competition to conflict. In recent years, competitors and potential adversaries have leveraged their interpretation of international law to further their national interests and objectives. In some cases, lawfare has accomplished national objectives without resorting to force, or at least not armed conflict, as seen in the actions of China in the South China Sea and the Taiwan Strait. In other cases, lawfare has furthered objectives during armed conflict, as can be seen in the Russia/Ukraine War and the Hamas/Israel War. The use of such approaches requires the U.S. military to understand and prepare for legal warfare as an element of operational plans.

## ?? Questions

How are the different interpretations of UNCLOS and national interests affecting actions by China and the United States in the South China Sea? What are the risks of the United States continuing to conduct freedom of navigation operations in disputed maritime areas claimed by China? At what point do Chinese incursions over the centerline of the Taiwan Straits amount to an “armed attack?”

What was the legal basis for Argentina and UK military operations in the Falklands/Malvinas Conflict? Why do States seek a United Nations Security Council Resolution (UNSCR) regarding armed conflict? Are UNSCRs likely to be relevant in great power competition?

How do policy, the law, and military requirements shape ROE? What influenced the restrictive UK ROE? What influenced changes to that ROE? Was the attack on the Belgrano outside the Total Exclusion Zone (TEZ) lawful? What should a commander do if the ROE puts forces or mission at risk?

Compare and contrast how Maritime Zones were utilized in the Falklands/Malvinas Conflict, the Tanker Wars, and the Russia/Ukraine War. What is the impact on merchant shipping?

What is the relationship between the law and legitimacy? How does the desire for legitimacy impact military operations? Why should the U.S. comply with international law when our competitors or adversaries do not?

How are competitors/adversaries using “lawfare” to achieve objectives and constrain opposition military operations? What can a Joint Task Force do to combat competitors using “lawfare?”

### Required Readings (70 Pages)

[Harvison, Melissa. “Operational Law Primer.” Newport, RI: U.S. Naval War College, Joint Military Operations Department, September 2023. Read: 1-3. Reference: 4-78, as required. \(NWC 2147B\).](#)

[Pedrozo, Raul. "Russia-Ukraine Conflict: The War at Sea." \*International Law Studies\* 100 \(2023\). Read: 11-14, 25-32.](#)

[Colin, Sebastien. “China, the US, and the Law of the Sea.” \*China Perspectives\* no. 2016/2 \(2016\): 57-62. \(NWC 1224\).](#)

[Pedrozo, Raul. "China’s Threat of Force in the Taiwan Strait.” \*Lawfare\*, 29 September 2020.](#)

[Dunlap, Charlie. "Is Attacking the Electricity Infrastructure Used by Civilians Always a War Crime?" \*Lawfire\* \(blog\), Duke University, 27 October 2022.](#)

[Crist, David B. “Gulf of Conflict: A History of U.S.- Iranian Confrontation at Sea.” \*The Washington Institute for Near East Policy, Policy Focus\* 95 \(June 2009\): 1-9. \(NWC 1107\).](#)

[Dunlap, Charlie. “Five Ideas to Counter Hamas’ Lawfare Strategy...and Why.” \*Lawfire\* \(blog\), Duke University, 16 October 2023.](#)

[Schiffman, Stephen R. ”Great Power Use of Lawfare: Is the Joint Force Prepared?” \*Joint Force Quarterly\* 107, no. 4 \(2022\): 15-20.](#)

[Anderson, Scott R. and Natalie K. Orpett. “A Historic War Crimes Prosecution With More to Come.” \*Lawfare\* \(blog\), 6 December 2023.](#)

### References and Supplemental Readings

[Harvison, Melissa. “Maritime Operational Law.” Lecture presented at the Naval War College, Newport, RI, 23 April 2019.](#)

Orde E. Kittrie. *Lawfare: Law as a Weapon of War*. New York: Oxford University Press, 2016.

[Kraska, James et al. “Newport Manual on the Law of Naval Warfare.” \*International Law Studies\* 101 \(2023\).](#)

[U.S. Office of the Chairman of the Joint Chief of Staff. \*CJCS Standing Rules of Engagement and Rules for the Use of Force\*. CJCSI 3121.01B. Washington, D.C.: CJCS, 13 June 2005.](#)

[U.S. Congress, Joint Resolution. \*Authorization for Use of Military Force \[AUMF\]\* Public Law. 107-40 \[S.J. RES. 23\], September 18, 2001.](#)

[U.S. Department of Defense, Office of General Counsel. \*Department of Defense Law of War Manual\*. Washington, D.C.: DOD, June 2015 updated July 2023.](#)

[U.S. Department of the Navy. \*The Commander's Handbook on the Law of Naval Operations\*. Naval Warfare Publication \(NWP\) 1-14M. Norfolk, VA: NWDC, March 2022.](#)

[United Nations. United Nations Convention on the Law of the Sea. December 10, 1982.](#)

[United Nations Security Council. Security Council Resolution 502 \(1982\). \(NWC 1109\).](#)

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# JMO-29

## UNCONVENTIONAL STATECRAFT

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*If the war [between Israel and Hizballah] showed anything, it was how insidious the effect of “professional” lingo can be. How does one distinguish “strategic intelligence superiority” from “operational intelligence dominance”... so thick was the nonsense, and such the resulting verbal confusion that the need to reform officer training and education... became one of the cardinal lessons to emerge from the conflict.*

~ Martin Van Creveld  
*The Changing Face of War, 2008*

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### Session Objectives

- Comprehend evolving trends in warfare and their implications for operational planning and execution.
  - Understand contemporary notions of hybrid warfare, asymmetric warfare, unrestricted warfare and irregular warfare, and their effect on joint doctrine.
  - Understand the options for both contemporary state and non-state actors in achieving their objectives through use of hybrid, asymmetric, unrestricted, and irregular warfare operational approaches.
- 

### Q Focus

This session complements the preceding sessions by examining the concepts of hybrid, asymmetric, unrestricted, and irregular warfare. Seminars should address the challenges of determining the patterns of conflict in the contemporary environment as well as the challenges of shaping an effective operational approach for seemingly incomprehensible conflicts. While the nature of war arguably remains unchanged, its character, or how warfare is waged, changes on an evolutionary (and sometimes revolutionary) scale. This session will examine this changing character of warfare where diplomatic, informational and economic applications of power appear to take priority over the employment of military power towards attaining operational and campaign objectives.

### # Background

Hybrid, asymmetric, unrestricted, and irregular warfare are terms that are used to capture multiple and evolving patterns of modern conflict. Strategists and military experts struggle to categorize the current conflicts in Ukraine, the contests across the South and East China Seas, or the character of warfare as waged today across the Middle East. The first example could be a state fomenting instability in another state through a combination of conventional arms and irregular means; the second, a state pursuing national objectives through a complex mix of economic, information and diplomatic leverage over surrounding states; and the last showcasing a chaotic mix of insurgent and revolution groups vying for political control of existing states. All three examples include an attempt by some organization to gain regional political control irrespective of the existing international borders of established states. In the past, conflicts such as these may not have figured largely in U.S. strategic calculations. In today’s global security environment, where great power competition is not limited by geography, this is no longer true.

Non-state actors and terrorist organizations actively recruit and procure resources using information networks that span the globe and easily cross language, culture, ethnic, and religious boundaries. Insurgent groups have far greater access to successfully co-opt external military and diplomatic support to negate the traditional advantages possessed by state government regular forces. Weaker states are increasingly turning to the cyber and information domains in order to find asymmetric ways to compete with stronger military and economic powers. Strong regional powers are using unconventional warfare and proxy forces to pursue strategic objectives while avoiding diplomatic and economic condemnation by the international community.

Naval Forces are not exempt from this evolving character of warfare. In fact, Naval Forces—military, para-military and non-state—are becoming central in such environments. Conflict and competition ongoing in the South and East China Sea already exhibit asymmetric, hybrid and irregular warfare

characteristics. Operational Law and the perception of legitimacy are components of this environment, and opponents appear to target the vulnerabilities of an American Way of War to achieve national or organizational objectives.

The term, “American Way of War” has historically suggested an ‘on/off’ switch indicating whether the nation is at war or at peace. Other cultures embrace a tradition where the nation (or an organization) is always at war, and the application of power is determined by the conditions, opportunities and the adversary’s strategic vulnerabilities. Unconventional Statecraft—the application of the nation’s power towards objectives in an environment not dominated by military forces—seeks to address this dichotomy. The term may be useful in determining how best to plan operations in an environment where combatants and competitors seek to gain objectives through hybrid, asymmetric or irregular means; in other words, achieving objectives without flipping the American war-switch to ‘on’.

## ?? Questions

Are emerging trends in warfare new, or do they represent a return to historical ways of prosecuting war?

Discuss the common threads in several concepts of conventional, irregular, hybrid, asymmetric, political, and unrestricted warfare. How do these concepts differ?

How do irregular forces use Land, Sea, Air, Space, Cyber and Information domains asymmetrically against adversaries that employ traditional regular military forces?

How can the United States counter states that engage in these types of warfare? How might the United States employ these types of warfare for purpose?

Does unconventional statecraft provide novel options for operational commanders for future Commander’s Estimates of the Situation (CES)? Does hybrid warfare and irregular warfare present new options to the joint force commander and staff when conceptualizing military operations?

## ■ Required Readings (60 Pages)

[Kennedy, Conor M. and Andrew S. Erickson. “China’s Third Sea Force, The People’s Armed Forces Maritime Militia: Tethered to the PLA.” China Maritime Report No. 1, China Maritime Studies Institute \(March 2017\). Read: 1-11. \(NWC 4182\).](#)

[Liang, Qiao and Xiangsui Wang. \*Unrestricted Warfare\*. Beijing: People’s Liberation Army Literature and Arts Publishing House, 1999. Read: 4-7, 204-222, and 226-228. \(NWC 3254\).](#)

[U.S. Office of the Chairman of the Joint Chiefs of Staff. \*Competition Continuum\*. Joint Doctrine Note \(JDN\) 1-19. Washington, D.C.: CJCS, 3 June 2019. Read: 1-11.](#)

[U.S. Office of the Chairman of the Joint Chiefs of Staff. \*Joint Concept for Integrated Campaigning\*. Washington, D.C.: CJCS, 16 March 2018. Read: 6-26.](#)

## 📄 References and Supplemental Readings

None.

# JMO-30

## MILITARY LEADERSHIP

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*“They are my children; they serve in my school, and I glory in them”*

~ Lord Admiral Horatio Nelson, writing on his captains

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### Session Objectives

- Analyze concepts of military leadership to determine the unique responsibilities and challenges of leadership and command.
  - Understand the history and challenges of mission command for military leaders.
  - Examine the utility of historical examples of military leadership for modern application.
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### 🔍 Focus

This session addresses fundamental concepts of military leadership, their role in developing a philosophy of mission command in their ships, squadrons, units or formations, and examines leadership traits and actions of historic military leaders. It provides students with the opportunity to consider how they will integrate and interact with core course concepts as leaders.

### 🔧 Background

Throughout their careers, ILC students have served in a variety of leadership roles. While leadership is a common experience for military officers and other government employees, how leaders think about and exercise leadership likely differs significantly. Individual approaches to leadership are informed by a myriad of factors, the foremost of which may be the amalgamation of individual experience and their Service’s broader consideration of leadership.

How military officers think about leadership is highly individualized, though officers serving in the U.S. Joint Force face common challenges. The emergence of new warfighting domains and technologies, the Peoples Republic of China’s rapid military development, and Russian invasion of Ukraine have forced a broader consideration of Great Power conflict for the first time in decades. Compounding these challenges is the U.S. Joint Force’s recognition that leading forces in the emerging operating environment requires a significantly different approach.

Naval War College graduates have faced similar challenges in the past. Admirals Nimitz, Halsey, and Spruance faced the rising importance of the air domain, the rapid militarization of Imperial Japan, and German and Japanese invasions of neighboring states before leading multi-service and multi-national forces in combat. Admiral King wrote extensively on the importance of cultivating initiative in subordinate leaders, both before and during the war.

### ?? Questions

“The Armed Forces Officer” presents three concepts of leadership. Which of the three, if any, do you believe to be most important to military leaders in the current operational environment and why? Which concept do you believe is the most important for a Joint Force Commander to lead effectively?

