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Introduction to Map Digitization

(No. of credits: 4,5 ETCS)

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I- Prerequisites

- Students need to have knowledge about maps

II - Objectives of the module

The main course objective is to equip students with knowledge of:

- Tools use for digital mapping
- Equipped with knowledge about geographic information systems and specialized map digitalization.
- Process of obtaining databases from remote sensing imageries.
- Process of converting paper maps into digital maps
- Process of building maps from field data collection

III- Brief description of course content

The course provides an in-depth understanding of the principles and techniques involved in digitizing maps.

Students will learn how to convert paper maps into digital formats, work with GIS (Geographic Information System) software, and create accurate and visually appealing digital maps.

III- Brief description of course content

Lesson 1: Overview of map digitalization

Lesson 2: Introduction to GIS and applications

Lesson 3: Software and structure of GIS data

Lesson 4: Get familiar with GIS software

Lesson 5: Building a database

Lesson 6: Digitizing maps from field data collection

Lesson 7: Digitizing maps from satellite images

Lesson 8: Digitizing manual paper maps

Lesson 9: Automatic digitization of paper maps

Lesson 10: Editing digital maps

IV- References

1.Le Thi Minh Phuong (2018) Geographic information system in urban management, Construction Publishing House, Hanoi.

2.Le Thi Minh Phuong (2019) Maps and Geographic Information System, Construction Publishing House, Hanoi.

3.Le Thi Giang and others (2021) Geographic information system textbook, Academy of Agriculture Publishing House.

4.Tran Vinh Phuoc (2003) General GIS - theoretical part, Ho Chi Minh City National University Publishing House, Ho Chi Minh City.

5.Nguyen Kim Loi, Tran Thong Nhat (2008) Geographic information system, Publishing House. Agriculture, Ho Chi Minh City.

IV- References

6. Dang Van Duc (2001) Geographic Information System, Hanoi Science and Technology Publishing House, Hanoi.
7. Tran Trong Duc (2010) Basic GIS, Publishing House. City National University. Ho Chi Minh City, Ho Chi Minh City.
8. Tor Bernhardsen (2002) Geographic Information Systems – An Introduction, 3rd edition, John Wiley & Son.
9. Jochen Albrecht (2007) Concepts and techniques in GIS, Sage.
10. Paul Longley, Michael Goodchild, David Maguire, David Rhind (2004) Geographic Information and Science, 2nd edition, John Wiley & Son.
11. Rolf A. de By et al. (2001) Principles of geographic information systems – An introductory textbook, ITC, Netherland.

V- Subject assessment form

- Bài tập về nhà - home work: 15 %
- Phát biểu trên lớp- discussion in class : 10 %
- Kiểm tra giữa kỳ- Midterm exam: 15 %
- Kiểm tra cuối môn- Final exam: 50 %


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