



U.S. NAVAL WAR COLLEGE  
— Est. 1884 —  
NEWPORT, RHODE ISLAND

## Joint Professional Military Education Phase I Intermediate Level Course

College of Naval Command and Staff and Naval Staff College

# JOINT MARITIME OPERATIONS

February – May 2025 Syllabus



**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 2025**

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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:

Doyle K. Hodges, Dean of Academics

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## **COURSE STUDY GUIDES**

### **INTRODUCTORY SESSIONS**

- JMO-01 Chairman's Introduction (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)
- JMO-17 The Battle of Leyte Gulf (Wargame)

### **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 and Naval Warfare Examination (Individual Effort)

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

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

## **JOINT PLANNING**

JMO-41	The Commander's Estimate and Planning (Exercise)
JMO-42	The Joint Planning Process (Exercise)

## **FINAL EXERCISE**

JMO-43	Final Exercise (Wargame)
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## 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. 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)**; these readings are 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 in advance of the session presentation date to plan preparation time accurately.

**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 documents must be read on the premises of the college and properly safeguarded at all times.

## **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 2063D)*, 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 and Naval Warfare Exam	Written/Individual	30%	2-3 Apr
JMO Research Paper	Written/Individual	35%	13 May
Seminar and Final Exercise Contribution	Daily Assessment	35%	18 Feb – 30 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 and Naval Warfare 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 Stu Furner, (USA (Ret)) Room C-420, 856-5422 stuart.furnere@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 their 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 INTRODUCTION

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*Dynamic changes are at work in our nation and abroad – changes that serve only to emphasize the need for a determined military posture built upon a solid foundation of powerful Naval Forces.*

~ Admiral Elmo Zumwalt, USN  
Chief of Naval Operations, 1970

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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, 2025.” Newport, RI: Naval War College, 2025. 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, 2024.](#)  
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 trimester's administrative requirements and procedures, 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 fourteen 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, D.C., 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

[Franchetti, Lisa M. \*Chief of Naval Operations Navigation Plan 2024\*. Washington, D.C., September 2024.](#)

[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

Critical thinking and clear communication are essential skills in the military profession. Senior leaders expect NWC graduates to research, analyze, and write about complex issues, offering sound advice and actionable recommendations.

The JMO research paper focuses on a problem related to maritime or joint warfare at the high-tactical or operational levels. The paper should address issues of interest to a Joint Force, Service, or Functional Component Commander. This is not a background, informational, nor position paper. Rather it is an argumentative paper that offers a viable approach to a complex and relevant operational problem. The process begins with identifying a problem and a clear research question, conducting a literature review and other research, developing a hypothesis, and evaluating evidence to determine whether the hypothesis is valid.

Working with your faculty moderators, you will agree on the research question and working hypothesis, as well as conduct a detailed analysis of the topic. This analysis will form the foundation for your argument, which answers the research question and serves as the paper's thesis. Your thesis must be supported by strong evidence, logically argued to convince the reader of your claim. The process often leads to practical recommendations, sharpening your analytical and critical thinking skills. Writing this paper is an opportunity to learn, develop professionally, and contribute meaningfully to the field of joint operational warfare.

The ideal paper is one suitable for publication in a professional journal or competitive for an award in the annual NWC writing competition.

#### 📌 Topics

The scope and range of topics typically fall into the following categories. A more detailed list of sources and potential topics is found in the "JMO Paper Guidance for Students" (NWC 2063D):

- Innovative approaches to addressing current or future threats, opportunities, and risks in the operational environment.
- Leadership and decision-making in operational settings.
- Lessons learned from historical or contemporary operations that inform warfighting strategies.

1. **Requirements.** The research paper demands original thought and strong writing. Your research should be thorough enough to support a rigorous analysis of your topic. The ideas you develop could advance the discussion in complex operational challenges of interest to Service or Joint Force commanders and their staffs.

- 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 2063D, “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 2063D. 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

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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. 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 2063D) 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:**

19-27 Feb	Select a paper topic, research question, and conduct initial literature search. Determine if the topic is suitable, feasible to research, and applicable to JMO.
3-6 Mar	Conduct an initial meeting with moderator team to discuss potential paper topic. Identify items a., b. and c. in the paper proposal template.
14 Mar	Submit completed paper proposal to moderators.
17-20 Mar	Conduct follow-up progress review; moderators and students agree on thesis and course of action.
11 Apr	Recommended date to terminate research and commence analysis/writing.
2 May	Final allowable date to submit drafts to paper advisors for review.
13 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. \(NWC 2063D\).](#)

[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 military 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's surface, with the Pacific Ocean alone accounting for nearly a third of this area. Second, the maritime domain is inherently diverse, encompassing the undersea, the ocean surface, and the sky above. These areas span warm tropical regions to the icy Arctic and are shaped by regional climates and weather patterns. Finally, the sea is subject to dramatic variations caused by localized weather as well as storms originating 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 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.

This diverse and dynamic environment affects every aspect of naval operations. From the effectiveness of sensors and weapons to the ability to navigate, sustain forces, and maintain effective command and control, environmental conditions play a decisive role. Safe operations, the enhancement or degradation

of combat capabilities, and even locating friendly or adversary forces depend on a thorough understanding of these factors. For naval and joint force commanders, anticipating how environmental conditions influence both friendly and adversary performance is essential for achieving operational success.

## ?? 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 (38 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)**.

[U.S. Department of Defense. \*Electromagnetic Spectrum Superiority Strategy\*. October 2020.](#) Read: 1-7.

[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: 1-13.

## 📖 References and Supplemental Readings

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

[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

## THEORY OF 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.
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### 🔍 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; the attack on the Israeli ship INS Hanit in 2006; and the sinking of the Russian cruiser Moskva in 2022 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 tactics 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.

———. [“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 enormous 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 (62 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 2025. Read: 7-23. \(NWC 3153U\). \(Issued\).](#)

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- . [“Platforms, Weapons and Sensors Brief.”](#) Newport, RI: Naval War College, December 2023. Scan. (NWC 1248).
- . [“Selected U.S. Joint and PLA Tactical Capability Handbook.”](#) Newport, RI: Naval War College, February 2025. Scan. (NWC 2164I).

## 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. \(NWC 4173\). \[This item also available via Leganto.\]\(#\)](#)

[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 2025. Read: 25-31. \(NWC 3153U\). \(Issued\).](#)

[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. "Distributed Maritime Operations—Solving what problems and seizing which opportunities?" \*Atlantic Council\*, July 2024.](#)

[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 U.S. Joint and PLA Tactical Capability Handbook." Newport, RI: Naval War College, February 2025. \(NWC 2164I\).](#)

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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 among a commander's assessment of the situation, 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 replaced the *Estimate* with 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 plan or 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-42, 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 (30 Pages)

[Vego, Milan. "Logic of the Commander's Estimate of the Situation." Newport, RI: Naval War College, Joint Military Operations Department, June 2016. Updated 2024. \(NWC 2158A\).](#)

[———. "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.](#)

[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. \(NWC 6047\).](#)

[Vego, Milan. "The Commander's Estimate of the Situation and the Decision." Newport, RI: Naval War College, Joint Military Operations Department, November 2019. \(NWC 1227\).](#)

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# 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 thinking and naval power knowledge to task-organize a force based on objectives, environment, threats, and friendly capabilities and vulnerabilities.
  - Demonstrate understanding of command and control of naval forces and their employment to achieve tactical objectives in the maritime domain.
  - Demonstrate the utility of a wargame to aid decision-making.
- 

### 🔍 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 have been in use since the Indians devised the game of chaturanga—the forebear of modern-day chess—to teach military strategy and maneuver. From a cursory scan of the reading, we discover that “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 also serves 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 illustrate and reinforce student understanding of joint and maritime warfare concepts.