In the same text, Swain and Pierce describe specific U.S. Service approaches to leadership and leader development. Do you agree with their characterization of leadership and leader development for your service? Why or why not?

Does a Service’s approach to leadership create challenges or opportunities when working with other services or multi-national partners?

U.S. military leaders have stated the importance of mission command to the success of the Joint Force for over a decade. What challenges in implementation and execution does mission command pose to military leaders?

“The Gospel According to Marshall,” “Intellectual Readiness Is Vital to Sea Power,” and “Bull Halsey” provide historical examples of military leadership. What parallels can you draw from the challenges faced by Marshall, Nimitz, and Halsey to those confronting military leaders today? |

### Required Readings (61 Pages)

[Swain, Richard M. and Albert C. Pierce. \*The Armed Forces Officer\*. Washington, D.C.: National Defense University Press, 2017. Read: 57-76.](#)

[Case, John. “The Exigency for Mission Command: A Comparison of World War II Command Cultures.” \*Small Wars Journal\*, November 2014.](#)

[Vego, Milan. “Mission Command and Zero Error Tolerance Cannot Coexist.” \*U.S. Naval Institute Proceedings\* 114, no. 7 \(July 2018\).](#)

[Runkle, Benjamin. “The Gospel According to Marshall.” \*Military History Quarterly\* 32, no. 1 \(August 2019\).](#)

[Hone, Trent and Eric Vorm. “Intellectual Readiness Is Vital to Sea Power.” \*U.S. Naval Institute Proceedings\* 148, no. 10 \(October 2022\).](#)

Potter, E.B. *Bull Halsey*. Annapolis, MD: Naval Institute Press, 1985. Read pp 183-200. [\*\*This item available via Leganto.\*\*](#)

### References and Supplemental Readings

[Dempsey, Martin E. “Mission Command.” White Paper, Washington, D.C., 3 April 2012.](#)

[Saltzman, B. Chance. “Barriers to Mission Command.” CSO Notice to Guardians \(C-Note #7\), Washington, D.C., 24 February 2023. |](#)

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# JMO-31

## RUSSIAN WAY OF WAR

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*All our responses will be asymmetric, but they will be highly effective.*

~ Vladimir Putin, 18 May 2007

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### Session Objectives

- Understand how Russia's culture and historical experience influence how it fights its wars.
  - Analyze the Russian Way of War by assessing Russia's strengths, weaknesses, and vulnerabilities.
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### Focus

This session addresses the military and strategic cultures of Russia and their practical implications for how Russia is likely to fight in any future war, with an emphasis on the operational level of war. It serves both as a companion session to JMO-40, The Chinese Way of War, and as a foundation for JMO-32 through JMO-37, as Russia's war on Ukraine is used as an analytical lens through which to better understand the Joint Force, Command and Control, Intelligence, Information, Cyberspace, Strategic Deployment, and Logistics.

### Background

From Raymond L. Garthoff's definitive work of *The Soviet Image of Future War* (1959) to Jack L. Synder on Soviet strategic culture and how "historical, institutional, and political factors had given rise to a uniquely Soviet approach to strategic thought" (1977), successive incarnations of the Russian empire have grounded their military thought and operations in a distinct concept of warfare. This distinctness necessitates the systematic study of Russia's military culture and conduct, in addition to its organization.

With the end of the Cold War, the U.S. military has since tended to focus on its own way of war rather than the Russian (and Chinese) Way of War, while leaving deeper understanding of its probable foes to its intelligence professionals. Russia's recent military modernization, challenges to the international order, and global military campaigns have stimulated a renewed interest in the Russian Way of War. Notwithstanding the dissolution of the Soviet Union and its rebirth as the Russian Federation, there has proven to be remarkable continuity in Moscow's military and strategic cultures and how the Kremlin pursues competition and conflict with their adversaries, including economic and information warfare, agitation and subversion, undisguised attacks against civilian infrastructure, and an apparent willingness to incur massive military casualties.

Russian doctrine, authoritative and widely published, has likewise elicited considerable interest in the West. Published doctrine provides insights into possible ways of war but is rarely determinative of actual behavior. How the Russians say they will fight and how they actually do fight have often turned out to be substantially different, as appears to be the case in Moscow's invasion of Ukraine, which will serve as a core case study here. Irrespective of the outcome of the Kremlin's ongoing war on Ukraine, Russia's way of war will almost certainly remain relevant and of concern to the U.S. - and to Russia's neighbors.

In sum, close study of one's foe's way of war also facilitates better understanding of one's own way of war by comparison, helping render important implicit assumptions explicit as well as revealing one's own strengths, weaknesses, and vulnerabilities.

## ?? Questions

Is there a distinctively Russian Way of War? Does this conception clarify how Moscow wages war, or does it essentialize Russian operations and strategy? How might this differ from the American or other ways of war?

Do Russia's generals fight the way they write? In other words, do Russia's operations resemble its doctrine? What does Russia's ongoing war on Ukraine tell us about possible differences? How do we explain these differences?

Are there lessons to be gained from reading Russian military thought? What can we gain from comparing Russian texts and Russian operations in Ukraine?

How does Russia's military and national security apparatus differ from that of the Soviet Union, and to which extent is this significant to us?

What critical strengths, weaknesses, capabilities, and vulnerabilities emerge from our understanding of Russia's military and national security apparatus?

## ☰ Required Readings (60 pages + 15 minute video)

Foster, Noel. "The Russian Way of War." Newport, RI: U.S. Naval War College, Joint Military Operations Department, February 2024. (NWC 1250).

Turner, Alfred. "Russia's War on Ukraine." Newport, RI: U.S. Naval War College, Joint Military Operations Department, February 2024. (NWC 1251).

Vego, Milan. "Russian Operational Art in Ukraine, 2022 to Present" Recorded January 2024.

## 📄 References and Supplemental Readings

[Boston, Scott and Dara Massicot. "The Russian Way of Warfare: A Primer." Santa Monica, CA: RAND, 2017.](#)

[Grau, Lester W. and Charles K. Bartles. "The Russian Way of War: Force Structure, Tactics, and Modernization of the Russian Ground Forces." Fort Leavenworth, KS: Foreign Military Studies Office \(FMSO\), 2016.](#)

[Valery V. Gerasimov, "The Value of Science Is in the Foresight: New Challenges Demand Rethinking the Forms and Methods of Carrying out Combat Operations," \*Military Review\*, January-February 2016. First published in the \*Military-Industrial Kurier\*, 27 February 2013; translated from Russian 21 June 2014 by Robert Coalson, Radio Free Europe/Radio Liberty.](#)

[Wasielwski, Philip G., "The Roots of Russian Military Dysfunction," \*The Foreign Policy Research Institute\*, 31 March 2023.](#)



# JMO-32

## THE JOINT FORCE AND HOW IT FIGHTS: RUS/UKR LESSONS

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*Our pleas for peace are measured not by the sincerity with which they are spoken but by the strength we can array to enforce them.*

*~ GEN Omar N. Bradley  
December 1947*

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### Session Objectives

- Understand how the Joint Force is organized to employ force within the Competition Continuum.
  - Examine the types of Joint Force headquarters and understand how they fight.
  - Investigate lessons learned from the Russo-Ukrainian War and the implications for the Joint Force in a future conflict.
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### 🔍 Focus

Throughout the JMO course, multiple case studies have revealed the benefits and challenges of employing capabilities as a joint endeavor - beyond the limits of a single Service - in pursuit of a military objective. This session focuses on this concept of “jointness,” principally in the way that the Joint Force is formed to provide the commander the best combination of institutional capabilities needed to achieve military objectives at the least cost of blood and treasure. The ongoing Russo-Ukrainian War is provided as an object of analysis to investigate lessons learned for future conflict.

Given the wide breadth of topics related to the Joint Force, this session will center on the joint force headquarters (JFHQ) as a permanent or temporary joint command organization in U.S. doctrine. Composed of a Joint Force Commander (JFC), staff, and supporting elements, it plans, executes, monitors, controls, and assesses joint campaigns and operations. Among the many options in forming a JFHQ, this lesson, along with the following session entitled *Operational Command and Control (C2)*, will center on the most common, the Joint Task Force (JTF).

### 📖 Background

The task force concept originated with the United States Navy in the 1920s and 1930s in order to provide commanders operational flexibility at sea. During World War II, the JTF concept was created out of necessity to integrate ground, sea, and air components during operations. While ultimately successful during conflict, “jointness” declined in the decades that followed due to a seemingly natural bias towards Service separateness. A combination of operational necessity and congressional “assistance” with the Goldwater-Nichols Defense Reorganization Act of 1986 helped to re-focus the Departments of the need to act as a Joint Force.

Joint operations allow Service tactical and operational groupings to function as they were designed and the Joint Task Force is an ideal construct for this functional effectiveness. Additionally, a JFC and staff have a fundamental role in ensuring unified action—the synchronization, coordination, and/or integration of the activities of governmental and nongovernmental entities with military operations to achieve unity of effort. The interface between a JFHQ and these entities is considered interorganizational cooperation—the interaction that occurs among elements of the Department of Defense (DOD); participating United States Government (USG) departments and agencies; state, territorial, local, and tribal agencies; foreign military forces and government agencies; international organizations; nongovernmental organizations (NGOs); and the private sector.

## ?? Questions

What are the advantages of operating as part of a Joint Force? What are the challenges?

Given the additional functional capabilities within a Joint Force, what is the impact on the JFC's development of a commander's estimate of the situation?

How and why is a Joint Task Force formed?

What Service, Interagency, and international elements have you seen employed as part of a JTF? In terms of capabilities, how successful (or unsuccessful) was this formation?

Reflecting on the Leyte Gulf and Falklands/Malvinas case studies, how did the Joint Task Force organization impact operations?

Based on the first two years of the Russo - Ukrainian War, what lessons can be learned related to Joint Force employment?

## ☰ Required Readings (59 Pages)

[U.S. Office of the Chairman of the Joint Chiefs of Staff. \*Joint Force Headquarters\*, Joint Publication \(JP\) 3-33. Washington DC: CJCS, 9 June 2022. Read: I-1 to I-10, "Types of Task Forces."](#)

[Mandeles, Mark D. "Imposing Order on Chaos: Establishing JTF Headquarters." \*Joint Center for Operational Analysis Journal\*, Summer 2010.](#)

[Bissonette, Eric, Thomas Brusino, Kelvin Mote, Matthew Powell, Mark Sanborn, James Watts, and Louis Yuengert. "The Future of the Joint Warfighting Headquarters: An Alternative Approach to the Joint Task Force." Carlisle, PA: U.S. Army War College Press, August 2022. Read: 1-24.](#)

[Bosica, Jacopo M. "NATO's New Force Model: A Watershed Step for the Alliance's Deterrence, Defence and Crisis management Missions in a Complex Euro-Atlantic Security Landscape." \*Atlantic Forum\*, 12 October 2023.](#)

[Gressel, Gustav. "Combined Farces: Russia's Early Military Failures in Ukraine." \*European Council of Foreign Relations\*, 15 March, 2022.](#)

[Congressional Research Service. \*Ukrainian Military Performance and Outlook\*, by Andrew S. Bowen. IF12150, 1 Dec 2023.](#)

## ☰ References and Supplemental Readings

[U.S. Office of the Chairman of the Joint Chiefs of Staff. \*Competition Continuum\*. Joint Doctrine Note \(JDN\) 1-19. Washington D.C.: CJCS, 3 June 2019.](#)



**JMO-33****OPERATIONAL COMMAND AND CONTROL (C2):  
RUS/UKR LESSONS**


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*I don't care how operationally brilliant you are; if you can't create harmony – vicious harmony – on the battlefield, based on trust across different military services, foreign allied militaries, and diplomatic lines, you need to go home, because your leadership is obsolete.*

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~ General Jim Mattis

**Session Objectives**

- Appreciate the importance of effective C2 to Joint Force integration and mission success, in addition to the benefits and challenges inherent to combined operations.
  - Comprehend the concept of JADC2 and its utility within the context of executing Mission Command against a peer adversary in a contested environment.
  - Investigate lessons learned from the Russo-Ukrainian War and the implications for the Joint Force in a future conflict.
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**Q Focus**

This session examines joint operational warfare from an organizational perspective and initiates an analysis of what many consider the most important of the Joint Functions: Command and Control (C2). The session expands on the concepts introduced in JMO-13 Operational Functions and addresses a joint force commander's (JFC's) authorities, command relationships, and organizational options when establishing a joint force, focusing primarily on the formation of joint task forces (JTFs). It also examines the benefits and challenges of multi-national combined joint task forces (CJTFs), as well as the trade-offs between Mission Command and the tools of control. Finally, the session explores lessons learned from the Russo-Ukrainian War related to operational C2.

