

Innovative Postgraduate Education in The Field of Environment Protection: Methods and Tools



Environmental statistics and Soil quality monitoring

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BIO Presenter



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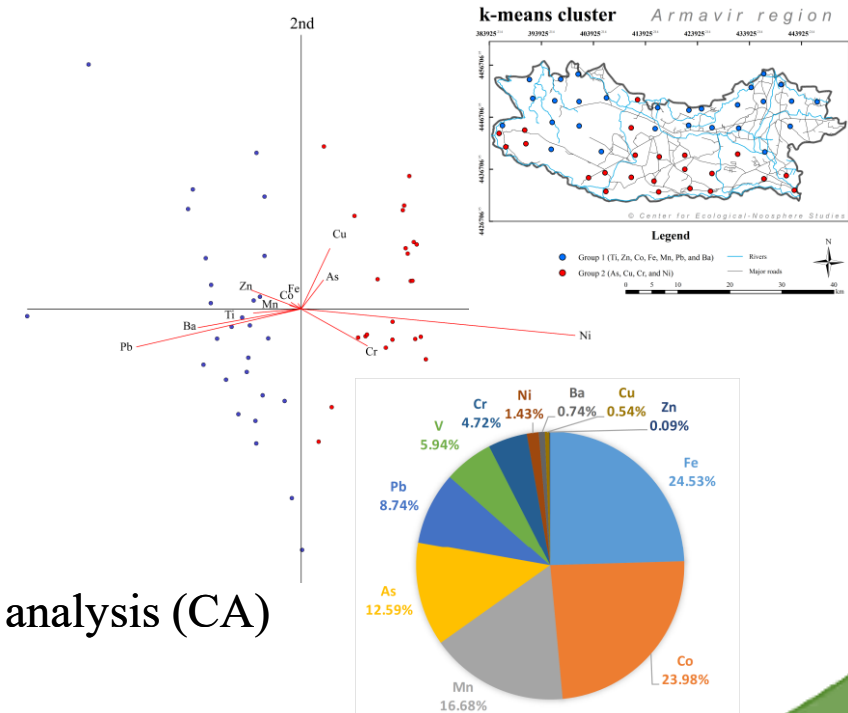
Environmental statistics *new developed course*

Course Objectives

to familiarize students with the methods of environmental statistics for environmental data acquisition, generation, treatment and analysis using statistical softwares.

Tasks

- Study the main descriptive statistical parameters
- Perform a sampling design
- Test the Normality of data
- To perform different statistical transformations
- To perform correlation and regression analysis
- To study principal component analysis (PCA) and cluster analysis (CA)



Knowledge of mathematics



Course Comparative Analysis

University of Tuscia (UNITUS) (*“Biostatistics and Experimental Data Analysis”*)

- The course materials include common aspects of statistics
- Courses are target-oriented and based on the incorporation of all teaching and practical materials, softwares etc.
- Use of softwares matches partially due to the license issues and features of open source statistical programs.