## ?? Questions

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

Develop, propose, and justify solutions to the given problem regarding the deployment of naval power based on specified 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 (30 Pages)

[Walters, Eric M. "Wargaming in Professional Military Education: Challenges and Solutions." \*Journal of Advanced Military Studies\* 12, no. 2 \(September 2021\): 81-114. Read: 81-88. Scan: 88-114.](#)

[Wong, Jeff. "Wargaming in Professional Military Education: A Student's Perspective." \*The Strategy Bridge\*, 14 July 2016.](#)

[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 U.S. Joint and PLA Tactical Capability Handbook." Newport, RI: Naval War College, February 2025. \(NWC 2164I\).](#)

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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.
  - 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

What is military theory and where does it come from?

How does a theory such as Op Art relate to current doctrine and to real-world practice?

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

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 (36 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).

[U.S. Office of the Chairman of the Joint Chiefs of Staff. \*Joint Warfighting. Joint Publication \(JP\) 1, Volume 1\*. Washington, DC: CJCS, 27 August 2023. Read: II-8 to II-11, “Levels of War.”](#)

Watch the 8-minute micro-lecture, [Military Objectives](#).

## 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).
- 

### Q 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. 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](#).

### **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 functions in operational planning and execution of major operations and campaigns.
  - Evaluate the relationships between theory, doctrine and practice regarding functions.
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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. This session also presents an opportunity to explore the relationship between theory, doctrine, and practice where there is always some degree of tension.

### 📖 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?

What is the relationship between theory, doctrine, and practice regarding functions?

Do the Joint Functions limit or expand the role of the Operational Commander?

**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 (78 Pages plus a 9-minute video)**

[Tackett, Matthew J. "The Joint Functions: Theory, Doctrine, and Practice." \*Joint Force Quarterly\* 115, 4th Quarter, April 2024, 117-124.](#)

[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. (Issued). Read the following sections:

- VIII-3 to VIII-4, "[Operational Functions](#),"
- VIII-45 to VIII-56, "[Operational Command and Control Warfare](#),"
- VIII-59 to VIII-69, "[Operational Fires](#)."

Watch the 9-minute recorded micro-lecture, [Operational Functions](#).

**☰ 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.

### ≡ 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 enemy’s COG. Commanders risk wasting scarce resources and time, and put mission success in peril, when combat power is applied to targets that do not lead to the accomplishment of the objective.

COGs are identified through an analysis of the operational factors during the Commander’s Estimate of the Situation (CES). In this, planners and commanders identify those activities and requirements that are crucial to friendly and enemy forces to accomplish their objective. During this critical factor analysis, strengths, weaknesses, and vulnerabilities are identified; the foremost of the critical strengths is the center of gravity. Centers of gravity arguably exist at all levels of war. It is important, therefore, to be clear when discussing a COG 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 for defeating the enemy COG and the broad sequence of events required for operational success. The operational idea forms the core of the planning guidance which staffs need to conduct detailed planning.

### ?? 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).

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

Watch the 10-minute micro-lecture video, [COG and Related Concepts](#).

### **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. *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.

Watch the 10-minute micro-lecture video, [Butch Cassidy COG Example](#).

## **☰ 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 of a full operational design, developed from a general operational idea, with emphasis on the selection of intermediate objectives as well as 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](#).

**Additional readings for seminars using the War at Sea wargaming system:**

[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 v2.7." Newport, RI: Naval War College.](#) Read: Appendix C, "Quick Start Guide-Leyte." (NWC 2204). (Issued in seminar).

**📄 References and Supplemental Reading.**

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

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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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### 🔍 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 / tabletop exercise (see Note below). An additional focus is establishing a working understanding of the rules, materials, and mechanics sufficient to achieve the exercise’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 and guidance to staffs for detailed planning.

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.

**Note:** During the periods scheduled for JMO-16 and JMO-17, seminars using the Operational Wargame System (OWS) wargaming platform will use a traditional tabletop exercise as the method for conducting a prospective analysis of the Battle of Leyte Gulf while seminars using the War at Sea wargaming platform 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 upcoming Falklands / Malvinas conflict.

## ?? 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)

[Vego, Milan. "Logic of the Commander's Estimate of the Situation." Newport, RI: Naval War College, Joint Military Operations Department, June 2016. Updated 2024. Review. \(NWC 2158A\).](#)

The following readings are for seminars using the War at Sea wargaming platform:

U.S. Naval War College, Joint Military Operations Department. "War at Sea Instruction Book v2.7." 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).**

## 📄 References and Supplemental Readings

[U.S. Naval War College \(@usnavalwarcollege\). "War at Sea." YouTube, 13 July 2020.](#) Additional instructional videos are available for those interested in a deeper understanding of game play. "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).

U.S. Naval War College, Joint Military Operations Department. "War at Sea Instruction Book v2.7" 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 purple can be ignored at this point because it applies to later, more advanced games.

# JMO-17

## WARGAME: THE BATTLE OF LEYTE GULF

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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.
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### 🔍 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-16. 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.

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.

**Note:** During the periods scheduled for JMO-16 and JMO-17, seminars using the Operational Wargame System (OWS) wargaming platform will use a traditional tabletop exercise as the method for conducting a prospective analysis of the Battle of Leyte Gulf while seminars using the War at Sea wargaming platform 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 upcoming Falklands / Malvinas conflict.

## ?? 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 v2.7.” 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).

## 📖 References and Supplemental Readings

[U.S. Naval War College \(@usnavalwarcollege\)](#). “War at Sea.” YouTube, 13 July 2020. Additional instructional videos are available for those interested in a deeper understanding of game play. “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).

U.S. Naval War College, Joint Military Operations Department. “War at Sea Instruction Book v2.7.” 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 previously) 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 purple 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, which is often 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 primary 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? To what extent were they evident in the seizure or defense of Leyte in 1944?

## ☰ 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.

## 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 an initial objective to obtain a certain degree of sea control in a given space is attained, persistent efforts must continue to maintain sea control to facilitate use the sea for intended purposes with minimal risk. With this in mind, at the most basic level, obtaining and maintaining sea control involves actions to neutralize or eliminate those 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, as well as capabilities in the space and cyber domain and 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 well - or not pursued - by each side.

## ?? Questions

How is sea control obtained? Drawing upon the two theory 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 might 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 or play a significant role?

How might theater geometry influence one's ability to obtain and maintain sea control?

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, 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.' Scan: 33-36, "Conclusion." (NWC 1108).

