

Undersea Warfare Syllabus (Module 1-5)

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Lesson Preparation

Required reading/Computer-Based Training (CBT). Students are expected to complete all required reading and CBT before the each Instructor Lead Topic (ILT).

Homework. Some lessons have associated assignment sheets. Lessons that include assignment sheets are clearly delineated below by stating in bold "Homework Assignment." These must be completed before the scheduled instructor-lead review session. Either turn in a hard copy of your homework or electronically type your answers in a word document.

Testing

Check on Learning (CoL) Quizzes. There are four CoL quizzes containing 20 questions and last 20 minutes each. They comprise 20% of the overall module grade. All quizzes are Perception-based. Quizzes cover required reading, CBT, and previous ILT.

Final Exam. The final exam comprises 80% of the overall module grade and is in two parts: Perception (65 questions) and written essay (scenario based, approximately 15 questions). The Perception portion is one hour in length and encompasses 25% of the final exam grade. The written essay portion is three hours in length and comprises 75% of the final exam grade.

Module Requirements

1-5-1 Anti-Submarine Warfare (ASW) Mission, Roles, and Organization	
1-5-1-0 <u>Welcome to Undersea Warfare (Instructor Lead)</u>	1.5 hr
Classroom Discussion	1 hr
CBT Lesson(s): N/A	
Required Reading / Viewing:	
<u>Curriculum Outline of Instruction (COI)</u>	15 min
<u>USW Schedule</u>	
<u>ASWQ - CNSP CNSL 3361</u>	
Suggested Reading / Viewing: N/A	
1-5-1-1 <u>The Submarine as an Enemy (Self Study)</u>	5.0 hrs
Classroom Discussion	N/A
<u>Homework Assignment</u>	3 hrs
CBT Lesson(s): N/A	
Required Reading / Viewing:	
<u>ATP 28(B) Chapter 2 (22 pgs)</u>	1 hr
<u>ASW Threat Info</u>	
<u>Asia's Sub Race by USNI [U]</u>	1 hr
Suggested Reading / Viewing: N/A	
1-5-1-2 <u>Full Spectrum ASW (Instructor Lead)</u>	1.0 hr
Classroom Discussion	1 hr
CBT Lesson(s): N/A	
Required Reading / Viewing: N/A	
Suggested Reading / Viewing: N/A	
1-5-1-3 <u>ASW Missions (Instructor Lead)</u>	2.0 hrs
Classroom Discussion	1 hr
CBT Lesson(s):	
Module 4, Lesson 1, Topic 3: "Policy and Guidance"	15 min
Required Reading / Viewing:	
<u>NWP 3-21 Sec 4.2 (3 pgs)</u>	15 min
<u>NTRP 3-21.38 Ch 5 (6 pgs)</u>	30 min
Recommended Reading / Viewing: N/A	
1-5-1-4 <u>ASW Command and Control (Instructor Lead)</u>	2.75 hrs
Classroom Discussion	1 hr
CBT Lesson(s):	
Module 4, Lesson 1, Topic 1: "Roles and Responsibilities"	30 min
Required Reading / Viewing:	
<u>NWP 3-21: Sec 4.3.4-4.3.5.1 (3 pgs), 5.2.2-5.3.8 (8 pgs)</u>	30 min
<u>NWP 3-21.0 (Rev A): Sec 3.1 - 3.5 (4 pgs), App E1-E4 (5 pgs)</u>	30 min
<u>ATP 28(B) Sec 0108 (1 pg), 0910-0912 (3 pgs), 0923 (1 pg)</u>	15 min
Suggested Reading / Viewing:	
<u>ATP 18(F): Sec 0107-0108 (2 pgs)</u>	15 min

1-5-1-5 Waterspace Management, Prevention of Mutual Interference, and Safety (Instructor Lead and Self Study) 5.0 hrs

