

Diploma in “Cartographic Design and Production. Theory and Practice”

COORDINATORS AND RESPONSIBLE TEACHERS

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SUMMARY

The generation and use of maps has increased across many disciplines and organizations related to territory, highlighting the need to revalue cartographic science in its conceptual, artistic, and technical aspects. In this context, the objective of the "Diploma in Cartographic Design and Production" is to develop the map design stage to enhance communication and achieve high-quality results.

TARGET AUDIENCE

The Diploma is aimed at those who generate cartographic resources in universities, research centers, schools, companies or other state or



private organizations, as well as professionals and students of related disciplines.

OBJECTIVES

The main objective of this Diploma is to provide conceptual and technical design knowledge to produce high-quality cartography.

CONTENTS

MODULE 1: Cartographic Representation and Design

1. Cartographic Representations

2. Stages of Cartographic Design

2.1. Conceptual Stage

2.2. General Composition and Symbolization Stage

2.3. Specific Symbolization Stage

3. Principles of Cartographic Design

4. Bibliography

Practical Exercise 1: Identifying the Principles of Cartographic Design.

MODULE 2: Map Structure

1. Map Structure

1.1. Base Map

1.2. Map Body

1.2.1. Canvas

1.2.2. Relief

1.3. Marginal Data

1.3.1. Marginal Identification Data

1.3.2. Marginal Interpretation Data

1.3.3. Marginal Evaluation Data

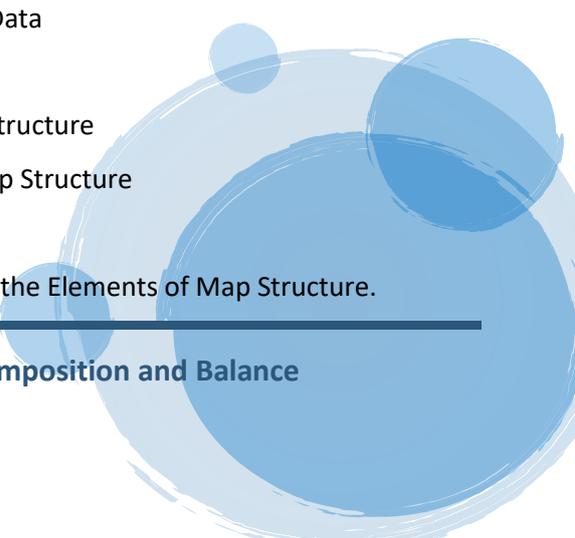
2. Examples of Thematic Map Structure

3. Examples of Topographic Map Structure

4. Bibliography

Practical Exercise 2: Identifying the Elements of Map Structure.

MODULE 3: Cartographic Composition and Balance





1. Cartographic Composition. Concept
2. Requirements for Map Composition
3. Basic Elements of Composition
4. Complementary Elements of Composition
5. Implication of Graphic Elements in a Composition
 - 5.1. Position of the Optical Center
 - 5.2. Distribution of Weights
6. Balance and Visual Composition
7. Examples of Map Composition
8. Bibliography

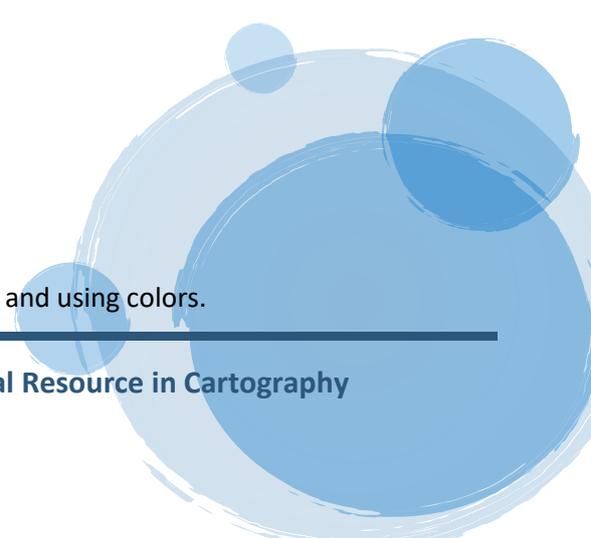
Practical Exercise 3: Organization of the Elements of Cartographic Composition.