Till, Geoffrey. *Seapower: A Guide for the Twenty-First Century*. 4th ed. London and New York: Routledge, 2018. Read: 200, 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 1) to relinquish control entirely, thereby forgoing use of the sea or accepting great risk with any attempted use of the sea, or 2) to dispute the enemy's sea control (in other words, to 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 when facing a stronger adversary at sea, there are many ways a belligerent can contest (i.e. dispute) an opponent's control of the sea, thereby reducing enemy and increasing one's own freedom of action. Upon commencement of hostilities, it is often not 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 one belligerent may not have operational or strategic reasons to use the sea during war for military or commercial purposes, an objective of sea denial may yet be relevant 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 specific methods of disputing sea control that a belligerent pursues often depends on the relative strength of each side, the particular capabilities each side possesses, and theater geography and geometry. Belligerents tend to pursue multiple methods of sea denial, 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? How are the methods for disputing sea control (sea denial) similar to, or different from, the methods of obtaining sea control?

How might theater geometry influence one's ability to conduct sea denial activities? Consider the role of land and air forces, or capabilities in other domains, in disputing sea control (sea denial).

Regarding the Leyte case, where did each side seek sea denial in pursuit of their respective objectives? Which methods of disputing sea control (sea denial) were evident during the operation?

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 ‘cornerstone’, “The Seat of Purpose is on Land.” As the Hughes maxim suggests, sea control represents a condition that facilitates 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 this was codified as one of Vego’s 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 remain an important facet 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 (38 Pages)

Vego, Milan. *Exercising Control of the Sea: Theory and Practice*. London and New York: Routledge, 2021. Read: 39-63, 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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### Q Focus

Maritime trade warfare is an ancient practice and takes many forms. It involves not only the sinking or seizure of commercial vessels, but also includes attacks on infrastructure, including ports, storage facilities, shipyards, inland waterways, and intermodal transportation venues. Blockades or closure of canals or chokepoints can cause significant damage to a nation's economy; for example, the March 2024 collapse of the Francis Scott Key Bridge, caused by a container ship that crashed into a bridge stanchion, partially blocked the Port of Baltimore to commercial vessel traffic for 11 weeks, disrupting trade at an estimated cost of \$15 million per day. Maritime trade warfare can even be conducted by cyber means in the form of attacks on shipping company computer networks or severing of seabed cables. This session will focus on maritime trade warfare at the operational level of war, which can include operations to destroy enemy coastal installations and facilities and conduct attacks on an enemy's commercial and military sealift, as well as defend and protect friendly commercial and military sealift. Readings will address the theory and practice of maritime trade warfare, with attention given to its conduct in the littorals, as well as its direct, indirect, and secondary effects and issues of relevance to a combatant commander with respect to commerce warfare in a modern threat environment. Surface, submarine, sea-based or land-based air, mine, and cyber capabilities can be employed in maritime trade warfare, giving a commander a potent arsenal of means to inflict damage on an adversary's coastal installations, commercial vessels, or military sealift, with concomitant effect on their economy or sustainment.

The practice of taking prizes - seizure of a vessel, its equipment, and cargo - dates back to the Middle Ages. Nations often granted Letters of Marque to holders of privately owned vessels, authorizing them to attack and seize the vessels of a country with which that nation was at war. Privateers, in effect, augmented a nation's armed forces and their seizure of merchant vessels weakened an adversary's economy while enriching the privateer, who would profit by selling off the ship and cargo while holding the crew for ransom. The United States Constitution still grants Congress the authority to issue Letters of Marque, which are then signed by the President, but the United States has not granted a Letter of Marque since 1815. As recently as the invasion of Ukraine by Russia, Congress unsuccessfully sought to issue a Letter of Marque to seize vessels owned by Russian oligarchs. Could the taking of prizes play a role in modern warfare?

Seabed warfare is 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. The United States and its allies are highly dependent on submarine cable networks, which carry some 99% of telephone and internet traffic and are essential to financial, commercial, and military communications. In November 2024, two undersea cables in the Baltic Sea were severed, interrupting Internet communications between Lithuania and Sweden, and Finland and Germany; Swedish and Finnish

officials suspected sabotage by a Chinese vessel. In recognition of seabed warfare and the economic impact of severed cables, the Maritime Administration's (MARAD) created a U.S. Cable Security Fleet (CSF) to defend and maintain U.S. subsea cable access.

## **≡ 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 influence 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 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 recent conflicts in Ukraine and the Middle East, in any significant war, belligerents tend to engage in a struggle to destroy/neutralize and defend/protect maritime trade to the greatest degree possible as a way of gaining advantage or imposing cost. 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 to some extent.

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

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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?

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)?

**Consider the following questions based on the reading assigned by your moderators:**

What planning considerations would be involved in seizing Chinese commercial vessels and turning them to U.S. commercial use?

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. \(NWC 1215\).](#)

**Moderators will assign one of the following readings:**

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

[Ratcliffe, Ryan. "Prize Law Can Help the United States Win the War of 2026." \*U.S. Naval Institute Proceedings\* 150, no. 9 \(September 2024\). \*\*This item also available via Leganto.\*\*](#)

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## 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

The Falklands/Malvinas War Case Study spans five working days across three JMO sessions (JMO-23 through JMO-25), serving as a synthesis event that integrates naval warfare theory and operational art concepts from previous sessions. This case study also provides collective preparation for the upcoming examination. The schedule focuses on analyzing operational-level decision-making and alternative outcomes.

### 📖 Background

The schedule for JMO-23 focuses on the historical analysis of operational art and naval warfare theory:

#### **Day 1 (Thursday, March 20; 1015-1145 hrs):**

Fireside panel discussion featuring two conflict veterans:

- VADM (Rtd) Alvaro Martinez, Argentine Navy
- RADM (Rtd) Chris Parry CBE, Royal Navy

#### **Days 2-3 (Tuesday-Wednesday, March 25-26; 0830-1145 hrs):**

Seminar discussions/in-class practical exercises analyzing both sides of the conflict:

- Historic/strategic background to conflict
- Historic application of Op Art and naval war theory
- Operational-level lessons learned

Days 4 and 5 (JMO-24 and JMO-25) continue to leverage the Falklands/Malvinas War Case Study in support of a prospective analysis / Commander's Estimate of the Situation (CES) and Operational Idea (Day 4) and Wargame (Day 5) to visualize operational decision-making outcomes.

### ?? Questions

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

1. To what extent were the objectives for each side appropriate and aligned across levels of war? Explain.
2. To what extent did each side leverage Operational Art or Naval Warfare Theory concepts within their Operational Design for the conflict? Explain.

3. How well did each side exploit theater geometry when employing their respective forces to achieve their objectives?
4. 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?
5. What major operational lessons learned can be derived from this conflict?

### Required Readings (see below)

#### Day 1 (Fireside panel discussion) (18 Pages + 80-minute video)

Watch the following JMO presentation on the Falkland/Malvinas conflict:

[JMO Falklands-Malvinas Conflict of 1982, CDR Simon Rogers, RN, 06 April 2022](#)

[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). (48 Pages)

[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). (59 Pages)

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

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

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

# 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  
Decision making 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:**

[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:**

U.S. Naval War College, Joint Military Operations Department. "War at Sea Instruction Book v2.7." 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. Watch: "Fuel Points Tracking" \(8 min\).](#)

## 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.

U.S. Naval War College, Joint Military Operations Department. "War at Sea Instruction Book v2.7." 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 purple applies to a later more advanced game.