Classroom Discussion	1 hr
<u>Homework Assignment</u>	2 hr
CBT Lesson(s): N/A	
Required Reading / Viewing:	
<u>NWP 3-21.0</u> , Ch 6 (8 pgs), App C (12 pgs)	1 hr
<u>AXP 1(D)</u> Sec 1030, 2111-2115, 2203-2280, 5021 (Table 2-3, 3-1 to 3-3, 5-3)	1 hr
Suggested Reading / Viewing: N/A	

1-5-1-6 Navy-wide OPTASK ASW and Brevity (Self-Study) 3.5 hrs

Classroom Discussion	N/A
<u>Homework Assignment</u>	1 hr
Homework Review (in class)	30 min
CBT Lesson(s): N/A	
Required Reading / Viewing:	
<u>Navy-wide OPTASK ASW</u>	40 min
<u>ASW Exercise and Tactical Definitions and Brevity Code Handout</u>	20 min
ATP/AXP References as detailed in Assignment Sheet	1 hr
Recommended Reading / Viewing: N/A	

1-5-2 ASW Communications

1-5-2-1 ASW Communications (Instructor Lead) 3 hr

Classroom Discussion	1 hr
CBT Lesson(s):	
Module 4, Lesson 2, Topic 1: "Communication Circuits"	30 min
Module 4, Lesson 2, Topic 2: "Comms Procedures"	30 min
Required Reading / Viewing: N/A	
Suggested Reading / Viewing: N/A	

1-5-2-2 MMTT 1: ASW Voice Communications 1 hr

1-5-3 ASW Capabilities and Limitations

1-5-3-1 ASW Aircraft (Instructor Lead) 5.0 hrs

Classroom Discussion	2 hrs
CBT Lesson(s):	
Module 4, Lesson 3, Topic 4: "Helicopter Assets"	30 min
Required Reading / Viewing:	
<u>Air NTPP 3-22.1-P3C</u> , 2.2.2; 2.2.3; 2.2.4; 2.2.6; 2.2.7; 4.1.2.1; 4.1.3; 4.1.4; 4.2; 4.2.1.1; 4.2.1.2; 4.2.4.3.1; 4.2.4.3.1.1; 4.2.4.3.1.2; 4.2.4.3.3; 4.3; 4.3.3.3.2; 4.4.2.1.7; 4.4.3.1; 4.4.3.2; 4.4.3.3; 4.5; 4.6.7.3; 8.9.4.1; Table: 4.27 Figure: A.54	2 hrs
<u>Air NTPP 3-22.1-SH60B</u> , 7.10	15 min
<u>Air NTPP 3-22.1-SH60R</u> , 5.2.2; 7.6.4.1; 7.6.4.2; 8.3; 9.3.2.1; 9.4.2; 11.3 Table 2.12; Figures: 9.10; 9.11; 9.12; 11.2	15 min
Suggested Reading / Viewing:	
<u>Air NTPP 3-22.5-Maritime Aircraft</u> 4-23; 50; 56-59; 69-119	

ATP 28(B) Ch 4 (19 pgs)
Air NTTP 3-22.1-P3C, Ch 2 and 4
Air NTTP 3-22.1-SH60B, Ch 2
Air NTTP 3-22.1-SH60R, Ch 9

1-5-3-3 ASW Weapons and Attacks (Instructor Lead) 3.5 hrs

Classroom Discussion 1.5 hr
CBT Lesson(s):
 Module 4, Lesson 3, Topic 1: "Weapons Assets" 1 hr
Required Reading / Viewing:
NTTP 3-21.33, Ch 2 (15 pgs), App B (13 pgs) 1 hr
Suggested Reading / Viewing:
ATP 28(B) through chg 1 Ch 9 sections 0904-0907 (4 pgs) 15 min

1-5-3-4 Torpedo Countermeasures (Instructor Lead) 2.5 hrs

Classroom Discussion 1 hr
CBT Lesson(s):
 Module 4, Lesson 3, Topic 3: "Countermeasure Assets" 30 min
 Module 4, Lesson 4, Topic 1: "Evasive Steering Procedures" 30 min
Required Reading / Viewing:
NTTP 3-21.33, Ch 3.1 – 3.3 (10 pgs) 30 min
Suggested Reading/Viewing: N/A

