

GPC-CA II

Essential Body of Work & Knowledge (EBW/EBK)
 GEOINT Professional Certification - Cartography: Proficiency Level II
 8 February 2017 (current version can be found at <http://gpc.nga.ic.gov>)



CA-II Core Competency 1 - Extraction and Attribution (24%)

Derives and Describes cultural and physical features and geospatial data from source material using appropriate techniques and methods. Determines mensuration requirements (e.g., length, volume, height) and measures objects and phenomena to determine the dimensions or relative size of objects. Analyzes maps, charts or softcopy geospatial data (e.g., imagery) to derive features, terrain, locations, or other information. Locates targets, areas of interest, or indications of changes and determines the characteristics of objects and/or features.

Terminal and Enabling Certification Objectives (TCOs & ECOs)

TCO1: Apply appropriate techniques and methods to derive and Describe cultural and physical features and data from source material

- ECO 1.1: Select the proper specifications for a given situation or product
- ECO 1.2: Distinguish the difference between raster and vector data and products; and explain.
- ECO 1.3: Recognize data update principles and techniques (ex. attribution, geometry)
- ECO 1.4: Distinguish appropriate scale in a given product
- ECO 1.5: Present proper cartographic representation
- ECO 1.6: Describe features according to a given product specification or Mission Specific Guidance
- ECO 1.7: Identify a surface or sub-surface anomaly in terrain or features
- ECO 1.8: Recognize discrepancies in attribution
- ECO 1.9: Distinguish between accurate and approximate data
- ECO 1.10: Define and discuss geospatial topology

TCO2. Apply measuring objects and phenomena to determine the dimensions or relative size of objects

- ECO 2.1: Select the appropriate measurement or dimension of a given object
- ECO 2.2: Distinguish the tool, technique, or phenomena needed to measure an object(s) in a given situation

TCO3: Comprehend features, terrain, location or other information from softcopy geospatial data (imagery)

- ECO 3.1: Use photo interpretation principles to recognize a feature or location
- ECO 3.2: Use photo interpretation principles to Recognize terrain variations

TCO4: Comprehend the characteristics of objects and features to include targets, areas of interest, and indicators of change

- ECO 4.1: Recognize the elements of photo interpretation principles (size, shape, shadow, texture, etc.)

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CA-II Core Competency 2 - Production (12%)

Generates and/or Creates products to meet customer needs and requirements using relevant source materials, geospatial data (to include terrain, bathymetry, and imagery), and software. Edits materials using appropriate tools and documentation by annotating changes, applying corrections, additions, and deletions, and updating databases. Demonstrates knowledge of relevant products.

Terminal and Enabling Certification Objectives (TCOs & ECOs)

TCO5: Comprehend the cartographic process and relevant products and services

ECO 5.1: Recognize NSG guidance and standards

ECO 5.2: Match symbol with appropriate map feature

ECO 5.3: Match geospatial products to web services

ECO 5.4: Identify products

ECO 5.5: Identify and explain the cartographic process

TCO6: Comprehend relevant tools and documentation to correct products and update databases

ECO 6.1: Identify appropriate cartographic representation through visualization techniques

ECO 6.2: Identify appropriate terrain representation through visualization techniques

ECO 6.3: Match appropriate tool used to Create a comprehensive dataset from multiple sources (ex. merge, append, mosaic)

CA-II Core Competency 3 - Safety of Navigation (13%)

Analyzes maritime geospatial data to populate and maintain databases, charts, libraries, CDs, DVDs, and other products critical to navigation. Prepares navigational products and information to partners and customers in a variety of standard and unique formats. Demonstrates knowledge of marine navigation principles and practices.

Terminal and Enabling Certification Objectives (TCOs & ECOs)

TCO7: Comprehend maritime geospatial data that is used to populate and maintain databases, charts, publication and other products critical to navigation

7.1 : Identify 12 thematic layers of Digital Nautical Chart (DNC) data

7.2: Match Digital Nautical Chart (DNC) coverage type (General, Coastal, Approach, Harbor) to scale range

7.3: Match Digital Nautical Chart (DNC) features to their respective themes (e.g., wreck to OBS)

7.4: Identify nautical publication uses.

TCO8: Comprehend marine navigation principles and practices

ECO 8.1: Define ECDIS – Electronic Chart Display and Information System

ECO 8.2: Explain the major advantage of using a Mercator projection for nautical charts.