# 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-24. 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:**

[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. Review. \(NWC 1036-Supplement\). \(Issued in seminar\).](#)

**For seminars using the War at Sea wargaming system:**

U.S. Naval War College, Joint Military Operations Department. "War at Sea Instruction Book." Newport, RI: Naval War College v2.7. 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" \(8 min\).](#)

## 📖 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.

U.S. Naval War College, Joint Military Operations Department. "War at Sea Instruction Book v2.7." 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 purple applies to a later, more advanced game.

## JMO-26

# OPERATIONAL ART AND NAVAL WARFARE EXAM

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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 naval 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.
- 

## 🔍 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 in order 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 0830 hrs on Wednesday, 2 April 2025 and is due to moderators, via the Assignments Submission module on Blackboard, no later than 1200 hrs on Thursday, 3 April 2025. 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

# SEA CONTROL IN A CONTESTED ENVIRONMENT

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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.
- 

### 🔍 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 will be reflected upon during the following session, JMO-28 Emerging Naval Concepts.

### ≡ Background

For over two thousand years, achieving sea control in a given area largely depended on the capabilities of surface ships. Whether powered by oars, sails, or steam, and armed with rams or guns, surface ships were the primary means of seeking out and destroying enemy surface forces. Weaker forces might attempt sea denial against stronger adversaries using land fortifications or lighter vessels, but such efforts were still limited to the surface domain. In rare instances, non-naval forces succeeded in destroying maritime forces—for example, when besieged cities resulted in ships being burned in port. However, the prevailing norm was that only a comparable surface fleet could effectively contest control of the seas against a skilled opponent.

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 rapid acceleration of weapons technology since the last major fleet engagement in World War II has significantly increased the challenges of achieving local sea control. Instead of traditional surface battle lines engaging in symmetric, force-on-force combat between warships, modern conflicts may see technicians operating advanced weapon and sensor systems from thousands of miles away, leaving enemy maritime forces vulnerable to devastating attacks.

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 naval capabilities and strategy to help put the presentation into operational context. The Congressional Research Service report provides a good overview of Chinese naval capabilities and the challenges they potentially present to the United States. We ask you to read the summary sections and to scan the remaining more detailed sections on Chinese platforms and capabilities. The second reading is a chapter from Professor Hu Bo, Director of the Center for Maritime Strategy Studies, Peking University. Although his writings are not authoritative Chinese Communist Party documents, he is considered the premier academic authority on Chinese Maritime Strategy and likely influences Beijing's maritime strategy and policy. 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 (42 Pages)

[O'Rourke, Ronald. \*China Naval Modernization: Implications for U.S. Navy Capabilities—Background and Issues for Congress\*. Congressional Research Service, Report RL33153, Version 281, August 16, 2024.](#) Read: 2-5, "Background" and 54-64, "Issues for Congress." Scan remainder.

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 held at 0830 hrs on Friday, 4 April 2025 in Spruance Auditorium. An optional classified session will be held at 1200 hrs on Tuesday, 29 April 2025 in McCarty-Little Hall Auditorium to provide an opportunity for further questions and discussion.**

## ☰ References and Supplemental Readings

None.

# JMO-28

## EMERGING NAVAL CONCEPTS

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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 challenges presented to 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 JMO-27 Sea Control in a Contested Environment lecture, is 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 advancements in the military modernization of peer competitors, like the People's Republic of China, as well as other state and non-state actors. Such advancements challenge previous assumptions that many military planners have taken for granted – that U.S. forces could consistently establish sea control, air superiority, and freedom of maneuver when required.

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 budding technologies, such as swarms and other exquisite robotics, could overwhelm methods for tracking and targeting inbound threats, complicating force protection. The development of these technologies by our adversaries has manifested as a strategy of anti-access/area denial.

These are not new conditions in the history of warfare, yet we are in an age where quantitative and qualitative transformations are evolving at a pace, complexity, and lethality that have few historical parallels. The changing character of war necessitates that we examine warfighting doctrine. The Navy and Marine Corps must ensure that we integrate 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 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 and 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 Joint capabilities, or are they too focused on challenges within specific Service-oriented interests?

What are some of the leadership implications (both tangible and intangible) for operational planning, decision-making, and execution in future combat scenarios?

## Required Readings (23 Pages)

[Clarity, Tom. "Distribute DMO to Tactical Commanders." \*U.S. Naval Institute Proceedings\*, 149, no. 1 \(January 2023\).](#)

[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 \(October 2023\).](#)

[Filipoff, Dmitry. "Fighting DMO, Pt. 1: Defining Distributed Maritime Operations and the Future of Naval Warfare." Center for International Maritime Security, February 20, 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 \(April 2018\). \(NWC 6062\).](#)

## JMO-29

## 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 struggle 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?

### Required Readings (39 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. \(NWC 6066\).](#)

[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-30

# 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.
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## Q Focus

This session complements the preceding session 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 (59 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: 4-13, “Preface” and Chapter 1; 204-216, Chapter 8; and 220-222, “Conclusion.” \(NWC 3254\).](#)

[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: 1-32.](#)

## 📄 References and Supplemental Readings

None.

# JMO-31

## OPERATIONAL LEADERSHIP

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*The higher we rise in a position of command, the more do the mind, understanding, and penetration predominate in activity, the more therefore is boldness, which is a property of the feelings, kept in subjection, and for that reason we find it so rarely in the highest positions, but also then so much the more to be admired.*

~ Carl von Clausewitz, *On War*

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### Session Objectives

- Analyze the prerequisites for operational leadership to succeed at the operational level of war.
  - Analyze how successful theatre commanders and their staff conduct decision-making and manage relationships to accomplish objectives.
  - Examine leadership by historical commanders for insights on how to succeed in future conflicts.
- 

### Focus

This session focuses on operational leadership and examines the traits and actions of commanders engaged in the Pacific Theater of War during WW II. The readings allow students to gain insights into, and analyze, the decisions made by Admiral Nimitz and Spruance during campaign planning and execution. Students should consider the demands and expectations of operational leaders as they begin to formulate, for the first time for many, a personal philosophy of mission command for their tactical-level units. As tactical commanders, it is increasingly important to understand the perspectives and requirements of the operational commanders under whom they serve.

### Background

Throughout their careers, ILC students have served in various 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 personal experience and their service's broader consideration of leadership. However, despite leadership being highly individualized at the tactical level, senior officers serving at the operational and theatre level require a more distinct set of characteristics to be successful.

Commanders at the operational level must be able to influence seniors and subordinates effectively, discern objectives from policy aims, and boldly execute their intent in the face of uncertainty. They require an operational perspective that sees beyond the situation immediately facing them to envision a new set of conditions in which the means at their disposal can be sequenced and synchronized to achieve desired effects. Dr. Vego argues that self-education, strong character, boldness, and the creative ability to find opportunities for force employment to create adversary dilemmas are essential for success. Moreover, they must communicate their vision clearly and concisely. This requirement will be even more stringent in circumstances of limited, sporadic, or one-way communication.