1-5-3-5 Torpedo Evasion Maneuvers (Instructor Lead) 3.75 hrs

Classroom Discussion 1 hr
Homework Assignment 1 hr
Homework Review (in class) 30 min
CBT Lesson(s):
 Module 4, Lesson 4, Topic 2: "Torpedo Evasion Maneuvering Procedures" 30 min
Required Reading / Viewing:
NTTP 3-21.33, Ch 3.4 – 3.5 (4 pgs) 15 min
Operational Guidelines for SLQ-25C, Ch 1, 3, 4, 6, 12 (11 pgs) 30 Min
Suggested Reading / Viewing: N/A

1-5-3-6 SSN Operations (NAVSUBSCOL Guest Lecture) 2.0 hrs

CBT Lesson(s): N/A
Required Reading / Viewing: N/A
Suggested Reading / Viewing: N/A

1-5-3-7 SSK Operations (NUWC Guest Lecture) 1.5 hrs

CBT Lesson(s): N/A
Required Reading / Viewing: N/A
Suggested Reading / Viewing: N/A

1-5-4 ASW Techniques and Tactics	
1-5-4-1 Tactical Use of the Environment (Instructor Lead)	5.25 hrs
Classroom Discussion	2 hrs
<u>Homework Assignment</u>	1 hr
Homework Review (in class)	30 min
CBT Lesson(s): N/A	
Required Reading / Viewing:	
<u>RP-33, Fleet Oceanography and Acoustic Reference Manual</u> , Ch 1, 2.1, 3.1, 3.21, 3.3, 5.3.1, 5.3.1.1, 5.3.1.2, 5.3.2, 5.3.2.1, 5.3.2.2, 7.2, 7.2.1, 7.2.2, 7.2.2.1, 7.2.2.2, 7.2.3, 7.2.4, 7.2.5, 7.2.6	2 hrs
<u>NTRP 3-21.34 Surface Ship Acoustic Prediction Systems</u> EX. 1, EX. 3, Ch 2.24, 2.3, 2.71, 3.5	30 min
Suggested Reading / Viewing:	
Oceanography Website Familiarization	15 min
1-5-4-2 Passive Techniques (Instructor Lead)	
14.0 Hrs	
Classroom Discussion	4 hrs
CBT Lesson(s):	
Module 4, Lesson 7, Topic 1: "ASW Plotting"	30 min
Module 4, Lesson 7, Topic 2: "Line of Sound"	1.5 hrs
Module 4, Lesson 7, Topic 3: "TMA Geometry Information"	1 hr
Module 4, Lesson 7, Topic 4: "Time Bearing Plot Procedures"	1 hr
Module 4, Lesson 7, Topic 5: "Time Frequency Plot Procedures"	1 hr
Module 4, Lesson 7, Topic 6: "Geographic Strip Plot Procedures"	1 hr
Module 4, Lesson 7, Topic 7: "Evaluator Plot Procedures"	1 hr
Module 4, Lesson 7, Topic 8: "TMA Based Ranging"	1 hr
Required Reading / Viewing: N/A	
Suggested Reading / Viewing: N/A	
<u>NTTP 3-21.36 New TMA Manual</u> Chap 3 and Chap 4 (4.6 and 4.7) (59 pgs)	1 hr
1-5-4-7 MMTT 2: <u>Passive TMA</u>	2.0 hrs
1-5-4-3 Active Techniques (Instructor Lead)	
3.0 hrs	
Classroom Discussion	2.5 hrs
CBT Lesson(s): N/A	
Required Reading / Viewing:	
<u>ATP 28(B)</u> Chapter 8 sections 0800-0803 (9 pgs)	30 min
Suggested Reading / Viewing:	
NTTP 3-21.1, Appendix E: E.1, E.2 (6 pgs)	30 min
1-5-4-4 Detect, Track, Classify (Instructor Lead)	
4.0 hrs	
Classroom Discussion	1 hr
CBT Lesson(s):	
Module 4, Lesson 3, Topic 2: "Sensor Assets"	1 hr
Module 4, Lesson 3, Topic 3: "CM Assets"	30 min
Required Reading / Viewing:	