**# Background**

Operational Art stresses the effective employment of a diverse military force, optimally a joint force, to achieve an operational or strategic objective. As a joint force, organization may take the form of a combatant command (CCMD), sub-unified command, or JTF. A JTF is established when the scope, complexity, or other factors of the contingency or crisis require capabilities of services from at least two military departments operating under a single JFC. The JTF establishing authority designates the JTF's commander, assigns the mission, designates forces, delegates command authorities and relationships, and provides other C2 guidance necessary for the JFC to form the joint force and commence operations. The appropriate authority may establish a JTF on a geographic or functional basis, or a combination of the two. In either case, the establishing authority typically assigns a joint operations area to the JTF.

Effective C2 enables the combat power of the joint force. It is the primary means by which the commander sequences and synchronizes the joint force to achieve objectives across the competition continuum. In this session, students will delve more deeply into this Joint Function to gain greater understanding of how best to organize forces to achieve unity of command, unity of effort, centralized direction, and decentralized execution. Command relationships determine the level of control exercised by the commander over subordinate forces. The selection of command relationships depends on many factors, and it is often contentious because these relationships determine how much authority the JFC will exercise over assigned or attached forces.

The roles of the subordinate Service and functional components are important to the achievement of the JTF's objectives. To achieve unity of effort, planners must have a clear understanding of the span of responsibility and level of authority within each component. Longstanding issues such as aircraft control over water, control of cyberspace assets, and force sustainment responsibilities can degrade operational

effectiveness. The JFC must also look beyond the U.S. military, examining the complex challenges—and benefits—presented by interagency, intergovernmental, and multi-national partners across the competition continuum. |

## ?? Questions

"Get your C2 right up-front" is a long-held adage emphasized by the Joint Staff J7. Why?

What should a JFC consider when determining the level of command authority and types of command relationships they execute over, delegate to, and establish between assigned and attached forces?

What seams exist between Service and functional components and what measures could the commander and staff use to minimize confusion and maximize effectiveness?

Multi-national forces and interagency organizations provide the JFC with several benefits and challenges. What are they and how can the commander leverage the benefits and overcome the challenges?

What lessons can we learn from the Russo-Ukrainian War related to operational C2? Why are they important and what are the implications for our own Joint Force in a potential future conflict? |

## ☰ Required Readings (60 Pages)

[U.S. Office of the Chairman of the Joint Chiefs of Staff. \*Joint Campaigns and Operations\*. Joint Publication \(JP\) 3-0. Washington, DC: CJCS, 18 June 2022. Read: III-1 – III-15 “Command and Control.”](#)

[Eisenhower, Dwight D. “Problems of Combined Command.” Address to the U.S. National War College, Washington, D.C., 18 June 1948. Read: 2-13. Scan: 14-20.](#)

[Swift, Scott H. “Master the Art of Command and Control.” \*U.S. Naval Institute Proceedings\* 144, no. 8 \(August 2018\). Read: 28-33. \(NWC 4181\).](#)

[Deptula, David. “Making Joint All Domain Command and Control a Reality.” \*War on the Rocks\*, 9 December 2022.](#)

[Zabrodskyi, Mykhaylo, Jack Watling, Oleksandr V. Danylyuk, and Nick Reynolds. \*Preliminary Lessons in Conventional Warfighting from Russia’s Invasion of Ukraine: February-July 2022\*. London: Royal United Services Institute, 30 November 2022. Read: 44-52 “Assessing Russian Military Performance in Ukraine.”](#)

[Konaev, Margarita and Owen J. Daniels. “The Russians Are Getting Better: What Moscow Has Learned in Ukraine.” \*Foreign Affairs\*, 6 September 2023.](#)

[Beagle, Milford, Jason C. Slider, and Matthew R. Arrol. “The Graveyard of Command Posts: What Chornobaivka Should Teach Us About Command and Control in Large-Scale Combat Operations.” \*Military Review\* 103, no. 3 \(May-June 2023\). Read: 10-16.](#)

## ☰ References and Supplemental Reading

[Dempsey, Martin E. “Mission Command.” White Paper, Washington, D.C., 3 April 2012.](#)

U.S. Office of the Chairman of the Joint Chiefs of Staff. *Multinational Operations*. Joint Publication (JP) 3-16. Washington, D.C.: CJCS, 1 March 2019 validated on 12 February 2021. See Chapter II, "Command and Coordination Relationships" and Chapter VI, "Other Considerations."

Joint Staff J7, Deployable Training Division. "JTF C2 and Organization, Second Edition." Insights and Best Practices Focus Paper, Suffolk, VA, January 2020. (NWC 6055A).

Joint Staff J7, Deployable Training Division. "Mission Command, Second Edition." Insights and Best Practices Focus Paper, Suffolk, VA, January 2020. (NWC 2190). |

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## JMO-34

# OPERATIONAL INTELLIGENCE: RUS/UKR LESSONS

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*By 'intelligence' we mean every sort of information about the enemy and his country – the basis, in short, of our own plans and operations.*

~ Carl von Clausewitz  
*On War*, 1832

*It might also be said that amateurs study strategy, professionals study logistics, and those who really know study intelligence.*

~Michael Handel,  
*Intelligence and Operations*, 1990

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### Session Objectives

- Understand the intelligence process and its support to decision-making and operational planning.
  - Comprehend the roles and responsibilities of the commander and the intelligence officer in the intelligence process at the joint operational level.
  - Assess how intelligence has been utilized – optimally or less so – in historical context, to determine enduring lessons, and consider implications for future joint military planning and operations.
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## 🔍 Focus

The operational art function of intelligence is essential to the successful conduct of military operations in both peacetime and war. Operational intelligence provides:

- Situational awareness (inform the commander; describe the operational environment)
- Support to planning (through identifying, defining, and nominating objectives)
- Support to execution (indications & warning; counter deception & surprise; friendly deception)
- Assessment of effectiveness (verify achievement of desired effects)

Though the purpose and process of the intelligence function remain the same at each level of war, intelligence operations vary in scope and scale dependent on level of war and the nature of Joint Task Force (JTF) operations.

This session focuses on the nature and principles of operational intelligence. It discusses the connections between the intelligence lines of effort and operations planning and execution. Finally, it explores the critical nature of the Commander's relationship with the intelligence officer and staff.

## ≡ Background

History is replete with evidence of military and political leaders' quests for detailed information regarding their enemies. From Sun Tzu and Alexander the Great to the present day, a leader's thirst for information on which to base informed decisions has only increased with the progress of information technology. Understanding the role of operational intelligence starts with understanding intelligence's strategic to tactical nature. In 1948, the U.S. Navy noted that "There is no sharp line of demarcation between operational and strategic intelligence; one flows into the other." Operational intelligence provides the operational commander with both strategic understanding and visualization of the tactical operating environment.

The intelligence process is driven from the "top down." The commander sets the information requirements and priorities. The intelligence officer (J2, or component-specific code) conducts intelligence operations for the commander. The reading from JP-2 *Joint Intelligence* describes the fundamentals of the intelligence process and the intelligence lines of effort. JP-2 further describes the support relationship between the strategic level's Intelligence Community (IC) down to both the

Combatant Commander's Joint Intelligence Operations Center (JIOC) and the JTF's Joint Intelligence Support Element (JISE) or the JTF's Operational JIOC. The interconnecting intelligence relationships create resiliency and adaptability up and down the echelons, but only if properly coordinated.

The reading in the Joint Guide for *Joint Intelligence Preparation of the Operating Environment (JIPOE)* compares two essential intelligence products: the JIPOE and the Intelligence Preparation of the battlespace (IPB). The JIPOE is a foundational product supporting theatre and operational planning. It includes detailed predictive assessments of the enemy military forces, including their capabilities and intent. The JIPOE extends further and includes a wide range of environmental, cultural, and political factors that affect all domain, joint, and multi-national operations. One must remember that the JIPOE looks holistically at the operating environment and presents the enemy's capabilities and likely courses of action (COAs) through the lens of the assessed enemy's objective. The IPB, on the other hand, leverages the JIPOE to produce a focused assessment that views the enemy's center of gravity through the lens of the JTF commander's specific mission.

Prioritizing intelligence requirements is critical to the intelligence process. The intelligence officer and the commander must collaborate in developing prioritized intelligence requirements (PIRs) relevant to the commander's operational decisions. The development of PIRs illustrates the importance of inclusion and trust between the commander and their intelligence officer. The Michael Handel reading *Intelligence and Military Operations* uses historical examples from the Second World War to reinforce the cruciality of the commander-intelligence officer relationship. He concludes that the relationship relies on credibility and trustworthiness, both in the intelligence product and the intelligence officer.

Finally, the *War on the Rocks* and *Foreign Policy* articles use the Ukraine War as a case study for examining intelligence practices, both good and bad. The two-part series from *War on the Rocks* looks at the subject from both the Western and Russian perspectives and includes consideration of warning and indication, intelligence use within information operations, and JIPOE amongst others. The *Foreign Policy* article illustrates how the relationship between commander and intelligence officer can impact operational success. Though this article focuses on Vladimir Putin and strategic decision making, the lessons carry across the levels of war and apply equally at the operational level. A short video is provided to show the extent of this relationship. In the video, Sergey Naryshkin, Director of the Russian Foreign Intelligence Service, attempts to caution Putin against recognizing Donetsk and Luhansk independence from Ukraine – a decision that will likely lead to war. Putin, clearly having already decided, embarrassingly grills his spy chief until he gets the desired answer.

## ?? Questions

What is operational intelligence? How does it relate to strategic and tactical intelligence?

How does intelligence differ from information and data?

How does the intelligence officer leverage the Intelligence Community's capabilities to support military operations and tactical actions?

How is the intelligence process synchronized to support operational decision-making and joint planning?

What is the role of the military decision-maker in defining and prioritizing intelligence requirements (PIRs)? How important is the relationship between the commander and intelligence officer?

How do "intelligence failures" occur? What is their cause?

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## ☰ Required Readings (53 Pages + 2 minute video)

[U.S. Office of the Chairman of the Joint Chiefs of Staff. \*Joint Intelligence\*. Joint Publication \(JP\) 2-0. Washington, D.C.: CJCS, 26 May 2022. Read: I-1 to I-6, I-16 \(only Figure I-5\), III-1 to III-5, III-6 \(only Figure III-4\). Scan: II-2 to II-6 and II-26 to II-29.](#)

[\\_\\_\\_\\_\\_. \*Joint Intelligence Preparation of the Operating Environment \(JIPOE\)\*. Joint Guide \(JG\). Washington, D.C.: CJCS, 26 May 2022. Read: I-1 through I-6.](#)

[Handel, Michael. \*Intelligence and Military Operations\*. Oxon, UK: Taylor & Francis Group, 1990. Scan: 15 to 25, Read: 26 to top of 32. \(NWC 4218A\).](#)

[Abdalkl, Neveen Shaaban, Philip H. J. Davies, Kristian Gustafson, Dan Lomas, and Steven Wagner. "Intelligence and the War in Ukraine: Part 1." \*War on the Rocks\*, 12 May 2022.](#)

[\\_\\_\\_\\_\\_. "Intelligence and the War in Ukraine: Part 2." \*War on the Rocks\*, May 19, 2022.](#)

[Goe, David V. and Marina Miron. "Putin Should Have Known His Invasion Would Fail." \*Foreign Policy\*, 24 February 2023.](#)

[Guardian News \(@guardiannews\). "Speak directly!: Putin has tense exchange with his chief spy." \*YouTube\*, 22 February 2022.](#)

## ☰ References and Supplemental Readings

[Dylan, Huw, et al. "The Autocrat's Intelligence Paradox: Vladimir Putin's \(Mis\)management of Russian Strategic Assessment in the Ukraine War." \*The British Journal of Politics and International Relations\* 25, no. 3 \(August 2023\): 385–404.](#)

[Office of the Chief of Naval Operations. \*Fleet Intelligence\*. Naval Warfare Publication \(NWP\) 2. Norfolk, VA: Department of the Navy, July 2022.](#)

[\\_\\_\\_\\_\\_. \*Naval Intelligence\*. Naval Warfare Publication \(NWP\) 2-0. Norfolk, VA: Department of the Navy, March 2014.](#)

[\\_\\_\\_\\_\\_. \*Intelligence Support to Naval Operations Afloat\*. Naval Warfare Publication \(NWP\) 2-01. Norfolk, VA: Department of the Navy, April 2017.](#)

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# JMO-35

## INFORMATION IN JOINT OPERATIONS: RUS/UKR LESSONS

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*The profoundest truth of war is that the issue of battle is usually decided in the minds of the opposing commanders, not the bodies of their men.*

~ Captain Sir Basil Liddell Hart  
British Army, 1929

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### Session Objectives

- Comprehend information as a joint function and its role in human and automated decision-making across the competition continuum.
  - Examine the role and perspective of the joint force commander and staff in integrating information in joint operations to achieve an information advantage.
  - Understand the relationship between the operating environment (OE), the information environment (IE) and cyberspace.
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### 🔍 Focus

This session builds on what JMO students learned about information as a joint / operational function earlier in the course by taking a broader look at information in joint operations (IJO). Students will investigate how information power is employed across the competition continuum, how the Joint Force may achieve an information advantage, and how that advantage may be used to achieve objectives.