The readings highlight how Admirals Nimitz and Spruance both managed their relationships and developed processes to solve the problems with which they were presented. In the Spring of 1942, Admiral Nimitz and his subordinate commanders were attempting to stop the Japanese invasion of Port Moresby and Midway. He worked to turn his staff into an efficient warfighting organization while meeting the demands, and answering inquiries from, Admiral King and the Joint Chiefs of Staff. During the same period, Admiral Spruance formed the 5th Fleet staff and began the planning for amphibious assaults of the Gilbert and Marshall Islands. This is the beginning of the Pacific Ocean Area Campaign as U.S. forces were developing the doctrine and tactics they would use to conduct island-hopping operations.

In 1942, sequenced amphibious operations were a new approach to dealing with the expanding air and subsurface domains exploited by the Japanese. Today, with the emergence of cyber and space domains, the People's Republic of China's rapid military development and the Russian war in Ukraine have forced a broader consideration of Great Power conflict for the first time in decades. Compounding these challenges is the Joint Force's recognition that a new approach will be required. As Naval War College students, both Nimitz and Spruance studied the past while looking to the possibilities of the future to solve the challenges of their times. What can we learn from them for tomorrow's fight?

## ?? Questions

How does your service approach leadership and leader development? Do you agree with this model? Would you change anything about it? Does a Service's approach to leadership create challenges or opportunities when working with other services and/or multi-national partners at the operational level?

Dr. Vego argues that wars are won and lost at the operational and strategic levels, not the tactical. How should operational commanders be selected if tactical success alone does not predict operational success?

Which operational leadership traits, tenants, or attributes do you believe are the most important for a Joint Force Commander to lead effectively? Based on your experience serving for operational-level commanders, what attributes defined them? What did you learn from their leadership?

Based on the authors' depiction of Nimitz and Spruance, how did these leaders' actions regarding planning processes, decision-making, expectation management, and relationship building enable the success of their commands? Identify three examples from the readings. Why do they resonate with you?

What parallels can you draw from the challenges faced by Nimitz and Spruance to those confronting operational leaders today in the Western Pacific, Ukraine, Israel, and the Red Sea?

## Required Readings (~59 Pages)

Vego, Milan. "On Operational Leadership." *Joint Force Quarterly* 77, no. 2 (April 2015): 60-68.

Hughes, Wayne P. "Clear Purpose, Comprehensive Execution – Raymond Ames Spruance." *Naval War College Review* 62, no. 4 (Autumn 2009): 117-128.

### Team Nimitz

Symonds, C. L. *Nimitz at War: Command Leadership from Pearl Harbor to Tokyo Bay*. Oxford: University Press, 2022. Read: 91-111 and 288-302.

### Team Spruance

Buell, Thomas B. *The Quiet Warrior*. Boston: Little, Brown and Company, 1974. Read: 180-205 and 229-252.

## References and Supplemental Readings

Nimitz, Chester W. "OPERATION PLAN NO. 29-42." Midway Island.

Spruance, Raymond A. "OPERATION PLAN NO CEN 1-43." Marshall Islands.

Dempsey, Martin E. "*Mission Command*." White Paper, Washington, D.C., 3 April 2012. (NWC1193).

Swain, Richard M. and Albert C. Pierce. *The Armed Forces Officer*. Washington, D.C.: National Defense University Press, 2017. See 57-76.

## JMO-32

# THE RUSSIAN WAY OF WAR

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

~ Vladimir Putin,  
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-33 through JMO-39 in which Russia's war on Ukraine is used as an analytical lens to better understand Operational Law, the Joint Force, Command and Control, Intelligence, Information, Cyberspace, Strategic Mobility, and Logistics.

## Background

From the late 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?

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

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

## Required Readings (74 pages + 15 minute video)

Elgin, Katherine Kjellström, "More of the Same? The Future of the Russian Military And Its Ability to Change," Center for Strategic and Budgetary Assessments, March 18, 2024. Read: 10–23.

[Gerasimov, Valery V., "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.](#)

Kofman, Michael, Anya Fink, Dmitry Gorenburg, Mary Chestnut, Jeffrey Edmonds, and Julian Waller, "Russian Military Strategy: Core Tenets and Operational Concepts, Center for Naval Analyses," CNA Research Memorandum, August 2021. Read: 5-17 and 26-29.

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

[Vego, Milan. "Russian Operational Art in Ukraine, 2022 to Present" Recorded April 2024.](#)

## References and Supplemental Readings

[Eliot A. Cohen and Phillips O'Brien, \*The Russia-Ukraine War: A Study in Analytic Failure\*, Center for Strategic and International Studies, September 24, 2024.](#)

[Andrew A. Michta and Joslyn Brodfuehrer, \*NATO-Russia dynamics: Prospects for reconstitution of Russian military power\*, Atlantic Council, September 19, 2024.](#)

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

[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.](#)

# JMO-33

## 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 strategic and 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. 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, Red Sea Crisis, 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 along with domestic policy 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 and 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. "USNWC JMO Law of the Sea Reference for Naval Operations." Newport, RI: U.S. Naval War College: Joint Military Operations Department. January 2019. \(Issued\).](#)

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

[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).

# JMO-34

## 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 Joint Forces are organized to employ force and resultant benefits or challenges.
  - Examine the types of Joint Force headquarters and understand how they fight.
  - Investigate lessons learned from the Russia-Ukraine 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?

Based on the first three years of the Russia-Ukraine war, what lessons can be learned related to Joint Force employment?

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

## 📖 Required Readings (55 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.](#)

[Deni, John R. "The new NATO Force Model: ready for launch?" \*NATO Defense College Outlook\* 04-2024, 27 May 2024.](#)

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

[Bowen, Andrew S. \*Ukrainian Military Performance and Outlook\*. Congressional Research Service., Report IF12150, 21 Oct 2024.](#)

## 📖 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.](#)

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# JMO-35

## OPERATIONAL COMMAND AND CONTROL: 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

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### 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 Russia-Ukraine war and the implications for the Joint Force in a future conflict.
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### 🔍 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. Effective C2 enables the combat power of that joint force and it is the primary means by which the commander sequences and synchronizes a 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. Concomitant to command organization are command relationships, which 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.

As a joint force, organization might 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.

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 frictions 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 Russia-Ukraine 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 (65 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 \(August 2018\): 28-33. \(NWC 4181\).](#)

[“Summary of the Joint All-Domain Command & Control \(JADC2\) Strategy.” Department of Defense. March 2022.](#)

[Zabrodskiy, 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 \(May-June 2023\).](#)

## References and Supplemental Reading

[Dempsey, Martin E. "Mission Command." White Paper, Washington, D.C., 3 April 2012. \(NWC1193\).](#)

[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-36

## 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

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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.
- 

### 🔍 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 and 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 \(Incorporating Change 1, 5 July 2024\). Washington, D.C.: CJCS, 26 May 2022. Read: I-1 to I-6, I-16 \(only Figure I-5\), III-1 to III-6. Scan: II-2 to II-7 \(stop before CONOPS\) and II-26 to II-29 \(section 8\).](#)

———. [. \*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.](#)

[Gioe, 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-37

## 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.
- 

### 🔍 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 a key tool in modern warfare, our understanding of the information environment is integral to contemporary warfare. All too often, our adversaries appear to control the narrative. Our military and civilian leaders struggle with these forms of soft power, and our adversaries, whether state or non-state actors, military or civilian, do not face the restraints of truth and laws, enabling them to capitalize on misinformation, disinformation and malinformation on and off the battlefield.