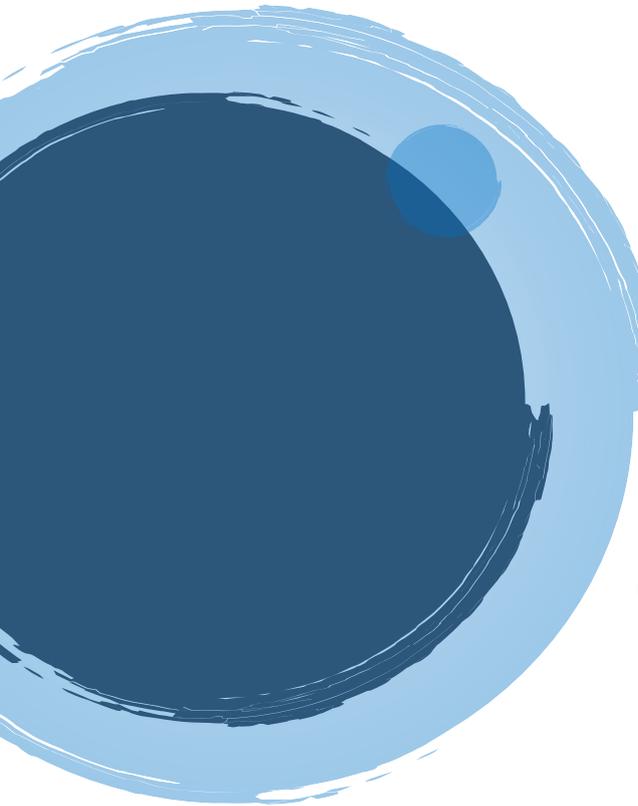
MODULE 4: Aspects of Color

1. Interpretations of Color
2. Theory of Light and Color
3. Behavior of Light on Objects
 - 3.1. Additive Color Theory
 - 3.2. Subtractive Color Theory
4. Aspects of the Visual Process
 - 4.1. Physiological Aspects
 - 4.2. Psychological Aspects
 - 4.3. Environmental Aspects
 - 4.4. Circumstantial Aspects
5. Components and Color Spaces
 - 5.1. RGB Color Space
 - 5.2. CMYK Color Space
 - 5.3. HSB Color Space.
 - 5.3.1. Hue or tint
 - 5.3.2. Saturation
 - 5.3.3. Brightness
6. Bibliography

Practical Exercise 4: Obtaining and using colors.

MODULE 5: Color as a Visual Resource in Cartography





1. Systematizing Color in a Cartographic Project
2. Using Colors for Different Types of Information
 - 2.1. Colors for Qualitative Information and Associative Perception
 - 2.2. Colors for Qualitative Information and Selective Perception
 - 2.3. Colors for Qualitative Information and Ordering Perception
 - 2.4. Colors for Quantitative Information
3. Bibliography

Practical Exercise 5: Application of Color in Thematic Cartography.

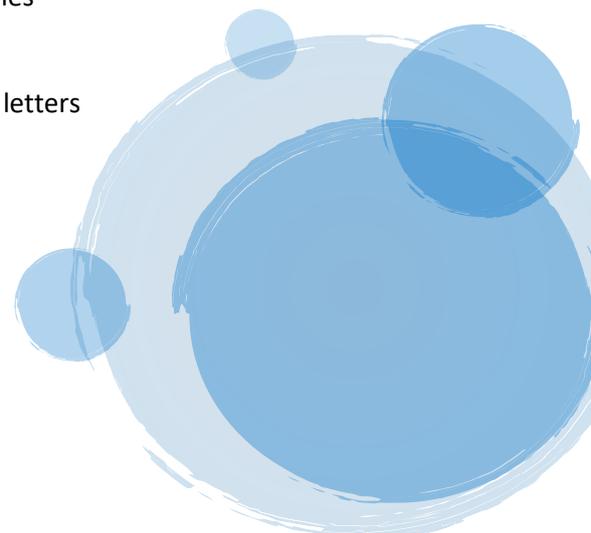
MODULE 6: Cartographic Perception and Visual Variables