### ≡ Background

With the emergence of information as key terrain in modern warfare, our understanding of the information environment is integral to contemporary warfare. The convergence of information connectivity, content, and cognition forms the information environment (IE), a term of art in U.S. Joint doctrine. Broadly speaking, all operations, short of unconditional surrender, should influence an adversary to make a decision favorable to larger U.S. objectives.

*Information in Joint Operations* (JP 3-04) provides fundamental principles and guidance for joint force commanders (JFCs) to plan, coordinate, execute, and assess the use of information during joint operations. Information is a powerful tool available to commanders, yet often poorly understood. How information is sent and received, how it is perceived, and how it is acted upon are all fundamental to information age warfare. Data is collected and analyzed in pursuit of meaning. Once humans and machines assign data meaning it becomes information that is understood. Information can then be synthesized into knowledge that decision-makers and machines leverage to make decisions. In the hyper connected world in which we live, data moves around the world at near light speed and is easily manipulated. Manipulation of data gives it meaning, turning it into information. When information (code operating a machine or content displayed on an electronic screen) is curated and delivered to the receiver it can operate machines independent of their owners and influence humans to act in desired ways. This may be seen as an information advantage – creating freedom of action in the physical domains of war.

JP 3-04 states that operations in the information environment (OIE) are military actions involving the integrated employment of multiple information forces to affect drivers of behavior by informing audiences; influencing foreign actors; attacking and exploiting actor information, information networks, and information systems; and by protecting friendly information, information networks, and information systems. Further, JP 3-04 tells commanders and planners that OIE leverage information for the purpose of affecting the will, awareness, and understanding of adversaries and other relevant actors and denying them the ability to act in and through the IE to negatively affect the joint force.

The DoD recognizes OIE are used by belligerents on both sides to affect decision-making across the range of military operations, yet all too often our adversaries control the narrative. This is due in part to

the fact that our civilian and military leaders struggle to understand these forms of soft power, and our adversaries, whether they are state or non-state actors, military or civilian, are not constrained by truth and laws, enabling them to out-inform or misinform us on and off the battlefield.

Today, OIE inform, persuade, and influence decision-makers in peace and war around the globe. The forces that are being employed often use information instead of physical power to compel adversaries and decision-makers to act. The Joint Concept for Operating in the Information Environment (JCOIE) tells us, “To address this challenge and achieve enduring strategic outcomes, the Joint Force must build information into operational art to design operations that deliberately leverage the inherent informational aspects of military activities.”

This session links directly with JMO-36 Operating in Cyberspace. Information in the form of computer code (software) moves through cyberspace and is what operates modern machines. Malicious software (malware) can make machines operate independent of the owner and content (words and video) is easily manipulated to influence humans to act in diverse ways; these are examples of information advantages.

## ?? Questions

Describe your personal or work information environment. How do you send and receive information necessary to make decisions in your family or work ecosystem?

Why is information considered a joint function?

Define OIE and describe how the U.S. DoD intends to leverage them across the modern operating environment (OE).

Describe some of the challenges the joint force faces in integrating physical and information power.

Describe how Russia integrates information across the cooperation and competition levels of the competition continuum. How might Russia use information power in future armed conflict?

How can joint force commanders and planners integrate information in joint operations into operational art to inform, persuade, and influence decision-makers across the competition continuum?

Can modern conflicts be won by the use of lethal operations alone? Explain your answer.

Discuss the relationship between the operating environment (OE) the information environment (IE) and cyberspace.

## ☰ Required Readings (37 Pages)

[Crowell, Richard M. “War in the Information Age: A Primer for Information Operations and Cyberspace Operations in 21st Century Warfare.” Newport, RI: U.S. Naval War College, Joint Military Operations Department, January 2019. \(NWC 2021E\) Read: 1-8, 20-25, and 48-51.](#)

[U. S. Office of the Chairman of the Joint Chiefs of Staff. \*Information in Joint Operations\*. Joint Publication \(JP\) 3-04. Washington, D.C.: CJCS, 14 September 2022. Read: II-1 to II-7 and VII-1 to VII-11.](#)

## 📄 References and Supplemental Readings

[Crowell, Richard M. “Great Power Competition - China’s Use of Guerrilla Warfare and Information Power in Pursuit of Its Epochal World Order.” \*Small Wars Journal\*, July 2022. \(NWC 2195A\).](#)

Singer, P.W. and Emerson Brooking. “Gaza and the Future of Information Warfare.” *Foreign Affairs*, 5 December 2023.

U. S. Office of the Chairman of the Joint Chiefs of Staff. *Joint Concept for Operations in the Information Environment*. Washington, D.C.: CJCS, July 25, 2018. (NWC 4185).

U.S. Secretary of Defense. *Strategy for Operations in the Information Environment*. Washington, D.C.: U.S. Department of Defense, July 2023.

Wang Xueping. “Chinese Military Informationized Warfare – Integrating New Combined Arms.” *Chinese Military Views*, Red Dragon 1949, 12 September 2018. (NWC 4186).

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# JMO-36

## OPERATING IN CYBERSPACE: RUS/UKR LESSONS

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*We can thus only say that the aims a belligerent adopts, and the resources he employs, must be governed by the particular characteristics of his own position; but they will also conform to the spirit of the age and to its general character.*

~ Carl von Clausewitz  
*On War*, 1832

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### Session Objectives

- Comprehend how operating in cyberspace may be used in the pursuit of military objectives.
  - Understand the role and perspective of the joint force commander in integrating cyberspace operations into plans and orders.
  - Assess the role cyberspace plays in integrating trans-regional, all-domain, multi-function operations across the competition continuum.
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### 🔍 Focus

This session focuses on how operating in cyberspace may be used in contemporary conflict to achieve military objectives. A great deal of public interest in cyberspace and the concept of cyber warfare is rooted in general misunderstandings of what the domain is and how various actors use the domain in support of their interests. Many of the actions described as cyber warfare are more accurately acts of cyber-enabled information warfare. Accordingly, Daniel T. Kuehl, the former director of the Information Strategies Concentration Program at the U.S. National Defense University presents the following definition, "Cyberspace is a global domain within the information environment whose distinctive and unique character is framed by the use of electronics and the electromagnetic spectrum to create, store, modify, exchange, and exploit information via interdependent and interconnected networks using information communication technologies (ICT)." A theory of cyber warfare is presented to begin normalizing the many and varied aspects of operating in this new domain of war. It presents code and content as forces that move through the cyberspace domain. In the early decades of this century, these forces have been increasingly used to control machines independent of their owners and influence human decision-making across in all domains and across all regions. Examples span the distributed denial of service (DDoS) attacks and government website defacement in the 2008 Russia-Georgia war to the Colonial Pipeline ransomware attack in 2021. Additionally, this session includes a discussion of how the U.S. Joint Force is organized to operate in cyberspace. This will be used to establish a command organization of U.S. forces to support operations in the domain in preparation for the JMO ILC final exercise.

### ≡ Background

Some of the most significant changes in contemporary conflict are the speed at which information moves around the world, its depth of penetration into society, and the continuous invention and adaptation of machines for human use in peace and war. The speed and depth of the movement of information are a result of how humans have networked machines of trade and war. Cyberspace, much like the sea, is a domain in which humans maneuver in and through to achieve objectives in the physical spaces where they live. The parallels between the naturally uncontrolled maritime domain and the deliberately uncontrolled cyberspace domain are highlighted in the human use of the two spheres. Both are fields for the transportation of information and ideas as well as for trade.

What moves through cyberspace is information in the forms of code (software) and content. In what can be seen as the intertwining of cyberspace and human activity, the number of humans utilizing cyberspace for commonplace activities (communication, navigation, news, shopping, banking, entertainment, etc.) is accelerating. Examples of the scope of global activity in cyberspace in the early 21st century include

approximately 5.4 billion Internet users, or 68 percent of people on Earth, and nearly 2.9 billion Facebook and 3.0 billion TikTok users. In fact, the U.S. Department of Defense (DOD) operates over 15,000 networks and more than seven million edge devices (electronic computing devices that provide entry points to move content and code around the internet).

To bring together the concepts of cyberspace operations, information in joint operations, and information warfare in the physical domains, the DOD has moved the lexicon of cyberspace operations towards terminology that is recognizable to warfighters in all domains. Cyberspace operations, defined in U.S. Joint doctrine, is the employment of cyberspace capabilities where the primary purpose is to achieve objectives in or through cyberspace. Cyberspace operations include Offensive Cyberspace Operations (OCO), Defensive Cyberspace Operations (DCO), and DOD Information Network Operations (DODINOPS). DCO and OCO lexicon, in particular, standardize warfighting terminology and allow warfighters to better understand and communicate actions and objectives across multiple domains of warfare. Not surprisingly, as human competition has evolved, it now encompasses struggles for control and denial of cyberspace.

Offensive cyberspace operations (OCO) employed in the ongoing Russia–Ukraine war have failed to meet the predictions of many experts. Some analysts forecast that OCO would be a game changer and with the proper use, traditional combat operations would not be necessary. The thousands of cyber-attacks on Ukrainian communications, media, and government sites appear to reinforce the theory that actions (control and denial) in, and thorough, cyberspace are time and space dependent and exist in degrees. Early analysis points to Russian failures in the application of operational art, particularly with Vege's concept of command organization and the command and control of cyber forces linked to the use of information to achieve objectives. Russia saw success with these elements of operational art in their 2008 war with the Republic of Georgia and the 2014 annexation of Crimea, however, they have seemingly failed to advance their interests in support of their political goals in Ukraine.

In terms of DCO, Ukraine invested heavily in cyber defense as well as the use of information in joint operations since 2014 by incorporating resilience into critical infrastructure. They utilized rapid adaptation with Starlink satellites that were able to successfully defeat Russian hacks and jamming. Additionally, numerous members of the current government come from the media and entertainment industries; these officials have a record of successfully delivering information to achieve a desired effect in their civilian careers.

## ?? Questions

Describe what moves through cyberspace and how it may be used to make machines operate independent of their owners or influence humans to act.

Can cyberspace be controlled or denied? If so, what impact does that control, or denial have on operations in the traditional domains of war? Describe how control, denial or dispute supports military operations.

Based on your knowledge of operational art, discuss the impact operating in cyberspace can have on the operational factors and joint/operational functions.

Describe how USCYBERCOM's hunt forward package and private industry supported Ukraine. How did this support impact Ukraine's employment of DCO and resilience within its critical infrastructure?

What lessons for future conflict can be drawn from how Russia conducted cyberspace operations in support of their objectives?

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What lessons for future conflict can be drawn from how Ukraine and Russia conducted cyberspace operations in support of their objectives? Describe the roles cyberspace and the information function played in Ukraine's ability to achieve an information advantage in support of their objectives?