The DoD recognizes that Operations in the Information Environment (OIE) inform, persuade, and influence decision-makers in peace and war around the globe. Combatants often use information instead of, or synchronized with, hard power to compel adversaries and decision-makers to act. The convergence of information connectivity, content, and cognition forms the information environment (IE), a term of art in U.S. Joint doctrine.

*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. JP 3-04 frames OIE as 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. “To address this challenge and achieve enduring strategic outcomes,” the Joint Concept for Operating in the Information Environment (JCOIE) tells us that “the Joint Force must build information into operational art to design operations that deliberately leverage the inherent informational aspects of military activities.”

In sum, all operations seek to influence an adversary to make a decision favorable to larger U.S. objectives. Achieving an information advantage creates freedom of action in the physical domains of war. Information is a powerful tool available to commanders, yet remains poorly understood, and as so often in operations the challenge lies in moving from theory and doctrine to implementation. In this session, we draw on lessons learned from the ongoing Russian invasion of Ukraine, and how Ukraine devised countermeasures to Russian practices, to better understand information as a joint function and its role in the modern battlespace. In our supplemental readings, we also point to practices from the People's Republic of China, as well as violent extremist organizations.

## ?? Questions

Should information be considered a joint function? Explain.

Describe how Russia integrates information across the cooperation and competition levels of the competition continuum.

How does Russia use information power in Ukraine? What advantages – and disadvantages – might it bring to the fight in the near function? How have the Ukrainians responded?

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?

## ☰ Required Readings (50 pages)

[Todd C. Helmus and Khrystyna Holynska. “Ukrainian Resistance to Russian Disinformation: Lessons for Future Conflict,” RAND, September 3, 2024.](#) Read: 7-31, “The Ukrainian Counterdisinformation Campaign.”

[Thomas, Timothy. “Russia’s Reflexive Control Theory: Manipulating an Opponent to One’s Advantage,” DTIC, June 2019.](#) Read: 3, “Introduction” and 13-14, “Conclusions.”

[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: viii – xii, II-1 to II-7, and VII-1 to VII-11.

## 📖 References and Supplemental Readings

[Jones, Seth G., Emily Harding, Catrina Doxsee, Jake Harrington and Riley McCabe. \*Competing Without Fighting: China’s Strategy of Political Warfare\*. CSIS and Rowman & Littlefield. August 2023.](#) See 43-63, Chapters 5 “Information and Disinformation Operations” and Chapter 6 “The United Front.”

[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. \(NWC 4186\).](#)

# JMO-38

## 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 cyberspace operations may be used in the pursuit of military objectives.
  - Understand how the joint force commander integrates cyberspace operations into plans and operations.
  - Assess the role cyberspace operations might be used across the competition continuum.
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### 🔍 Focus

This session focuses on the integration of cyberspace operations (CO) into the Joint Force Commander's plans and operations to achieve military objectives in contemporary conflict. It includes a discussion of how U.S. Joint Forces are organized to operate in cyberspace. The session also provides an example of how the United States successfully synchronized CO in military operations and considers cyberspace events and lessons from the current Russia-Ukraine war with their potential application to future conflict.

### ≡ Background

Cyberspace is a man-made domain. However, cyberspace, much like the physical world, is a domain in which humans maneuver in and through to interact and achieve objectives in the physical spaces where they live. 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 5.5 billion Internet users, or 68 percent of people on Earth, and roughly 3.0 billion Facebook and 2.0 billion TikTok users. The U.S. Department of Defense (DOD) alone operates over 15,000 networks to move and store information.

U.S. Joint doctrine defines cyberspace as a global domain within the information environment (IE) that consists of the interdependent network of information technology (IT) infrastructures and resident data. In short, cyberspace includes the IT network, the data and information resident in the network, and the people who conduct activity on the network. Since cyberspace is a place of human activity, it is no surprise that it is also a domain of military operations

To make the concepts of cyberspace operations better understood across all subordinate organizations, the DOD moved the lexicon of cyberspace operations towards terminology that is recognizable to warfighters in all domains. Cyberspace operations, as defined in U.S. Joint doctrine, are the employment of cyberspace capabilities where the primary purpose is to achieve objectives in or through cyberspace. A cyberspace capability is a device or computer program intended to create an effect in or through cyberspace. Effects achieved via CO may be physical or information related. Cyberspace operations include Offensive Cyberspace Operations (OCO), Defensive Cyberspace Operations (DCO), and DOD Information Network Operations (DODIN OPS). In particular, DCO and OCO lexicon standardize warfighting terminology and allow warfighters to better understand and communicate actions and objectives across multiple domains of warfare.

OCO employed in the ongoing Russia–Ukraine war have failed to meet the predictions of many experts. Other analysts have noted the extensive use of cyberspace operations by Russia, concluding that Ukrainian DCO and resilience (w sympathetic nations) have negated what should have been a significant Russian operational and strategic advantage. Regardless, Russia saw success with its integration of

cyberspace operations in its 2008 war with the Republic of Georgia and the 2014 annexation of Crimea. Furthermore, the Russia-Ukraine war continues, and so does the discussion on what lessons the United States and its allies and partners can identify and apply to our own cyberspace operations.

## ?? Questions

Describe cyberspace and how it may be used to achieve objectives.

Based on your knowledge of operational art, discuss the impact operating in cyberspace can have on the operational factors and joint/operational functions. How else might you apply operational art to cyberspace operations?

How can or should the Joint Force Commander integrate cyberspace operations into plans and operations? How well was this done during Operation Glowing Symphony?

Describe the roles cyberspace operations played in Russia's and Ukraine's plans and operations in support of their objectives?

What lessons for future conflict can be drawn from how Russia and Ukraine conducted cyberspace operations in support of their objectives? How might a Joint Force Commander apply these lessons?

## ☰ Required Readings (~45 Pages)

[U.S. Office of the Chairman of the Joint Chiefs of Staff. \*Cyberspace Operations\*. Joint Publication \(JP\) 3-12. Washington, D.C.: CJCS, December 19, 2022. Read: vii-xviii, I-1 to I-2, I-9 to I-12, II-2 to II-5, II-11 to 16, IV-1 to IV-3 and IV-13 to IV-14.](#)

**Moderators will assign one of the following - 1) Temple-Ralson and Cox or 2) Kerr:**

[Temple-Ralston, Dina. "How the US Hacked ISIS." National Public Radio, 26 September 2019. \(NWC 4219\).](#) This reading includes an audio option.

