

## Welcome Aboard from the IUSS Department.

**Dept. Head:** 757-492-4901

**Instructors:** 757-492-4859

**Dept. LCPO:** 757-492-4869

The Integrated Undersea Surveillance System (IUSS) Department provides a broad spectrum of courses designed to enhance/upgrade student knowledge and proficiency. This Department is hosted within Naval Ocean Processing Facility Dam Neck, NOPF DN, and is a Learning Site of Submarine Learning Facility Norfolk.

**Address:** 352 Bullpup Street  
Virginia Beach, VA. 23461

### Incoming students should:

1. Student check-in is held at the Training Support Center Hampton Roads Student Management (TSC-HR), Bldg 502 beginning at 6:30 a.m., Monday mornings. From the main gate, make your first immediate right on Terrier Ave. At the next stop sign, turn right on Tartar St. Building 502 is on your right. If checking in after normal working hours, or on weekends or holidays, report to the TSC HR Quarterdeck, Taylor Hall, Bldg. 127, (757) 492-6234 in uniform of the day to have your orders stamped and then report to TSC HR Student Management, Bldg 502 on the first normal work day NLT 0730. TSC Student Management, Bldg 502, Phone (757)492-7515/8437 TSC Command Security, Bldg 502, Phone (757)492-7886/6080
2. TSC HR Student Management personnel will provide several forms for you to fill out, ensure you have your original orders and at least two copies with you. A base map will be provided with directions to the classroom. Students on PCS or TAD orders of more than 30 days are required to bring their medical and dental records to check-in. A Medical and Dental representative and a Health Benefits Advisor will be on site to collect/screen the records and determine appropriate Tricare Enrollment Plan Stand-by students: Check in with TSC Student Management, and TSC will coordinate with the respective schoolhouse for availability of stand-by quotas. Students checking in on any day other than Monday, during normal working hours, report to TSC Student Management, Bldg. 502 in uniform of the day.

### The following is a list of available courses:

#### **A-130-0501 IUSS Analysis Skills**

**This course provides the IUSS operator the skills necessary to apply IUSS analysis skills and techniques to contact LOFAR gram detections to improve performance as an acoustic analyst in a multi-target, multi-sensor environment to detect, classify, and derive tactical information from contacts of interest.** Areas of instruction:

1. Understand and use platform parametric data to classify surface and subsurface contacts by class
2. Interpret indirect and inferred relationships, modulation structures, resonance component and target behavior characteristics
3. Recognize friendly and threat weapons system acoustic characteristics
4. Discuss and utilize intelligence websites and references for data collection
5. Apply comprehensive analysis skills and techniques to derive tactical information from acoustic contacts

#### **A-130-0503 IUSS Passive Sensor Operator**

This course provides the IUSS Passive Sensor Operator the skills necessary to perform as basic acoustic analysts in the multi-target, multi-sensor environment to detect,

analyze, classify, and conduct in-house reporting (verbal and annotation) of contacts of interest. Areas of instruction:

1. Basic theory and fundamentals associated with sound propagation and signal processing.
2. Basic theory and fundamentals associated with Low Frequency Acoustic Analysis.
3. Submarine, Surface, and Aviation platform parametric data, capabilities and limitations, and acoustic characteristics.
4. IUSS operating and reporting procedures
5. Integrated Common Processor (ICP) system utilization.

#### **A-130-0505**

#### **IUSS Supervisor**

To provide the IUSS Supervisor with the skills to perform as intermediate acoustic analyst in a multi-target, multi-sensor environment to detect, classify, localize, track, and report contacts of interest. Areas of instruction:

1. Intermediate theory and application of Low Frequency Acoustic analysis
2. Intermediate theory and application of tactical oceanography
3. Detailed analysis of Submarine, Surface, and Aviation platforms to include source identification, acoustic characteristics, and tactical significance
4. Advanced Integrated Common Processor (ICP) system utilization to include Messaging Functionality, GEO, and Database Management
5. IUSS operating procedures
6. Internal and External contact reporting

#### **A-130-0506**

#### **IUSS Tactical Oceanography**

To provide students the skills to recognize the effects of the atmosphere, ocean and sea floor on ASW operations and how to tactically exploit the environment to enhance detection of threat submarines. Areas of instruction:

1. Expendable Bathythermograph and Sound Speed Profiles
2. The Passive Sonar Equation
3. The Active Sonar Equation
4. Propagation Paths
5. Fronts and Eddies
6. Oceanographic Search and Avoidance Techniques
7. Oceanographic databases

#### **A-130-0508**

#### **IUSS Officer Basic**

To provide IUSS Watch Officers the skills necessary to act as the Commanding Officer's representative for all aspects of IUSS command operations, including the employment of fixed and mobile sensors, the development of maritime domain INTEL pictures, and communications with various internal/external chains of command to meet Fleet Commanders' priorities. Areas of instruction:

1. Basic theory and understanding of sound propagation signal processing, and Low Frequency Acoustic analysis
2. Tactical operating modes of Submarine, Surface, and Aviation platforms, including mission capabilities and limitations
3. Internal/external IUSS Command/Control/Communications
4. SURTASS Low Frequency Active (LFA)/Compact Low Frequency Active

- (CLFA) systems capabilities and limitations, mission planning, and employment
5. Basic message handling, including Special Incident reporting procedures
  6. Marine Mammal Mitigation (MMM) requirements for LFA/CLFA
  7. IUSS watch stations and Standard Operating Procedures
  8. Integrated Common Processor (ICP) familiarization

**A-130-0509**

**IUSS Advanced ICP Operations**

To provide the IUSS operator with the advanced-level knowledge and skills necessary to effectively operate the IUSS Integrated Common Processor (ICP) system. Areas of instruction:

1. Integrated Common Processor (ICP) system, subsystems and equipment
2. Advanced system analysis tools and functionality
3. Synthetic Target Insertion (STI)
4. Contact and system database management

**A-130-0510**

**IUSS STDA**

To provide IUSS operators the skills necessary to develop and interpret performance predictions in a multi-target, multi-sensor environment. Areas of instruction:

1. Application of the passive and active sonar equations
2. Mission planning and real-time environmental monitoring
3. System optimization for search planning
4. Active and passive acoustic performance predictions

**A-130-0511**

**IUSS TMA and Localization**

To provide the IUSS operator with the knowledge and skills necessary to localize and track contacts of interest in a multi-target, multi-sensor environment.

1. Fundamental theory of chart construction
2. Theory and application of passive ranging formulas
3. Advanced knowledge and use of GEO filters and functions
4. Advanced knowledge and use of localization and tracking tools to include ALFP, Maneuvering board, and Crossfix solutions
5. Development of computer generated positions
6. Target Motion Analysis and manual positioning