### Required Readings (53 Pages)

[Crowell, Richard M. "Some Principles of Cyber Warfare Using Corbett to Understand War in the Early Twenty-First Century." London: King's College London, The Corbett Centre for Maritime Policy Studies, January 2017. \(NWC 2137\).](#)

[Giles, Keir. "Russian cyber and information warfare in practice: Lessons observed from the war on Ukraine." Research Paper, Royal Institute of International Affairs, Chatham House, London, December 2023. Everyone read pp. 3-13; Half of the seminar will be assigned pp.14-33; the other half will read pp 34-54; and everyone will read 55-60.](#)

[U.S. Office of the Chairman of the Joint Chiefs of Staff. \*Cyberspace Operations\*. Joint Publication \(JP\) 3-12. Washington, DC: CJCS, December 19, 2022. Read pp. IV-1 to IV-3 and IV-13 and IV-14.](#)

### References and Supplemental Readings

[U.S. Government Accountability Office. "Weapons Systems Cyber Security DOD Just Beginning to Grapple with Scale of Vulnerabilities." Report to the Committee on Armed Services, U.S. Senate. Washington, D.C.: GAO, October 2018. \(NWC 4179\).](#)

[Crowell, Richard M. "War in the Information Age: A Primer for Information Operations and Cyberspace Operations in 21st Century Warfare." Newport, RI: U.S. Naval War College, Joint Military Operations Department, January 2019. \(NWC 2021E\).](#)

[Temple-Raston, Dina. "How the US Hacked ISIS." National Public Radio, 26 September 2019. \(NWC 4219\).](#)

[Cox, Matthew. "US, Coalition Forces Used Cyberattacks to Hunt Down ISIS Command Posts." Military News, Military.com, 25 May 2018. \(NWC 4222\).](#)

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**JMO-37****STRATEGIC DEPLOYMENT AND OPERATIONAL/STRATEGIC LOGISTICS AND SUSTAINMENT: RUS/UKR LESSONS**


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*The war has been variously termed a war of production and a war of machines... Whatever else it is, so far as the United States is concerned, it is a war of logistics. The ways and means to supply and support our forces in all parts of the world – including the Army of course – have presented problems nothing short of colossal and have required the most careful and intricate planning.*

~ Admiral Ernest King  
Operation WATCHTOWER, 1942

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**Session Objectives**

- Comprehend planning considerations for deploying and sustaining joint operations across the range of military operations.
  - Comprehend the challenges in sustaining the force when conditions require prioritization of efforts due to limitations on time, space, force, objectives, and end state.
  - Comprehend how operational contract support contributes to effective logistical planning in support of joint operations.
- 

**Q Focus**

Militaries serve as a political instrument, built to implement national security and defense strategies. Once a country decides on its military posture, it should form concepts, structures, systems, capabilities, and doctrine to support its ambitions. Strategic decisions have cascading effects on our ability to deploy and sustain the force. This session exposes students to strategic deployment methods as well as the challenges of sustaining the force once introduced into the area of operations. Additionally, the role of operational contract support (OCS) as an enabler is highlighted in order to acquaint the student with operational contracting's unique considerations, costs, and opportunities. |

**# Background**

Deployment and distribution operations are a core function of logistics, driven by operational requirements. Strategic and operational deployments set conditions for successful campaigns or major operations as deployment planning directly affects the force's combat potential. Mistakes in deployment planning may be hard to overcome and detrimental to the force and its success in combat.

Sustaining the force applies to all elements of the national military establishment. Strategic sustainment ties the industrial and contracting might of the United States to the end user through a complex and highly connected series of planning, sourcing, manufacturing, transporting and distribution agencies. Sustainment begins before the first unit deploys and continues until the last remaining unit departs the area of operations.

Operational Contract Support (OCS) is a key sustainment consideration that can be a force multiplier, enhancing deployed forces' operational reach and/or providing options to mitigate force caps or skills shortages within the uniformed Services. However, there are inherent challenges and risks with contract support that must be identified and mitigated.

Deployment and sustainment planning requires an understanding of all the elements of the operating environment, commander's intent, scheme of maneuver, forces available, force flow requirements, restrictions on footprint, host nation capabilities and limitations, time, space, risk tolerance, etc.

Every operation is unique, and the importance of deliberately integrating and planning deployment and sustainment operations is critical to prevent logistical culmination or limit operational reach. |

## ?? Questions

How do national security and defense strategies and geography affect strategic deployment options for Joint Force Commanders?

In the last twenty years, the U.S. military has routinely deployed to mature theaters to execute its missions. Given today's strategic competitors and the expectations of a contested environment, how should the Joint Force approach the unique challenges in planning and executing strategic deployment?

What are some of the critical sustainment planning considerations at the operational level of war? How do Operational Art Factors play into making feasible estimates?

How do Joint Force Commanders balance tactical and operational effectiveness with strategic/theater efficiency in planning? What are some of the tradeoffs?

How does Operational Contract Support serve to enhance efficiency in sustaining operations? What planning considerations and challenges are associated with employing OCS?

## Required Readings (61 Pages)

[Busier, Bruce. "Strategic Mobility in the Context of U.S. National Defense Strategies." \*Joint Force Quarterly\* 107, no. 4 \(October 2022\): 74–81.](#)

[Fasching, John. "Strategic Mobility: The Essential Enabler of Military Operations in Great-Power Competition." \*Military Strength Topical Essays\*, The Heritage Foundation, 17 November 2020. Read: 55-62. \(NWC 4223\).](#)

[U.S. Office of the Chairman of the Joint Chiefs of Staff. \*Joint Deployment and Redeployment Operations\*. Joint Publication \(JP\) 3-35. Washington, D.C.: CJCS, 31 March 2022. Scan: Executive Summary. Read: I-4 to I-9, "Deployment and Redeployment Processes."](#)

[Gannon, James. "Naval Logistics Primer." Newport, RI: Naval War College, Joint Military Operations Department, January 2022. Read: 1-10, 15-16. \(NWC 1218B\).](#)

[Dalton, Christopher. "Operational Contract Support Primer." Newport, RI: Naval War College, Joint Military Operations Department, January 2020. Read: 1-15. \(NWC 4215\).](#)

[Ti, Ronald and Christopher Kinsey. "Lessons from the Russo-Ukrainian Conflict: the primacy of logistics over strategy." \*Defence Studies\* 23, no. 3 \(31 July 2023\).](#)

## References and Supplemental Readings

[U.S. Office of the Chairman of the Joint Chiefs of Staff. \*Joint Logistics\*. Joint Publication \(JP\) 4-0. Washington, D.C.: CJCS, 4 February 2019 incorporating Change 1, 8 May 2019.](#)

———. [Operational Contract Support](#). Joint Publication (JP) 4-10. Washington, D.C.: CJCS, 4 March 2019.

[Office of the Chief of Naval Operations. \*Navy Planning, Logistics, Navy Tactics, Techniques, and Procedures\* \(NTTP\) 5-01.4. Norfolk, VA: Department of the Navy, April 2015.](#)

# JMO-38

## SEA CONTROL IN A CONTESTED ENVIRONMENT (CLASSIFIED LECTURE)

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*[O]nce Germany achieved naval supremacy...this in itself-regardless of German intentions-would be an objective threat to Britain, and incompatible with the existence of the British Empire.*

~ Henry Kissinger  
*On China*

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### Session Objectives

- Evaluate the current threat environment through the lens of operational art and naval warfare theory.
  - Comprehend the relationships between platforms, sensors, & weapons in the current threat environment.
  - Comprehend the concepts of scouting, anti-scouting, targeting, and counter-targeting as applied in the current threat environment.
  - Analyze the current threat environment against the theoretical constructs and U.S. Joint/Service doctrine.
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### 🔍 Focus

This session is intended to provide students an understanding of current military developments in the Western Pacific, and stimulate students' thinking about challenges in potential contingencies and implications for future warfare with peer competitors. These considerations can be reflected upon during the following session, JMO-39 Emerging Naval Concepts.

### 🔧 Background

For over two thousand years, the ability of a navy to achieve sea control in a particular area was heavily dependent on the capabilities of surface ships. Whether powered by oar, sail or steam, or armed with ram or gun, surface ships were essentially the only military units able to seek out and destroy the enemy's surface forces. Weaker forces might attempt to conduct sea denial against a stronger adversary using land fortifications or lighter forces, but these actions were still constrained by the surface of the sea. In rare cases, non-naval forces could destroy an adversary's maritime forces: triremes could be seized on land when a besieged city was sacked, or audacious cavalry could capture ice bound ships of the line. However, the historical norm required a similar surface force to compete at sea against a proficient enemy.

Just over a hundred years ago, advances in technology began to challenge this paradigm. While the large gun armed dreadnought of the First World War was the capital ship of its era, other weapon systems developed to challenge the hegemony of the surface forces. Submarines, sea based mines, dirigibles and aircraft all began to erode the clear primacy of the surface ship in obtaining sea control. In the Second World War, these technologies matured into war winning weapons. Control of the surface of the sea became more dependent on domination of the air above it and the water space below it. Competition over the electromagnetic spectrum for communication and detection of enemy forces became equally as important. The effective synchronization of the effects of these new technologies was crucial to attain, maintain and exploit the benefits of sea control.

The acceleration of weapons technology since the last major fleet engagement in the Second World War has only made the fight to obtain local sea control more challenging. Instead of the surface battle line engaging the enemy in a symmetric force-on-force engagement between sailors of fighting warships, technicians operating complex weapon and sensory systems from thousands of miles away may render enemy maritime forces open to devastating attack.

The rising power of China, and its competition with the United States and neighboring states, raises the concern of a possible great power military confrontation. The expanding military capabilities of the People's Republic of China, and specifically the People's Liberation Army Navy and People's Liberation Army Rocket Force, are potentially arrayed against U.S. interests in the Pacific. If war occurs between the United States and a modern, capable China, both belligerents will attempt to use their technology, doctrine, and trained forces to find, then attack effectively first.

The readings for this session are designed to give you some insight into Chinese Military Strategy and Maritime Strategy to help put the presentation into operational context. The reading from the 2022 DoD Report to Congress is a very good review of the overall problem faced by the United States from the DoD's perspective. The entire publication is a good resource for this problem, but we ask you to read the Executive Summary and scan key portions of the report focusing on China's military capabilities, the East China Sea, South China Sea, and Taiwan. The second reading is a chapter from Professor Hu Bo from Peking University. Internationally, he is considered the premier authority in Chinese Maritime Strategy; some have even gone so far as to dub him "The Chinese Mahan." Although his writings are not authoritative Chinese Communist Party documents, they are thought to heavily influence the Central Maritime Rights Protection Leading Small Group, which Xi Jinping personally heads. In this book, we ask you to read Chapter 1 on objectives of military power.

## ?? Questions

How do the domains (air, sea, land, cyber, space, information, and human) affect gaining, maintaining, and exploiting sea control?

How do land-based forces impact the fight for sea control in the contemporary environment? How do they impact sea denial? Might they become more important than maritime-based forces?

What is the current technological relationship between the offense and defense? What does this mean for the contemporary environment and the future of navies?

How has technology impacted the theory of fleet tactics? Do the cornerstones posited by Wayne Hughes still hold, or has technological innovation made them moot?

How does the modernization of the Chinese People's Liberation Army affect U.S. thinking on competition with China?

## ☰ Required Readings (37 Pages)

[U.S. Office of the Secretary of Defense. \*Military and Security Developments Involving the People's Republic of China, 2023\*. Washington, D.C.: Department of Defense, October 19, 2023. Read: II-XII. Scan: 52-73, 79-82, 124-127, and 136-148.](#)

Hu, Bo. *Chinese Maritime Power in the 21st Century: Strategic Planning, Policy and Predictions*. New York: Routledge, 2020. Read: 1-26. (NWC 6063). [This item available via Leganto.](#)

**The lecture associated with this session will be a live event held at 0830 Monday, 7 May 2024 in McCarty-Little Hall Auditorium.**

## ☰ References and Supplemental Readings

None.

# JMO-39

## EMERGING NAVAL CONCEPTS (CLASSIFIED SEMINAR)

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*In persistently surveilled, contested environments, agile naval forces offer dynamic and flexible options from which to project combat power. We must maintain our advantage at sea with new platforms, new thinking, and new technologies that enhance distributed naval operations, and develop our people and culture to meet the challenges of a complex security environment.*

*~Advantage at Sea,  
Tri-Service Maritime Strategy, 2020*

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### Session Objectives

- Understand the capabilities and limitations of U.S. naval forces operating in a contested environment.
  - Comprehend emerging naval concepts that influence force design and methods of combat force employment.
  - Analyze the validity of emerging naval concepts and their applicability to future warfare in the next 5 - 7 years against expected adversary capabilities.
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### Focus

This session examines emerging threats, adversary capabilities, and trends in the global security environment that challenge us to think about the changing character of war and its implications for naval warfare. This session, along with the preceding Sea Control in a Contested Environment lecture, are intended to offer considerations for analysis concerning naval warfare against a peer adversary in the near future.