ATP 1(E) Vol 1 Sec 9200-9204 (incl Fig 9-3) (4 pgs) 30 min
NTTP 3-21.1 Ch 6 (11 pgs) 1 hr

Suggested Reading/Viewing: N/A

1-5-4-5 Single Ship Active DTE (Instructor Lead) 7.5 hrs

Classroom Discussion 1 hr

CBT Lesson(s):

Module 4, Lesson 5, Topic 1: "Concepts and Procedures" 45 min

Module 4, Lesson 5, Topic 2: "Search Concepts and Procedures" 30 min

Module 4, Lesson 5, Topic 3: "Chart Check" 15 min

Module 4, Lesson 5, Topic 4: "Attack Concepts and Procedures" 30 min

Required Reading / Viewing:

ATP 1(E) Vol 1, Sec 2310 (1 pg) 15 min

ATP 28(B) Sec 0302-0305, 0350-0363, 0373-0390 (12 pgs) 45 min

Suggested Reading / Viewing:

ATP 1 (E) Vol 1 Chap 2 and 9 2 hrs

MMTT 3 Brief: Instructor Lead – Single Ship Active (CASEX A1) 30 min

1-5-4-8 MMTT 3: Single Ship Active (CASEX A1) 2 hrs

ASW Chalk Talk: Single Ship ASW 1 hr

1-5-4-6 SAU Procedures (Instructor Lead) 11.5 hrs

Classroom Discussion 2.0 hrs

CBT Lesson(s): N/A

Required Reading / Viewing:

ATP 28(B) through chg 1, Ch 9 sections 0908-0970 (11 pgs) 30 min

ATP 1(E) Vol I through chg 1, Chp 9 sections 9230-9238 (6 pgs) 30 min

Suggested Reading / Viewing:

ATP 1(E) Vol I through Chg 1, Chp 6 Table 6-16, Figure 6-14 through 6-17 (5 pgs) 30 min

MMTT 4 Brief: SAU w/ Helo (CASEX A3) 30 min

1-5-4-9 MMTT 4: SAU w/ Helo (CASEX A-3) 2 hrs

MMTT 5 Brief: SAU Screen Ops 30 min

1-5-4-10 MMTT 5: ASW Screening Ops 2.5 hrs

ASW Chalk Talk: SAU Ops 1 hr

1-5-4-11 MMTT B: Choke Point Transit 1 hr

ASW Chalk Talk: Choke Point Transit 1 hr

1-5-5 Mine Warfare (MIW)

1-5-5-1 MIW Challenges (Instructor Lead) 5.5 hrs

Homework Assignment 1 hr

Homework Review (in class) 30 min

Classroom Discussion 1 hr

CBT Lesson(s):

Module 4, MIW Lesson 1, Topics 1-3 1 hr

Module 4 MIW Lesson 2, Topics 1-3 1 hr

Required Reading / Viewing: N/A

OPTASK MIW (non-MCM portions)

1 hr

Suggested Reading / Viewing: N/A

1-5-5-2 Active Mine Countermeasures (Instructor Lead)

1.0 hrs

Classroom Discussion

1 hr

CBT Lesson(s): N/A

Required Reading / Viewing: N/A

Suggested Reading / Viewing: N/A

1-5-5-3 Passive Mine Countermeasures (Instructor Lead)

1.5 hrs

Classroom Discussion

1.5 hrs

CBT Lesson(s): N/A

Required Reading / Viewing: N/A

Suggested Reading / Viewing: N/A

1-5-6 USW Module Assessments

1-5-6-1 Quiz 1

20 min

1-5-6-2 Quiz 2

20 min

1-5-6-3 Quiz 3

20 min

1-5-6-4 Quiz 4

20 min

1-5-6-5 USW Exam Review (Not Graded)

30 min

1-5-6-6 USW Exam (Perception and Essay)

4 hrs

1-5-6-7 USW Exam Debrief (Not Graded)

30 min