ECO 8.3: Recognize the differences between NAVAIDS

ECO 8.4: Recognize different types of Maritime limits (e.g. anchorage areas, traffic separations schemas, restricted areas, etc.)

ECO 8.5: List types of soundings and explain the importance of sounding selection.

ECO 8.6: Define obstruction as it relates to marine navigation.

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TCO9: Comprehend navigational products and information that is disseminated to customers

ECO 9.1: Recognize and define Nautical Publications and Safety of Navigation products (e.g., List of Lights, Chart No. 1, World Port Index, ePODS-M, DNC, Fleet Guides, Sailing Directions, Tide Tables, WVS-Plus)

CA-II Core Competency 4 - Tools and Methods (17%)

Applies tools and methods to substantive discipline, domain, or area of work. Adapts existing tools or methods or employs new methodological approaches required for substantive discipline, domain, or area of work. Manipulates imagery using various methods (e.g., range adjustments) to comply with standards, improve images, or for final product creation. Understands datum, coordinate, and grid systems, and validates geodetic information on products. Applies datum shifts to convert information between local datums, grid systems, and WGS 84.

Terminal and Enabling Certification Objectives (TCOs & ECOs)

TCO10: Comprehend various methods of image manipulation

ECO 10.1: Recognize various methods of image manipulation

TCO11: Comprehend datum, coordinates, projections and grid systems

ECO 11.1: Interpret latitude and longitude or Military Grid Reference System (MGRS) at a given location

ECO 11.2: Define and Explain the difference between horizontal and vertical datums

ECO 11.3: Recognize an appropriate projection choice on a given map

ECO 11.4: Recognize the difference between a datum and a projection

ECO 11.5: Recognize the datum of a product or source

TCO 12: Know and comprehend how to validate geodetic information on GEOINT products

ECO 12.1: Recognize the difference between geographic and plane coordinate systems

CA-II Core Competency 5 - Quality Assurance (6%)

Applies appropriate processes and procedures to ensure the overall quality of information, intelligence, and geospatial data (to include terrain, bathymetry, and imagery).

Terminal and Enabling Certification Objectives (TCOs & ECOs)

TCO13: Comprehend appropriate processes and procedures to ensure the overall quality of geospatial data (to include terrain and GEOINT information)

ECO 13.1: Distinguish marginalia on a map or chart

ECO 13.2: Identify and Explain topological discrepancies

CA-II Core Competency 6 - Researching (18%)

Identifies a need for and knows where or how to gather information. Obtains, evaluates, organizes, and maintains information. Applies knowledge of relevant customer organizations or operations (e.g., military, policy-makers), including how to translate requirements to provide appropriate output or response to meet customer needs.

Terminal and Enabling Certification Objectives (TCOs & ECOs)

TCO14: Comprehend how to obtain and organize information and geospatial data

ECO 14.1: Recognize types of cartographic data sources (i.e. Geonames, previous editions, imagery, elevation, commodity, commercial nautical and aeronautical sources)

ECO 14.2: Match image libraries in a given situation

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TCO15: Comprehend how to evaluate and maintain information and geospatial data

ECO 15.1: Distinguish the proper source material for a given situation or product (ex. vector data, imagery, GeoNames)

ECO 15.2: Recognize the correct platform or tool used in a given situation

ECO 15.3: Associate post spacing with the appropriate product

ECO 15.4: Recognize appropriate security markings.

TCO16: Comprehend relevant customer organizations and operations

ECO 16.1: Recognize external and internal customers and data requirements

CA-II Core Competency 7 - Data/Information Processing (10%)

Transforms, translates, or otherwise Manipulates geospatial data, terrain, bathymetry and information. Formats, catalogs, and/or filters geospatial data, terrain, bathymetry and information obtained from sources (to include maps and charts) to facilitate geospatial data access, integration, and interpretation.

Terminal and Enabling Certification Objectives (TCOs & ECOs)

TCO17: Comprehend how to format, catalog, and filter geospatial data (to include terrain, imagery)

ECO 17.1: Recognize standard geospatial data formats (to include imagery, terrain)

ECO 17.2: Identify database programs (Access, Oracle)

ECO 17.3: Cite various types of non-standard geospatial information and intelligence (ex.VGI, SOM, ABI)

TCO18: Comprehend how to access, integrate and interpret geospatial data from sources

ECO 18.1: Explain and demonstrate how to query to create a subset of data to meet certain criteria.