### Background

The global security environment continues to rapidly evolve. This includes significant advances in the military modernization of peer competitors, like the People's Republic of China, as well as other state and non-state actors.

Such changes challenge previous assumptions that many military planners took for granted – that U.S. forces could consistently count on sea control, air superiority, and freedom of maneuver. Advancements in technology and the proliferation of advanced sensors and weapons are eroding the U.S. advantage in naval warfare, requiring us to think differently about how to accomplish military objectives in a contested environment. Specifically, the proliferation of long-range anti-ship cruise missiles, disruptive information technologies, advanced sensors across multiple domains, weaponized space assets, and unmanned aircraft, ships, and submersibles continue to challenge U.S. warfighting advantages. Other technologies, such as swarms and other exquisite robotics, could overwhelm methods for tracking and targeting inbound threats, complicating force protection. The development and deployment of these technologies by our adversaries has manifested as a strategy of anti-access/area denial.

These are not necessarily new conditions in the history of warfare, but we are in an age where quantitative and qualitative transformations are evolving at a pace, complexity, and lethality that have few parallels. The changing character of warfare necessitates that we examine warfighting doctrine, ensuring that we can integrate the actions and activities of naval aviation, submarines, surface ships, special operations forces, unmanned/autonomous vehicles, command and control, intelligence, and other joint capabilities to prevail in combat. Distributed Maritime Operations, Expeditionary Advanced Base Operations, and Stand-In Forces, to name a few, were all conceived to address naval challenges in current and future combat environments.

During this seminar, students will discuss the key considerations for conducting joint maritime operations in a contested environment, based on adversary weapons and capabilities expected to be fielded within the next five to seven years. Discussions may include the need for military leaders to exercise creative and critical thinking, thorough planning, judicious risk management, bold execution,

and effective mission command. At this stage of the course, students should be well grounded in operational art as well as naval warfare theory and should be able to analyze the implications of both frameworks when considering future conflict(s).

The readings are designed to help answer the questions below and to inform discussion on whether the proposed concepts are relevant today and in the future. |

## ?? Questions

|What are some of the key operational challenges in today's contested environments?

How do the emerging naval concepts leverage operational art and naval warfare theory? Explain how these warfighting concepts impact the time-space-force calculus of an operational commander.

With the evolution of the character of war in mind, what Joint Functions are at most risk and may need to be reconsidered by the Joint Force Commander?

Do the emerging naval concepts leverage naval combined arms, or are they too focused on challenges within specific domains of interest?

What are some of the leadership implications (both tangible and intangible) for operational planning, decision-making, and execution in future combat scenarios? |

## Required Readings (26 Pages)

[Filipoff, Dmitry. "Fighting DMO, Pt. 1: Defining Distributed Maritime Operations and the Future of Naval Warfare." Center for International Maritime Security, February 20, 2023. Review.](#)

[Headquarters, United States Marine Corps. \*Tentative Manual for Expeditionary Advanced Base Operations, 2<sup>nd</sup> Edition\*. Washington, D.C.: HQMC, May 2023. Read: 1-1 to 1-6.](#)

[Office of the Commandant of the Marine Corps. \*A Concept for Stand In Forces \(SIF\)\*. Washington, D.C.: Office of the Commandant of the Marine Corps, December 2021. Read: 4 - 5 "Central Idea."](#)

[Lacey, James. "The 'Dumbest Concept Ever' Just Might Win Wars." \*War on the Rocks\*, 29 July 2019.](#)

[Berger, David H. "Marines Will Help Fight Submarines." \*U.S. Naval Institute Proceedings\* 146, no. 11 \(November 2020\).](#)

## References and Supplemental Readings

[Walsh, Thomas A. and Huber, Alexandra L. "A Symphony of Capabilities: How the Joint Warfighting Concept Guides Service Force Design and Development." \*Joint Force Quarterly\* 111, no. 4 \(October 2023\).](#)

Office of the Chief of Naval Operations. *Navy Concept for Distributed Maritime Operations*. Washington, D.C.: Office of the Chief of Naval Operations, January 2019. Available on SIPR at <https://www.doctrine.navy.smil.mil>.

[Dunford, Joseph F. Jr. "The Character of War and Strategic Landscape Have Changed." \*Joint Force Quarterly\* 89, no. 2 \(April 2018\). \(NWC 6062\).](#)

[Office of the Chief of Naval Operations and the Commandant of the Marine Corps. \*Littoral Operations in a Contested Environment \(LOCE\)\*. Washington, D.C., 2017.](#)



# JMO-40

## THE CHINESE WAY OF WAR

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*...we have been handicapped... by a popular attachment to the concept of a basic difference between peace and war, by a tendency to view war as a sort of sporting context outside of all political context... and by a reluctance to recognize the realities of international relations, the perpetual rhythm of [struggle, in and out of war].*

*~George F. Kennan (1948)*

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### Session Objectives

- Understand how a country's culture and historical experience influence how it fights its wars.
  - Evaluate the differences between the Chinese Way of War and the American Way of War.
  - Understand select PRC concepts for modern warfare.
  - Value understanding the Chinese Way of War as a way of assessing the PRC's strengths, weaknesses, and vulnerabilities.
- 

### Q Focus

This session considers the influence of historical experience of the People's Republic of China (PRC) and its People's Liberation Army (PLA) along with their practical implications for how the PRC is likely to fight in any future war. Additionally, it explores the intellectual underpinnings of current Chinese thinking on warfare, as well as several of the major concepts the PRC and PLA are using to think about and plan for war. It is a companion session to JMO-31 The Russian Way of War. This session may also serve as a companion to the course's Final Exercise; the capstone event's fictitious scenario provides significant freedom to practice application of major course concepts without being overly constrained by real world political considerations or classification issues. Students could be well served by combining insights from this session with what they draw from the Final Exercise in terms of how to prevail at the operational level of war in maritime and joint operations.

### ≡ Background

The propensity to "mirror image" one's opponents is ever present. This obstructs clear thinking about the adversary's likely and actual behavior, and may profoundly affect the odds of success. Even when adversaries are equipped almost identically, their employment of those capabilities is still likely to differ markedly.

The greater the cultural distance between adversaries, the more challenging it becomes for each to grasp how the other intends to fight and to realize in the event how it actually is fighting. It is imperative, therefore, to study systematically not only a nation's military doctrine, organization, and capabilities, but the strategic and operational cultures that inform them. Those cultures comprise both explicit and implicit beliefs and assumptions which shape thinking and action. Sometimes the factors that influenced the development of these cultures and their current incarnations are not well understood or even forgotten.

Antagonists who are relatively more effective at adapting *during* a war and doing so more expeditiously than their opponents are those more likely to prevail in that war, other things being equal. Those actors able to reduce the extent of that inevitable adaptation by prior study and planning, to include their adversary's "way of war," will be more likely to prevail. Although in the post-World War II era the U.S. military invested heavily in understanding the Soviet Union's military, following the end of the Cold War and a more or less unipolar world, it tended to focus, not without some justification given the paucity of peer adversaries, on its own way of war, while tending to leave deeper understanding of its probable foes to its intelligence professionals and academics.

During World War II, the United States implicitly understood its German foe, with whom it shared certain commonalities, but struggled to do the same for Japan. Even though the U.S. military had

commenced planning for a future conflict with Japan shortly after the latter's victory in the Russo-Japanese war, it focused primarily on the conventional military problems of defending the Philippines and defeating the Japanese fleet in a decisive Mahanian sea battle. In 1941, there were few Japanese language speakers in the U.S. government and military service, and insight into Japan's culture and the implications for its way of war remained both shallow and narrow. Notwithstanding strenuous wartime U.S. efforts to establish a cadre of "Japan Hands" and the eventual integration of Japanese Americans into the military, it continued to play catch-up until the war's end. For example, American forces had a particularly hard time grasping the rationale for and threat of the aerial *Kamikaze*. This weapon was based on manipulating Japanese cultural values and intended to provide an asymmetric counter against overwhelming American forces that would impose costs (casualties, primarily) to bring the United States and its allies to the negotiating table.

Western understanding of the PRC today no doubt exceeds its understanding of Japan then. It remains, however, challenging. We cannot draw a perfectly straight line of development from Sun Tzu through Mao Tse-tung, to the two PLAAF colonels who wrote *Unrestricted Warfare*, and the present. Each responded uniquely to the actors and events of their time. Moreover, there is no "Great Wall" between Chinese and Western thought; just as Jomini read Sun Tzu in an 18th century French translation, Mao was well-versed in and influenced by Western writers on warfare, to include Clausewitz. Over the past two decades, the PRC has increasingly published formal national security and defense documents and there has been significant open-source discussion of PLA operational concepts. However, while published doctrine provides insights into an adversary's possible ways of war, it rarely determines actual behavior.

Nevertheless, given the cultural and experiential divide between U.S. and PLA forces, it is imperative to make a deliberate effort for all mid and senior level military officers (not just the intel codes) to gain understanding of the opposite numbers' view of one's own force and way of war, what lessons the adversaries may have learned from history, and some specifics of the theory and concepts they are working to develop as a result. Work produced by Chinese military thinkers is the most direct source of insights into the Chinese way of war, augmented where practical by non-Chinese analysts who have been watching rapid Chinese military evolution over the last couple of decades.

## ?? Questions

What are the principal components of the present PRC perspective on war at the operational level?

How are these components the same as those of the United States and its allies and where do they differ?

Could the PRC believe it is at war with the United States even now? If so, what are the implications for the United States and what it does?

What critical strengths, critical capabilities, centers of gravity, and critical vulnerabilities emerge from our understanding of the PRC's military and national security apparatus?

## ☰ Required Readings (65 Pages)

[Babb, Geof. "China's Military History and Way of War: A Backgrounder." Carlisle, PA: Army University Press, March 2023.](#)

[Cozad, Mark, Jeffrey Engstrom, Scott W. Harold, Timothy R. Heath, Dale Lilly, Edmund J. Burkes, Julia Brackup, and Derek Grossman. \*Gaining Victory in Systems Warfare: China's Perspective on the U.S.-China Military Balance\*. Santa Monica, CA: RAND, 2022. Read: v-viii, 70-89.](#)

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Liang, Qiao and Wang Xiangsui. "Do We Advocate Terrorism?" Originally published in March 2000 in Jianchuan Zhishi. (NWC 3254A).

Lee, Sangkuk. "China's 'Three Warfares': Origins, Applications, and Organizations," *Journal of Strategic Studies*, 37 no. 2 (2014): 198-221.

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RAND Research Brief. "A New Framework for Understanding and Countering China's Gray Zone Tactics." Santa Monica, CA: RAND, 2022.

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Crowell, Richard M. "Great Power Competition - China's Use of Guerrilla Warfare and Information Power in Pursuit of Its Epochal World Order." *Small Wars Journal*, July 2022. (NWC 2195A).

Gershaneck, Kerry. "To Win without Fighting: Defining China's Political Warfare." *Expeditions with MCUP*, 17 June 2020.

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U.S. Office of the Chairman of the Joint Chiefs of Staff. *Joint Concept for Competing*. Strategic Paper. Washington, D.C., CJCS, 10 February 2023.

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Yoshihara, Toshi. *Chinese Lessons from the Pacific War: Implications for PLA Warfighting*. Washington, DC: Center for Strategic and Budgetary Assessments, 2023.

. *Dragon Against the Sun: Chinese Views of Japanese Seapower*. Washington, DC: Center for Strategic and Budgetary Assessments, 2020. |

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# JMO-41

## GLOBAL FORCE MANAGEMENT

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*You go to war with the Army you have - not the Army you might want or wish to have at a later time.*

~Secretary of Defense Donald Rumsfeld  
December 8, 2004

*Known and Unknown: A Memoir*

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### Session Objectives

- Comprehend GFM stakeholder authorities, roles, and functions.
  - Comprehend the tools currently used for GFM and how GFM is integrated into the Joint Planning Process.
  - Comprehend the purpose, capabilities, and limitations of GFM processes.
- 

### 🔍 Focus

This session is focused on key aspects of Global Force Management (GFM) which “links the Joint Force to operational demand.” Because knowledge of GFM is key for Joint Force planners, operators, and decision-makers, the Chairman of the Joint Chiefs of Staff has identified it as a Special Area of Emphasis for JPME. JMO-41, along with a complementary session in *Theater Security and Decision Making*, will ensure graduates are armed with the necessary concepts and terminology.