[Cox, Matthew. "US, Coalition Forces Used Cyberattacks to Hunt Down ISIS Command Posts." Military News, Military.com, 25 May 2018. \(NWC 4222\).](#)

[Kerr, Jaclyn. "Assessing Russian Cyber and Information Warfare in Ukraine: Expectations, Realities, and Lessons." Working Paper, Center for Naval Analyses, Arlington, VA, November 2023.](#)

## ☰ 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. \(NWC 4179\).](#)

[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.](#)

[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. \(NWC 2137\).](#)

[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. \(NWC 2021E\).](#)

# JMO-39A

## OPERATIONAL CONTRACT SUPPORT

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*War is too serious a matter to leave to soldiers.*

~ Georges Clemenceau

Prime Minister of France, 1906-09 and 1917-20

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### Session Objectives

- Comprehend planning considerations for Operational Contract Support across the range of military operations.
  - Comprehend how Operational Contract Support contributes to effective planning in support of joint operations.
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### 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 will provide students with an understanding of the critical role of Operational Contract Support (OCS) in enhancing the effectiveness and efficiency of U.S. military operations, emphasizing its strategic significance in mission planning, execution, and sustainment.

### # Background

While much of the support provided by contracting activities is Service-specific, there is a need for joint planning and operational-level (CCDR-directed) guidance related to contingency contracting capabilities to ensure effective and efficient use of locally available, mission-critical, or command special-interest items. OCS plays a vital role in enabling the U.S. military to achieve its objectives by providing the necessary resources, services and capabilities to effectively plan, execute and sustain military operations.

A unique aspect of contracting support is that only a warranted contracting officer, not a commander (regardless of their rank or position), has the authority to obligate U.S. Government funds. In other words, it is not a command authority. This authority to acquire supplies, services, and construction for the government comes from four sources: the U.S. Constitution, statutory authority, legislative appropriations, and the Federal Acquisition Regulations (including DOD and Military Department supplements). Leveraging the expertise of individuals to define the need, draft the contract, and execute the provisions in the contract is operation-level commander business. However, there are inherent challenges and risks with contract support that must be identified and mitigated.

### ?? Questions

How does Operational Contract Support serve to enhance efficiency in sustaining operations?

What planning considerations and challenges are associated with employing OCS?

### ☰ Required Readings (15 Pages)

[Dalton, Christopher. "Operational Contract Support Primer." Newport, RI: Naval War College, Joint Military Operations Department, January 2020. Read: 1-15. \(NWC 4215\).](#)

[U.S. Office of the Chairman of the Joint Chiefs of Staff. \*Operational Contract Support\*. Joint Publication \(JP\) 4-10. Washington, D.C.: CJCS, 4 March 2019. Scan: ix- xvii, "Executive Summary."](#)



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# JMO-39B

## STRATEGIC MOBILITY

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*Future force projection missions, like those throughout history, will demand well developed operational and logistical planning, force mix, appropriate sequencing into and out of a theater, and a constant requirement for soldier and unit versatility. Such missions will require leaders and units that can operate in ambiguity and have the agility to adapt and adjust. Set piece thinking does not fit force projection. All of these requirements will occur in a joint or combined environment.*

~ General Frederick M. Franks, Jr., U.S. Army  
Commander, VII Corps, Gulf War August 1989–June 1991

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### Session Objectives

- Understand the phases of the joint deployment and redeployment process.
  - Understand the roles of key DOD organizations and entities in support of force deployment.
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### 🔍 Focus

The deployment process is a core element of synchronizing and sequencing forces in time and space to support the commander's operational idea. This session exposes students to several strategic deployment methods; discusses critical requirements, capabilities, and vulnerabilities to plan and execute deployment operations; and discloses the complex and critical aspects of deploying large/multi-service forces over long distances as related to strategic mobility.

### ≡ Background

Strategic mobility capabilities for a Joint Force set the conditions for successful campaigns or major operations as deployment planning directly affects the force's combat potential, thus mistakes in deployment planning may be hard to overcome as well as detrimental to the force and its success in combat. Therefore, deployments should be planned, executed, and integrated within the operation plan or order to support the commander's operational idea.

Approximately 90% of U.S. warfighting equipment and supplies travel by sea. Navy ships with embarked forces, Naval air squadrons and detachments, and Marine Expeditionary Units (MEUs) are self-deploying. Other Joint forces, including non-embarked Marine Corps forces and Navy Expeditionary Combat Command forces, move to and from theater via strategic, common-user land, sea, and air transportation, and may integrate with pre-positioned (PREPO) equipment at or near their place of employment. This combined, Joint deployment and distribution system is commonly referred to as the strategic mobility triad (Airlift, Sealift, PREPO).

Key deployment commands and entities include the Joint Staff J3, DOD's Joint Deployment Process owner; USTRANSCOM, DOD's Joint Deployment and Distribution Coordinator; and the Department of Transportation's Maritime Administration (MARAD), bridging Military Sealift Command, U.S. flagged commercial companies, and domestic unions for sealift procurement and operations.

### ?? Questions

How do national security and defense strategies as well as geography affect strategic deployment options for Joint Force Commanders?

In the last twenty-five years, the U.S. military has routinely deployed to mature theaters to execute its missions. Given today's strategic competitors and the expectation of a contested environment, how should the Joint Force approach the unique challenges in planning and executing strategic deployment?

## Required Readings (26 Pages)

[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: viii-xviii, “Executive Summary.” Read: I-4 to I-9, “Deployment and Redeployment Processes.”](#)

[U.S. Naval War College, Joint Military Operations Department. “Forces/Capabilities Handbook.” Newport, RI: Naval War College, January 2025. Read: 155-166, “Strategic Mobility.” \(NWC 3153U\). \(Issued\).](#)

**Moderators will assign one of the following readings:**

[Busier, Bruce. “Strategic Mobility in the Context of U.S. National Defense Strategies.” \*Joint Force Quarterly\* 107, no. 4 \(2022\): 74–81.](#)

[Fasching, John. “Strategic Mobility: The Essential Enabler of Military Operations in Great-Power Competition.” \*The Heritage Foundation 2021 Index of Military Strength\*. Read: 55-62. \(NWC 4223\).](#)

## References and Supplemental Reading

Pettyjohn, Stacie L. and Alan Vick. *The Posture Triangle*. Santa Monica, California: RAND Corporation, 2013.

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## JMO-39C

## JOINT 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 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.
  - Identify key logistics lessons learned from the Russia-Ukraine war.
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## Q Focus

Senior leaders need to understand how logistics and sustainment align with operational requirements to make the joint force effective. In an era of increasingly complex military operations, the importance of joint logistics and sustainment cannot be overstated. This session is designed for intermediate-level students to explore the multifaceted nature of logistics and sustainment in joint operations, with a particular focus on the lessons learned from the ongoing Russia-Ukraine war. The conflict has revealed critical insights into the effectiveness of supply chains, resource allocation, and the integration of joint forces in a rapidly evolving battlefield environment. In planning any operation, it is essential that the plan is deemed valid and executable by ensuring that it is suitable, feasible, and acceptable. Therefore, logistics and sustainment must be integrated as an operational function from the very beginning of the planning process, rather than being treated as an afterthought.

