

2017-2019 Educational Skill Requirements
Curriculum 374

1. Curriculum Number: 374.
2. Curriculum taught at: Naval Postgraduate School (NPS).
3. Curriculum Length in months: 24.
4. APC Required: 233 for NPS (334 Waiverable)
5. The officer must understand the fundamental concepts and be familiar with the basic functional areas of Oceanography Operational Sciences within the Department of the Navy and the Department of Defense including:
 - a. ESR-1: Mathematics: The officer will master the mathematical principles and techniques necessary to complete graduate level course work and research related to physical oceanography.
 - b. ESR-2: Sensing: The officer must be able to observe, assimilate, analyze, and predict tactical, synoptic and coastal meteorological and oceanographic conditions using direct and remote sensing observation techniques. This understanding should include the basic principles of design and operation of autonomous unmanned vehicles, as well as operator manned, fixed remote and satellite systems.
 - c. ESR-3: Dynamics: The officer will have a sound understanding of polar, mid-latitude, tropical, and coastal oceanographic dynamics, at the meso, and synoptic scales. The officer will be able to articulate the impact of these region's conditions on military operations and systems.
 - d. ESR-4: Acoustics: The officer will understand acoustical phenomena affecting propagation of sound in the ocean environment including aspects of acoustic variability and uncertainty.
 - e. ESR-5: Prediction: The officer will have a thorough understanding of numerical prediction systems as it applies to the physics and dynamics of the ocean and acoustics. This understanding should include a broad understanding of the modeling systems to include strengths, weaknesses, and vulnerabilities; the state of current models and techniques; and appropriate applications of deterministic and stochastic techniques.
 - f. ESR-6: Problem Solving and Practical Applicability: The officer will develop critical thinking skills and conduct independent analyses to solve environmentally challenging problems in the field of Physical Oceanography as it applies to Naval/Joint operations, using modern scientific research techniques, field experience, tools and equipment. This will include understanding of the theory and design principles of tactical decision aids used in fleet operations.

Enclosure (7)

6. Major Area Sponsor and Subject Matter Experts

a. Major Area Sponsor: VADM Jan E. Tighe, Deputy Chief of Naval Operations for Information Warfare (OPNAV N2N6)

b. Subject Matter Expert: RDML Timothy Gallaudet, Director, Oceanography, Navigation, and Maritime Domain Awareness (OPNAV N2N6E)

APPROVED: Jan E. Tighe 13 Apr 17
Major Area Sponsor [DATE]

APPROVED: Y. K. Korte APR 28 2017
President, NPS [DATE]

APPROVED: T. Gallaudet 27 May 17
for Director, TFTE (OPNAV N12) [DATE]