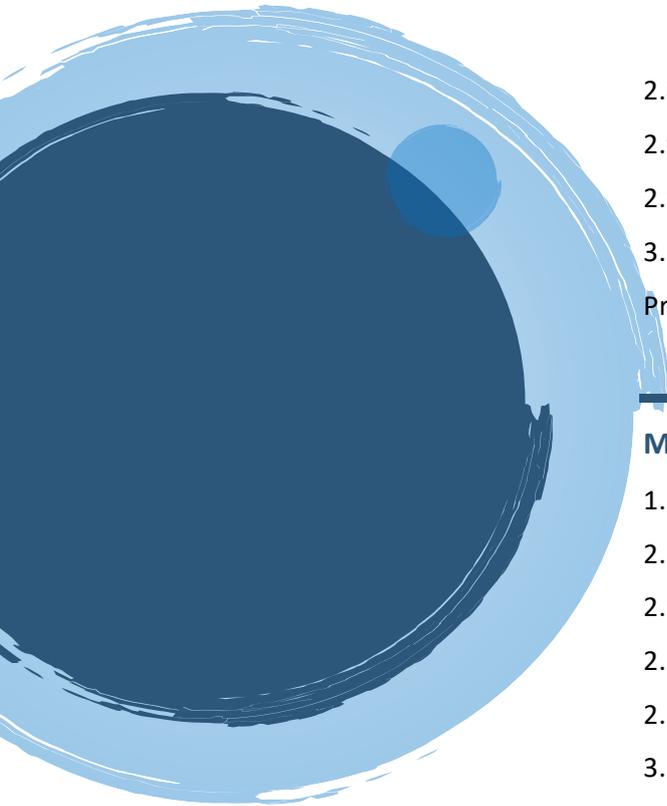
1. Visual Perception. Concept
2. Physical Aspects
3. Visual Variables. Concept
 - 3.1. Position Variable
 - 3.2. Shape Variable
 - 3.3. Size Variable
 - 3.4. Orientation Variable
 - 3.5. Color Variable
 - 3.6. Texture
 - 3.7. Value
4. Bibliography

Practical Exercise 6: Identification of Visual Variables Applied in Different Cartographic Products.

MODULE 7: Cartographic Typography

1. The role of text on map
2. General typographic principles
 - 2.1. Parts of a letter
 - 2.2. Physical characteristics of letters
 - 2.3. Typeface family
 - 2.4. Letter size
 - 2.5. Letter weight
 - 2.6. Tracking or letter spacing
 - 2.7. Kerning



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- 2.8. Leading
 - 2.9. Orientation
 - 2.10. Effects
 - 3. Bibliography

Practical Exercise 7: Typography for Maps.

MODULE 8: Cartographic Labeling

- 1. Grammatical rules for cartographic labeling
- 2. Text placement
 - 2.1. On point elements
 - 2.2. Online elements
 - 2.3. On area elements
- 3. Use of text as symbology
- 4. Bibliography

Practical Exercise 8: Labeling of geographic objects.

MODULE 9: Applied Cartographic Project

- 1. Guidelines for the Development of a Personalized Cartographic Plan
- Practical Exercise 9: Development of a Cartographic Plan.

MODULE 10: Basemap Generation

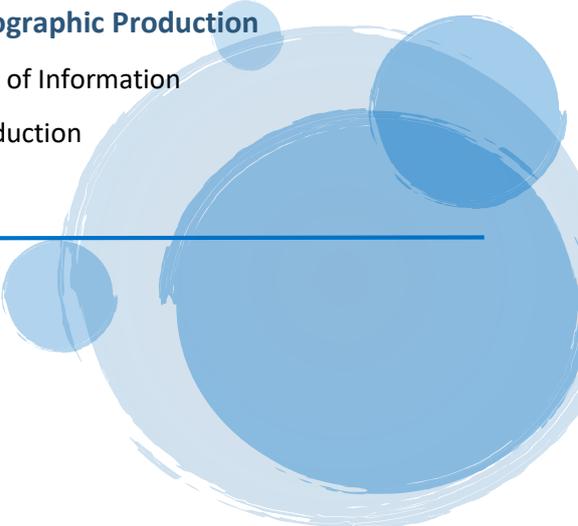
- 1. Vector or Raster Bases
 - 1.1. Vector Digitization
 - 1.2. Selection and Analysis of Vector Bases Available on the Web
 - 1.3. Selection and Analysis of Raster Images Available on the Web