## # Background

An effective logistics concept will support freedom of movement, provide for operational flexibility, endurance, operational reach, mitigate risks of culmination, and anticipate operational requirements for follow-on phases in operational plans and campaigns. Operational thinking encompasses a broader perspective that prioritizes critical requirements essential for achieving readiness, operational reach, endurance, and sustainment of forces. While most commanders emphasize the importance of viewing logistics professionals as key advisors and planning team members, it is essential that operational professionals inherently develop operational plans through a lens of logistics.

Sustaining the force applies to all elements of the national military establishment. Strategic sustainment ties the industrial base of the United States with the support of allies and partners to the end user through a complex and highly connected series of planning, sourcing, manufacturing, transporting and distribution agencies and multinational support. Sustainment begins before the first unit deploys and continues until the last remaining unit departs the area of operations.

When viewed together, the relationship between logistics and sustainment may be seen in an ends, ways, and means context. Sustainment frames both the objective (ends) and provides the means, in both capabilities and capacity, to achieve those ends. Sustainment and logistics represent the activities of planning for, and employing, the capabilities within the capacity available to achieve the stated ends. Logistics and sustainment planning require 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.

## ?? Questions

What are some of the critical sustainment planning considerations at the operational level of war? How do Op Art's Operational 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?

Analyze the lessons learned from the Russia-Ukraine war. What (if any) potential future trends and implications for joint logistics may arise for U.S. forces as a result?

## ☰ Required Readings (26 Pages)

[Gannon, James. "Naval Logistics Primer." Newport, RI: Naval War College, Joint Military Operations Department, January 2022. Read: 1-14. \(NWC 1218B\).](#)

[Ti, Ronald and Christopher Kinsey. "Lessons from the Russo-Ukrainian Conflict: the primacy of logistics over strategy." \*Defence Studies\* 23, no. 3 \(31 July 2023\). Read: 385-396.](#)

## 📄 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, 20 July 2023.](#)

[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.](#)

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## JMO-40 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.
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### 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-32 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 Background." Carlisle, PA: Army University Press, March 2023.](#)

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- [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.](#)
- [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.](#)
- [Kennedy, Conor. "China Is Preparing Merchant Ro-Ro Ferries for Amphibious Warfare." \*The Maritime Executive\*, 30 March 2023.](#)
- [RAND Research Brief. "A New Framework for Understanding and Countering China's Gray Zone Tactics." Santa Monica, CA: RAND, 2022.](#)

## References and Supplemental Readings

- [Clarke, Michael. "China's Application of the 'Three Warfares' in the South China Sea and Xinjiang." \*Orbis\* 63, no. 2 \(January 2019\): 187-208.](#)
- [Cordesman, Anthony H. "China's New 2019 Defense White Paper: An Open Strategic Challenge to the United States." Working Draft, Center for Strategic and International Studies, 24 July 2019.](#)
- [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.](#)
- [Liang, Qiao and Wang Xiangsui. \*Unrestricted Warfare: Scenarios for War and the Operational Art in an Era of Globalization\*. Beijing: People's Liberation Army Literature and Arts Publishing House, 1999.](#)
- [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.](#)
- [Weigley, Russell F. \*The American Way of War: A History of United States Military Strategy and Policy\*. Bloomington, IN: Indiana University Press, 1973.](#)
- [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

## 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 commander's guidance for planning and specifically, Course of Action (COA) development.
  - Apply the theoretical concept of the commander's estimate of the situation to a high intensity conventional conflict scenario.
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### 🔍 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 provide another opportunity to apply the techniques and concepts of the theoretical construct of the CES to a hypothetical high-intensity conflict on the island of Borneo. The output of this exercise provides a bridge to the subsequent sessions executing the JPP.

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, based on which side you are playing. The results of this estimate will be used for continued detailed planning during the subsequent sessions, using the JPP.

### ?? Questions

What are your experiences contributing to a commander's decision?

How does the staff support the commander in the development of the commander's estimate?

How does the commander's estimate compare to the theoretical construct of the Operational Idea or a doctrinal construction of a CONOPS?

### Required Readings (~70 Pages)

[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, December 2024. Read: 1-27. Scan: Annexes A-E. \(NWC 6036R\).](#)

Read the assigned planning supplement based on your seminar's role as "Blue" or "Red" **(Issued in Seminar)**.

### References and Supplemental Readings

[U.S. Naval War College, Joint Military Operations Department. "Forces/Capabilities Handbook." Newport, RI: Naval War College, January 2025. \(NWC 3153U\). \(Issued\).](#)

[Vego, Milan. "The Bureaucratization of the U.S. Military Decisionmaking Process." \*Joint Force Quarterly\* 88, no. 1 \(January 2018\): 34-45. \(NWC 5062\).](#)

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# JMO-42

## THE JOINT PLANNING PROCESS

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*In military problems the situation is much more complex, and the stakes are much higher. In order to insure a logical thought process, to guard against the oversight of important details, and to form a readily available record, military problems are usually solved in written form.*

~ Naval Manual of Operational Planning (1948)

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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.
  - Develop course(s) of action using joint military capabilities to achieve stated objectives.
  - 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.
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### Q 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, Courses of Action (COA) development, and COA Analysis and Wargaming as an introduction to the JPP. At the end of the planning exercise, OPTs will produce a Phase COA Sketch, synchronization matrix, and narrative description of 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-43, 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?

What is the role of the commander during the JPP?

How can commanders and planning teams enable mission command through their plans?

### ☰ Required Readings (167 pages + 90 minutes of micro-videos)

[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, December 2024. Review. \(NWC 6036R\).](#)

Watch the following micro-lectures based on the planning timeline of your OPT:

JPP video – Step 1: Initiation

JPP video – Step 2: Mission Analysis

JPP video – Step 3: COA Development

JPP video – Step 4: COA Analysis and Wargaming

JPP video – Step 5: COA Comparison

JPP video – Step 6: COA Approval

JPP video – Step 7: Plan or Order Development

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, 2025. \(NWC 3153U\). \(Issued\).](#)

U.S. Naval War College, Joint Military Operations Department. “Selected U.S. Joint and PLA Tactical Capability Handbook.” Newport, RI: Naval War College, February 2025. (NWC 2164I).

[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, September 2024. JMO-27 Joint Planning Process (panopto.com)

# JMO-43

## 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.
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### 🔍 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-42, 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-42. 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 (~10)

**For seminars using the Operational Wargame System (OWS) wargaming system (seminars 1-6):**

U.S. Naval War College, Joint Military Operations Department. “Operational Wargame System (OWS) Borneo Scenario Game Book.” Newport, RI: Naval War College. **(NWC 6036R-Supplement). (Issued in seminar).**

**For seminars using the War at Sea wargaming system (seminars 7-16):**

U.S. Naval War College, Joint Military Operations Department. “War at Sea Instruction Book,” Newport, RI: Naval War College, v2.7. 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 U.S. Joint and PLA Tactical Capability Handbook.” Newport, RI: Naval War College, February 2025. **(NWC 2164I).**

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UNITED STATES NAVAL WAR COLLEGE  
686 CUSHING ROAD  
NEWPORT, RI 02841-1207  
WWW.USNWC.EDU  
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