### 🔧 Background

Global Force Management consists of five related processes that support strategic guidance within the limitations of the existing Joint Force structure. Practically, GFM must address the inherent tension between the readiness generated by force providers and the operational requirements of the various Combatant Commands. This tension permeates the entire process and demands deliberate prioritization and trade-offs to best serve both near-term and long-term strategic objectives.

This session will introduce the concepts of Directed Readiness, Assignment, Allocation, Apportionment, and Assessment, along with the stakeholders and guidance related to each process. These elements are an important part of the overall context at the operational and strategic levels. They must be considered by planners and commanders as they move through the conceptual and detailed planning processes that will be exercised in the remainder of the JMO Joint Planning curriculum.

### ?? Questions

What tradeoffs and risks must be considered when determining the optimum global force posture?

Who are the stakeholders in the GFM enterprise and what are their most important equities?

How does the GFM process relate to conceptual and detailed planning at the operational level of war?

If the character of war is increasingly trans-regional, multi-functional and all-domain as many senior leaders suggest, what does this mean for planners and decision-makers involved in the GFM processes?

### 📖 Required Readings (12 pages)

[Wittman, Robert and Seth Mouton, et al. Congressional Letter to The Honorable Lloyd Austin and The Honorable Kathleen Hicks. Washington D.C., 5 April 2021.](#)

[U.S. Office of the Chairman of the Joint Chiefs of Staff. Joint Planning. Joint Publication \(JP\) 5-0. Washington, D.C.: CJCS, 1 December 2020.](#) Read: Appendix D.

[U.S. Naval War College, Joint Military Operations Department. “Information Technology Enabling Tools – Extracts from JP 3-35.” Newport, RI: Naval War College, December 2023. \(NWC 5064\).](#)

## **References and Supplemental Readings**

[Conway, Tim. “Global Force Management.” Information Paper, Office of the J-35, Suffolk, VA, 2023.](#)

[Lee, Caitlin. “The U.S. Military’s Force-Management Tug-of-War.” War on the Rocks, 23 March 2022.](#)

[U.S. Office of the Chairman of the Joint Chiefs of Staff. \*Joint Risk Analysis Methodology\*. CJCSM 3105.01A. Washington, D.C.: CJCS, 12 October 2021.](#)

[U.S. Office of the Chairman of the Joint Chiefs of Staff. \*Joint Planning and Execution Overview and Policy Framework\*. CJCS Guide 3130. Washington, D.C.: CJCS, 12 April 2023.](#)

[U.S. Office of the Chairman of the Joint Chiefs of Staff. \*Joint Deployment and Redeployment Operations\*. Joint Publication \(JP\) 3-35. Washington, D.C.: CJCS, 31 March 2022.](#)

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## JMO-42

## THE COMMANDER'S ESTIMATE AND PLANNING

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*Nimitz himself drew up the initial outline, laying out the objective, the timing, and the assets available...To that initial outline, Nimitz's enlarged staff added specifics, designating and assigning specific ships and units, calculating the logistics support required and the shipping needed to deliver it.*

~ Craig L. Symonds  
*Nimitz at War: Command Leadership from  
 Pearl Harbor to Tokyo Bay, 2022*

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### Session Objectives

- Understand how the commander's estimate of the situation drives the delivery of the commander's guidance for follow-on Course of Action (COA) development.
  - Apply the theoretical concept of the commander's estimate of the situation to a high intensity conventional conflict scenario.
- 

### 🔍 Focus

This seminar, conducted over two days, continues one of the course themes introduced in JMO-08 and exercised during the Leyte Gulf and Falklands/Malvinas case studies—the commander's estimate of the situation. The focus of this session remains on the theoretical underpinnings of the commander's estimate, but the session also acts as a bridge to the doctrinal Joint Planning Process (JPP) exercised during subsequent lessons.

### 📖 Background

Throughout this course, you have been challenged to think critically when presented with theories, concepts, and doctrine concerning past military plans and operations. When presented with a new operational problem, you must employ those same critical thinking skills to draw conclusions from key information, as part of a logical process. This session will add specific techniques and concepts to the theoretical construct while also providing a bridge to the doctrinal JPP. A hypothetical high-intensity conflict on the island of Borneo will serve as the backdrop.

Dr. Milan Vego's writing on commanders' *estimates* should not be viewed as contradictory to Joint Planning, but rather complementary as his ideas are foundational to the more detailed steps found in JPP. According to JP 5-0 *Joint Planning*, the Commander's Estimate is a planning product with the least amount of detail (Level 1 Plan); the estimate reflects the commander's analysis of various Courses of Action (COAs) and recommends a COA, normally to the Secretary of Defense. JP 5-0 further states that the commander's estimate, as part of detailed planning, provides a concise narrative statement of how the commander intends to accomplish the mission while also providing planning focus for subordinate commanders and staff. While formats vary on how the commander communicates this estimate, both theory and doctrine agree on several key elements: description of the situation, analysis of enemy options/courses of action, and comparison of friendly options/courses of action. This logical process is always tied to a decision by the commander.

In this session, you will utilize the Borneo Case Study to develop an initial commander's estimate for either a Joint Forcible Entry (including air control, sea control, and amphibious assault), or the defense of Borneo. The results of this estimate will be used for continued detailed planning during the subsequent session using the JPP.

### ?? Questions

What is the relationship between conceptual planning and detailed planning?

How does the staff support the commander in the development of the commander's estimate?

What are your experiences contributing to a commander's decision?

How does the commander's estimate compare to the theoretical construct of the Operational Idea or a doctrinal construction of a CONOPS?

## Required Readings (85 Pages)

### Day 1.

[Vego, Milan. "The Commander's Estimate of the Situation and the Decision." Newport, RI: Naval War College, Joint Military Operations Department, November 2019. \(NWC 1227\).](#)

[U.S. Naval War College, Joint Military Operations Department. "Joint Planning Process \(JPP\) Workbook." Newport, RI: Naval War College, January 2022. Read: 26-34. \(NWC 4111K\). \(Issued\).](#)

U.S. Naval War College, Joint Military Operations Department. "A Borneo Case Study for Expeditionary Warfare." Newport, RI: Naval War College, February 2024. (NWC 6036Q).

Read the assigned planning supplement based on your seminar's role as "Blue" or "Red" (Issued in Seminar).

### Day 2.

[Vego, Milan. "The Bureaucratization of the U.S. Military Decisionmaking Process." \*Joint Force Quarterly\* 88, no. 1 \(January 2018\). \(NWC 5062\).](#)

## References and Supplemental Readings

[U.S. Naval War College, Joint Military Operations Department. "Forces/Capabilities Handbook." Newport, RI: Naval War College, January 2023. \(NWC 3153T\). \(Issued\).](#)

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# JMO-43

## THE JOINT PLANNING PROCESS

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*It is not the strongest of the species that survive, not the most intelligent, but the one most responsive to change.*

~ Charles Darwin

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### Session Objectives

- Comprehend and apply the Joint Planning Process as a Joint Task Force planning team at the Operational Level of War.
  - Evaluate the Joint Planning Process as a detailed planning methodology to address complex problems in an operating environment characterized by uncertainty, ambiguity, and rapid change.
  - Develop course(s) of action using joint military capabilities to achieve stated objectives.
- 

### 🔍 Focus

This session orients students to the Joint Planning Process (JPP) through a planning exercise conducted over seven days. The exercise provides students the opportunity to apply critical and creative thinking as well as operational art, naval/joint warfare theory, and their knowledge of planning to address a hypothetical crisis scenario in and around the island of Borneo.

### 🔧 Background

Through a moderator-led application of the JPP, students will leverage knowledge they have gained in previous sessions to develop a plan for gaining, maintaining, and exploiting both air superiority and sea control in a contested environment in order to either conduct a Joint Forcible Entry (JFE) onto the island of Borneo, or defend Borneo against a JFE.

Students, role-playing Joint Task Force (JTF) Operational Plans Team (OPT) staff members, will conduct Mission Analysis and Courses of Action development as an introduction to the JPP. At the end of the planning exercise, OPTs will produce a Phase COA Sketch, synchronization of assets matrix, and narrative description of required end-states and conditions that must be met to transition to follow-on phases. The output from this planning process will be tested via wargame in JMO-44, the Final Exercise.

### ?? Questions

How is Operational Art integrated into conceptual and detailed planning?

The JPP is often portrayed as a rigid, serial, step by step process. Is this a correct assessment?

How does the planning process ensure flexibility and adaptability in orders/directives while clearly communicating intent?

How can one enable mission command when planning?

### 📖 Required Readings (167)

[U.S. Naval War College, Joint Military Operations Department. "Joint Planning Process \(JPP\) Workbook." Newport, RI: Naval War College, January 2022. Read: 24-26, 35-40, 1-1 to 7-12, H-1 to H-13, and I-1 to I-6. \(NWC 4111K\). \(Issued\).](#)

[U.S. Office of the Chairman of the Joint Chiefs of Staff. \*Joint Planning\*. Joint Publication \(JP\) 5-0. Washington, D.C.: CJCS, 1 December 2020. Scan: III-1 to III-77. \(Issued\).](#)

U.S. Naval War College, Joint Military Operations Department. “A Borneo Case Study for Expeditionary Warfare.” Newport, RI: Naval War College, February 2024. Review. (NWC 6036Q).

Review the assigned planning supplement based on your seminar’s role as “Blue” or “Red.” (Issued in Seminar).

## References and Supplemental Reading

[U.S. Naval War College, Joint Military Operations Department. “Forces/Capabilities Handbook.” Newport, RI: Naval War College, 2023. \(NWC 3153T\). \(Issued\).](#)

U.S. Naval War College, Joint Military Operations Department. “Selected USN/USMC and PLA/(N)/(AF) Tactical Capability Handbook.” Newport, RI: Naval War College, February 2024. (NWC 2164H).

[U.S. Office of the Chairman of the Joint Chiefs of Staff. “Approved Universal Joint Task List \(UJTL\) Database.” Universal Joint Task List. Last modified 15 November 2023.](#)

[U.S. Office of the Chairman of the Joint Chiefs of Staff. \*Universal Joint Task Manual\*. CJCSM 3500.04F. Washington, D.C.: CJCS, 14 April 2023.](#)

Kidd, Chris. “Joint Planning Process.” Lecture presented to the Naval War College, Newport, RI, 28 September 2023. [JMO-22 Joint Planning Process \(panopto.com\)](#) |

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# JMO-44

## FINAL EXERCISE

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*My belief is that we have to stay focused on the military that is so lethal that on the battlefield, it is the enemy's longest day and worst day when they run into that force...*

~ General James N. Mattis (USMC (Ret))  
Senate Confirmation Hearing, 2017

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### Session Objectives

- Apply the Commander's Estimate of the Situation to address a dynamic, complex conflict and under time constraints, assess combat actions and adjust accordingly.
  - Determine objectives and operational approaches that support major combat operations and theater strategy while synchronizing efforts at the operational level to facilitate component tactical success.
- 

### 🔍 Focus

The final event in the JMO curriculum is a continuation of the joint planning exercise conducted during Block V. In this phase of the exercise, students will “fight” their plan against a thinking adversary that understands U.S. and enemy joint force capabilities and can deduce with fair accuracy how that joint force might act. This is an educational wargame that requires students to apply many of the principles and concepts studied throughout the trimester in order to accomplish the assigned mission. The goal for the College of Naval Command and Staff and Naval Staff College students is to understand the challenges of both planning *and* execution of joint force operations.

### 🚩 Background

This scenario picks up from the final day of JMO-43, The Joint Planning Process (Planning Exercise). The Commander, Joint Task Force (JTF) PACTEAK has approved the student planning team CONOPS to establish air superiority and sea control in the Joint Operations Area to set conditions for objectives on land. Concurrently, President Riady of the Kalimantan Republic has also approved the CONOPS that directs his forces to complete the subjugation of the remainder of Eastern Malaysia. The resultant combat between JTF PACTEAK and Kalimantan forces will be adjudicated during the Final Exercise wargame.