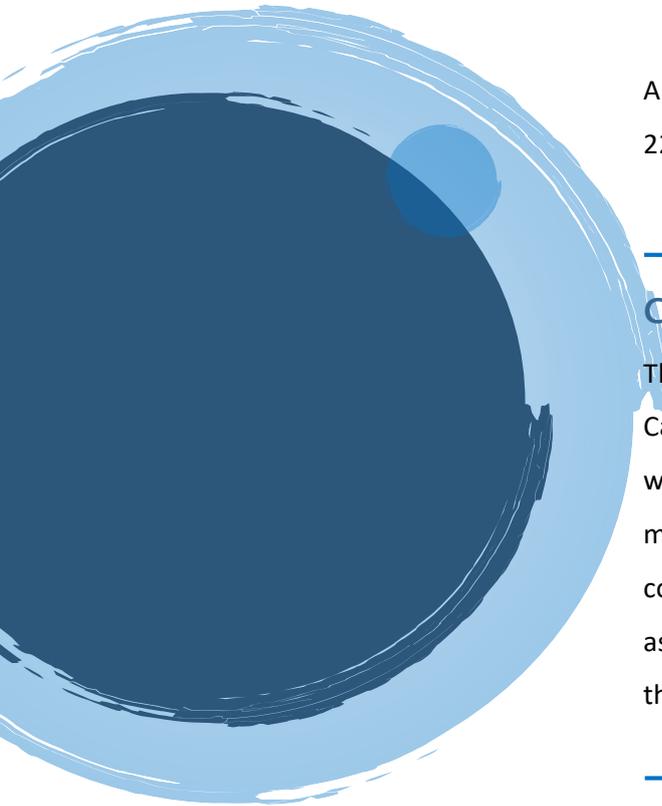
MODULE 11: Thematic Cartographic Production

- 1. Cartographic Representation of Information
- Final Project: Cartographic Production

DIPLOMA DURATION

8 months





April - November 2026

220 hours

COURSE FORMAT

The course is offered online. Classes are held on the Moodle-UNS Virtual Campus of the Universidad Nacional del Sur in Bahía Blanca, Argentina, with regular (monthly) virtual meetings. Theoretical and practical materials are provided every two weeks. Progress to the next module is contingent upon successful completion of the previous module. Final assessment: submission and presentation of the cartographic output of the Personalized Cartographic Plan.

CERTIFICATE

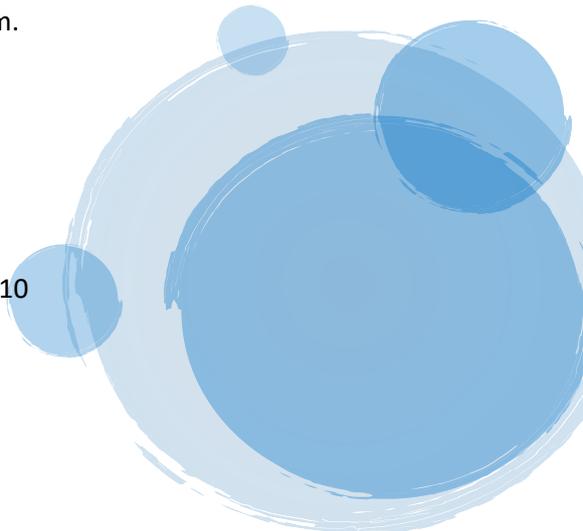
Participants who meet and pass the program's approval requirements will receive a certificate for the Diploma in "Cartographic Design and Production: Theory and Practice", issued by the General Academic Secretariat and the Distance Education Department of the Universidad Nacional del Sur (Bahía Blanca). Course load: 220 hours

REGISTRATION AND COST

To register and make your payment, please visit <https://www.continuar.uns.edu.ar/dpto-geografia.html>.

Please send proof of payment as soon as possible to diplomaturacdc@gmail.com. Once you have paid the registration fee and the first installment, you will receive your username and password to access the Moodle platform.

Cost and payment options:

- Registration: U\$U 50
 - 1 payment U\$U 800
 - o 8 installments U\$U 110
- 



CONTACTS

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