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EUROPEAN COMPUTER DRIVING LICENCE
Use of the GIS Software
Syllabus

Purpose

This document details the syllabus for *ECDL GIS Module 3 – Use of the GIS Software*. The syllabus describes, through learning outcomes, the knowledge and skills that a candidate for ECDL GIS should possess. The syllabus also provides the basis for the theory and practice-based test in this module.

Note

The official version of the syllabus for ECDL GIS Module 3 – Use of the GIS Software Version 1.2 can be found on the web site www.ecdl.it, and it was released in January 2007.

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GIS Module 3 – Use of the GIS Software

The following is the syllabus for Module 3 of the GIS certification and provides the basis for the practical test.

Scopi del modulo

GIS Module 3 – Use of the GIS Software aims to check the candidate's knowledge in the use of specific GIS software which could be, in this phase, from ESRI and Intergraph. The themes and topics are independent of the actual software package and the specific software is used to test the skills of the candidate in GIS functionality common to all GIS software packages.

CATEGORY	KNOWLEDGE AREA	REF.	KNOWLEDGE ITEM		
3.1 General concepts	<i>3.1.1 First steps with a GIS application</i>	3.1.1.1	Launch, close a GIS application		
		3.1.1.2	Load vector and raster data in the GIS application		
		3.1.1.3	Save a session.		
		3.1.1.4	Use the online help of the GIS application		
	<i>3.1.2 Modify the settings</i>	3.1.2.1	Display, hide the tool bars		
		3.1.2.2	Use the zoom and pan tools		
		3.1.2.3	Modify the data representation scale		
		3.1.2.4	Modify the reference system		
	<i>3.1.3 Layer management</i>	3.1.3.1	Move between different layers		
		3.1.3.2	Activate, deactivate a layer		
		3.1.3.3	Change layer names		
		3.2 GIS Data and attributes	<i>3.2.1 Vector and raster data</i>	3.2.1.1	Modify the visualisation properties of vector and raster data
			<i>3.2.2 Attribute management</i>	3.2.2.1	Open and close an attribute table
3.2.2.2	Insert, remove a column from an attribute table				
3.2.2.3	Change an attribute value				
3.2.2.4	Define the values of a new attribute column via arithmetic operations on numerical values				
3.2.2.5	Define the values of a new attribute column via logical operations on attribute columns				
3.2.2.6	Use statistical functions on attributes				
3.2.2.7	Show statistical values on a graph				

CATEGORY	KNOWLEDGE AREA	REF.	KNOWLEDGE ITEM
	3.2.3 Data operations	3.2.3.1	Modify and create an object
		3.2.3.2	Create a new dataset from video digitizing on a raster base map
		3.2.3.3	Calculate the area and the perimeter of a polygon
		3.2.3.4	Set the measurement units and find the distance between two objects
		3.2.3.5	Add attributes to a newly created data set
		3.2.3.6	Carry out a union between two tables
		3.2.3.7	Link two tables
3.3 Data analysis	3.3.1 Query and choose data	3.3.1.1	Identify, find and choose objects interactively
		3.3.1.2	Find objects via attributes
	3.3.2 Create a data subset	3.3.2.1	Identify, find and choose objects via a query
		3.3.2.2	Create a new layer with objects chosen via a query
	3.3.3 Spatial data analysis	3.3.3.1	Apply a buffer function
		3.3.3.2	Apply an overlay function
3.4 Thematic maps	3.4.1 Thematic data classification	3.4.1.1	Classify data using constant interval and standard deviation methods
		3.4.1.2	Classify data using the quantile method
		3.4.1.3	Classify data using the natural breaks method
	3.4.2 Thematic data Representaion	3.4.2.1	Represent the themes via dot density
		3.4.2.2	Represent the themes via graduated symbols
		3.4.2.3	Represent the themes via graduated colours
	3.4.3 Design of a thematic map	3.4.3.1	Modify the colours, the texture, the layout and features of a thematic map
		3.4.3.2	Insert, modify and remove labels from a thematic map
3.5 Report preparation	3.5.1 Prepare data for printing	3.5.1.1	Set and modify the print layout properties (such as margins, page size)

<i>CATEGORY</i>	<i>KNOWLEDGE AREA</i>	<i>REF.</i>	<i>KNOWLEDGE ITEM</i>
		3.5.1.2	Create personalized symbols
		3.5.1.3	Modify layout components such as map, legend, scale, title, orientation
		3.5.1.4	Export the layout in different formats (such as jpeg, tiff, pdf)