During this session, student-led seminars will execute the operational design they developed during JMO-43. Students will play the roles of the appropriate sides' commanders and principal subordinates during the exercise. The opposing seminars will execute their Course of Action with the wargame rules they previously used during the semester. In the conduct of the exercise, students will have to assess the dynamic situation, adjust their plan, and make decisions on how best to employ their force to achieve their given mission.

This process will continue over the four days of the exercise. The first day allows students to adjust their operational idea to the wargame system rules. Subsequent days will allow the students to execute their plans against highly capable thinking adversaries from another seminar. The successful accomplishment of the mission will be determined by the quality of decisions made by the Operational Planning Team (OPT) at each stage of the wargame. Sound command decisions and clarity of orders are required to achieve the objective with the least cost of blood and treasure. As in all wargames, it is important to respect the scenario: Kalimantan and JTF PACTEAK forces are engaged in high end conventional combat as directed by their higher headquarters.

This exercise is a decision-making wargame; it is not a real-time simulation with an up-to-the-minute Common Operating Picture. The exercise is designed to allow student teams to assess the situation and make sound decisions based on limited information. Given theories presented throughout the course,

students will now apply them in a modern scenario with weapons and capabilities beyond those envisioned by commanders in past naval and joint operations. In the 21<sup>st</sup> century, it is no longer sufficient for fleet commanders to bring their ships within close range and defeat the enemy with lethal broadsides and boardings. Today, Joint Force Commanders must carefully integrate and synchronize coalition and joint capabilities, extending into all domains, to attack effectively first and defeat the enemy. This exercise attempts to illustrate the range of issues that commanders will need to master in order to make effective decisions and achieve victory at sea. |

## ?? Questions

|How does an OPT adapt the planning process and allow a Commander to make decisions in a time constrained, combat environment?

How does an OPT analyze combat reports in the absence of perfect knowledge?

How does an OPT anticipate future changes in the operating environment created by hostile military forces or other actions?

How does an OPT effectively leverage joint force capabilities when planning and executing operations?

How does an OPT best synchronize assets from multiple domains to increase the lethality the joint forces to accomplish operational objectives?

Do the theories presented in the Joint Maritime Operations Intermediate Level Course assist in the effective employment of joint forces during the wargame, or is attacking first more important than attacking effectively first?

## ☰ Required Readings |

|**For seminars using the Operational Wargame System (OWS) wargaming system (seminars 1-7):**

U.S. Naval War College, Joint Military Operations Department. “Operational Wargame System (OWS) Borneo Scenario Game Book.” Newport, RI: Naval War College. **(NWC 6036N-Supplement). (Issued in seminar).**

**For seminars using the War at Sea wargaming system (seminars 8-17):**

[U.S. Naval War College, Joint Military Operations Department. “War at Sea Instruction Book,” Newport, RI: Naval War College, v2.5.](#) Read: Appendix E, “Quick Start Guide - Borneo.” **(NWC 2204). (Issued in seminar).**

## ☰ Reference and Supplemental Readings

U.S. Naval War College, Joint Military Operations Department. “Selected USN/USMC and PLA/(N)/(AF) Tactical Capability Handbook.” Newport, RI: Naval War College, February 2024. **(NWC 2164H).**|

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# MARCH 2024

MONDAY 26 FEB	TUESDAY 27 FEB	WEDNESDAY 28 FEB	THURSDAY 29 FEB	FRIDAY 01 MAR
0830-1145 JMO-01 Chairman’s Introductory Lecture  JMO-02 Introductory Seminar	0830-1145 JMO-03 The JMO Research Paper (Seminar)  JMO-04 The Maritime Domain (Seminar)	0830-1145 JMO-05 Theory of Naval Tactics (Seminar)	0830-1145 JMO-06 Naval Capabilities: Platforms, Sensors, and Weapons (Seminar)	<b>STUDENT REFLECTION AND RESEARCH DAY</b>
MONDAY 4	TUESDAY 5	WEDNESDAY 6	THURSDAY 7	FRIDAY 8
0830-1145 JMO-07 Naval Combined Arms Tactics (Seminar)  NSC Gold FSP	0830-1145 JMO-08 Commander’s Estimate of the Situation (CES)(Seminar)  JMO-09 Tabletop Exercise: Organizing Naval Forces and the CES (Exercise)  NSC Gold FSP	0830-1145 JMO-10 Introduction to Operational Art (Seminar)  JMO-11 Military Objectives and the Levels of War (Seminar)  NSC Gold FSP	0830-1145 JMO-12 Operational Factors and Theater Geometry (Seminar)  NSC Gold FSP	<b>STUDENT REFLECTION AND RESEARCH DAY</b>  NSC Gold FSP
MONDAY 11	TUESDAY 12	WEDNESDAY 13	THURSDAY 14	FRIDAY 15
<b>ELECTIVE 1</b>	0830-1145 JMO-13 Operational Functions (Seminar)  <b>Paper IPR #1</b>	0830-1145 JMO-14 Critical Factor Analysis and the Operational Idea (Seminar)  <b>Paper IPR #1</b>	0830-1145 JMO-14 Critical Factor Analysis and the Operational Idea (Seminar)  <b>Paper IPR #1</b>	0830-1145 JMO-15 Operational Design: The Battle of Leyte Gulf (Seminar) <b>Exam Read-Ahead Issued Paper IPR #1</b>
MONDAY 18	TUESDAY 19	WEDNESDAY 20	THURSDAY 21	FRIDAY 22
<b>ELECTIVE 2</b>	0830-1145 (OWS Seminars) JMO-15 Operational Design: The Battle of Leyte Gulf (Sem.)  0830-1145 (WaS Seminars) JMO-16 CES/Op Idea: The Battle of Leyte Gulf (Exercise)	0830-1145 (OWS Seminars) JMO-15 Operational Design: The Battle of Leyte Gulf (Sem.)  0830-1430 (WaS Seminars) JMO-17 The Battle of Leyte Gulf (Wargame)	0830-1145 JMO-18 Objectives of Naval Warfare (Seminar)  JMO-19 Obtaining and Maintaining Sea Control (Seminar)	0830-1145 JMO-20 Disputing Sea Control / Sea Denial (Seminar)  JMO-21 Exercising Sea Control (Seminar) <b>Paper Proposals Due</b>
MONDAY 25	TUESDAY 26	WEDNESDAY 27	THURSDAY 28	FRIDAY 29
<b>ELECTIVE 3</b>	0830-1000 JMO-22 Maritime Trade Warfare (Seminar)  1015-1145 JMO-23 Operational Design: The Falklands / Malvinas Conflict (Lecture) <b>Paper IPR #2</b>	0830-1145 JMO-23 Operational Design: The Falklands / Malvinas Conflict (Seminar)  <b>Paper IPR #2</b>	0830-1145 JMO-23 Operational Design: The Falklands / Malvinas Conflict (Seminar)  <b>Paper IPR #2</b>	<b>STUDENT REFLECTION AND RESEARCH DAY</b>  <b>Paper IPR #2</b>

# APRIL 2024

MONDAY 1	TUESDAY 2	WEDNESDAY 3	THURSDAY 4	FRIDAY 5
<b>ELECTIVE 4</b>	0830-1145 JMO-24 CES/Op Idea: The Falklands / Malvinas Conflict (Exercise)	0830-1430 JMO-25 The Falklands / Malvinas Conflict (Wargame)	JMO-26 Operational Art Exam  <b>Student Exam Prep</b>	JMO-26 Operational Art Exam  <b>NLT 1600 Recover Exam</b>
<b>MONDAY 8</b>	<b>TUESDAY 9</b>	<b>WEDNESDAY 10</b>	<b>THURSDAY 11</b>	<b>FRIDAY 12</b>
<b>ELECTIVE 5</b>	0830-1145 JMO-27 Naval Operations Across the Competition Continuum (Lecture / Seminar)	0830-1145 JMO-28 Maritime Operational Law (Lecture / Seminar)	0830-1145 JMO-29 Unconventional Statecraft (Seminar)	0830-1145 JMO-30 Military Leadership (Lecture / Seminar)
<b>MONDAY 15</b>	<b>TUESDAY 16</b>	<b>WEDNESDAY 17</b>	<b>THURSDAY 18</b>	<b>FRIDAY 19</b>
<b>SPRING RECESS</b>	<b>SPRING RECESS</b>	<b>SPRING RECESS</b>	<b>SPRING RECESS</b>	<b>SPRING RECESS</b>
NSC Blue FSP	NSC Blue FSP	NSC Blue FSP	NSC Blue FSP	NSC Blue FSP
<b>MONDAY 22</b>	<b>TUESDAY 23</b>	<b>WEDNESDAY 24</b>	<b>THURSDAY 25</b>	<b>FRIDAY 26</b>
<b>ELECTIVE 6</b>	0830-1145 JMO-31 Russian Way of War (Lecture / Seminar)	0830-1145 JMO-32 The Joint Force and How it Fights: RUS/UKR Lessons (Seminar)	0830-1145 JMO-33 Operational Command and Control: RUS/UKR Lessons (Seminar)	0830-1145 JMO-34 Operational Intelligence: RUS/UKR Lessons (Seminar)
NSC Gold FSP	NSC Gold FSP	NSC Gold FSP		
<b>MONDAY 29</b>	<b>TUESDAY 30</b>	<b>WEDNESDAY 01 MAY</b>	<b>THURSDAY 02 MAY</b>	<b>FRIDAY 03 MAY</b>
<b>ELECTIVE 7</b>	0830-1145 JMO-35 Information in Joint Operations: RUS/UKR Lessons (Seminar)  JMO-36 Operating in Cyberspace: RUS/UKR Lessons (Seminar)	0830-1145 JMO-37 Strategic Deployment and Operational/Strategic Logistics & Sustainment: RUS/UKR Lessons (Lecture / Seminar)	<b>Naval War College Women, Peace, and Security Symposium</b>	<b>Naval War College Women, Peace, and Security Symposium</b>

# MAY 2024

MONDAY 6	TUESDAY 7	WEDNESDAY 8	THURSDAY 9	FRIDAY 10
<b>ELECTIVE 8</b>	0830-1145 JMO-38 Sea Control in a Contested Environment (Classified Lecture)  JMO-39 Emerging Naval Concepts (Classified Seminar)	0830-1145 JMO-40 Chinese Way of War (Lecture / Seminar)	0830-1145 JMO-41 Global Force Management (Seminar)  JMO-42 The Commander's Estimate and Planning (Seminar and Exercise)	<b>STUDENT REFLECTION AND RESEARCH DAY</b>
MONDAY 13	TUESDAY 14	WEDNESDAY 15	THURSDAY 16	FRIDAY 17
<b>ELECTIVE 9</b>	<b>0800 Research Paper Due</b>  0830-1145 JMO-42 The Commander's Estimate and Planning (Exercise)	0830-1145 JMO-43 The Joint Planning Process (Exercise) [Day 1]	0830-1145 JMO-43 The Joint Planning Process (Exercise) [Day 2]	0830-1145 JMO-43 The Joint Planning Process (Exercise) [Day 3]
NSC Blue & Gold FSP	NSC Blue & Gold FSP	NSC Blue & Gold FSP	NSC Blue & Gold FSP	NSC Blue & Gold FSP
MONDAY 20	TUESDAY 21	WEDNESDAY 22	THURSDAY 23	FRIDAY 24
<b>ELECTIVE 10</b>	0830-1145 JMO-43 The Joint Planning Process (Exercise) [Day 4]	0830-1145 JMO-43 The Joint Planning Process (Exercise) [Day 5]	0830-1145 JMO-43 The Joint Planning Process (Exercise) [Day 6]	0830-1145 JMO-43 The Joint Planning Process (Exercise) [Day 7]
MONDAY 27	TUESDAY 28	WEDNESDAY 29	THURSDAY 30	FRIDAY 31
<b>MEMORIAL DAY</b>	0830-1430 JMO-44 Final Exercise (Lecture / Wargame)	0830-1430 JMO-44 Final Exercise (Wargame)	0830-1430 JMO-44 Final Exercise (Wargame)	0830-1430 JMO-44 Final Exercise (Wargame)  Final Exercise Hotwash Course Hotwash

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