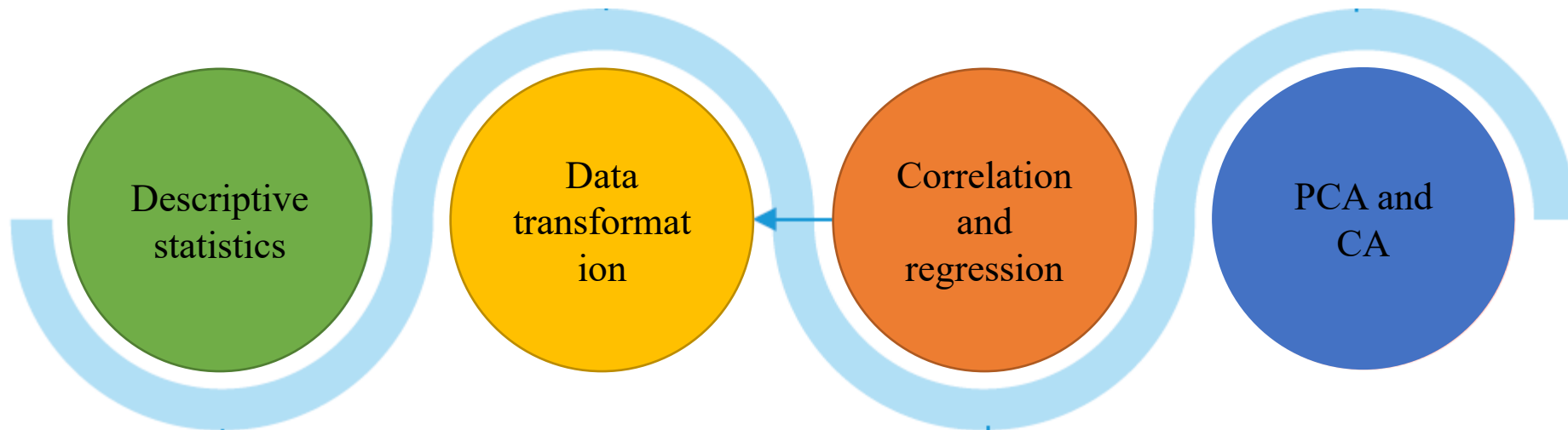


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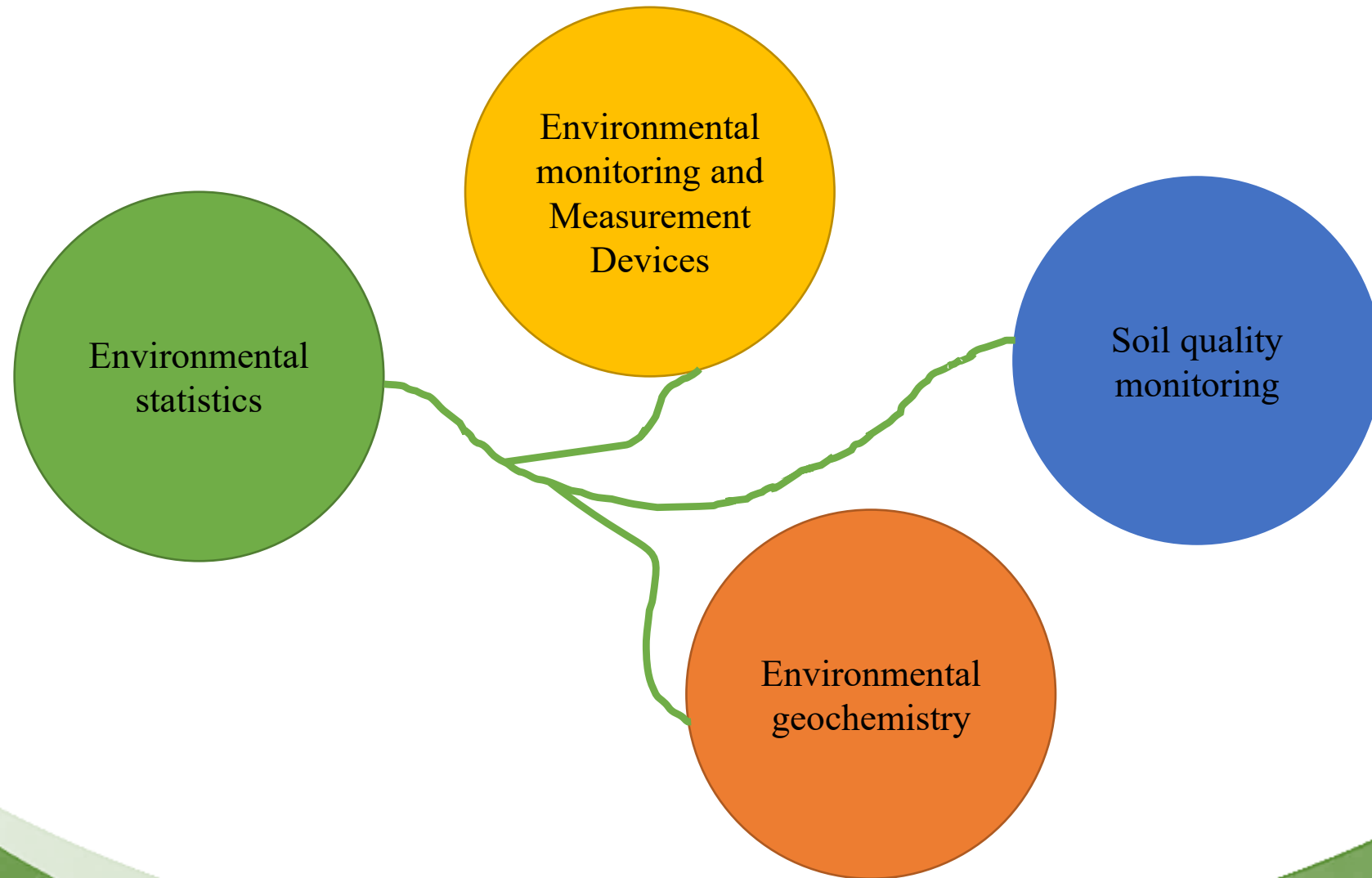


Course Outcomes

- select appropriate statistical method based on the features of environmental data
- perform statistical transformations
- study the relationship of environmental variables
- create and interpret different graphs
- perform PCA and CA



Interdisciplinary Connections With Other Courses



ERLEP Laboratory Involvement in the Course Curricula

Analytical scale



HPLC



JEOL JCM-7000



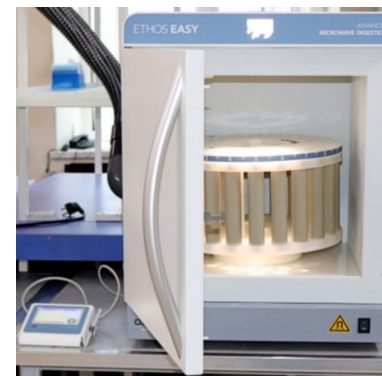
Drying oven



Horiba U53G



Microwave Digestion System



Soil quality monitoring *new developed course*

Course Objectives

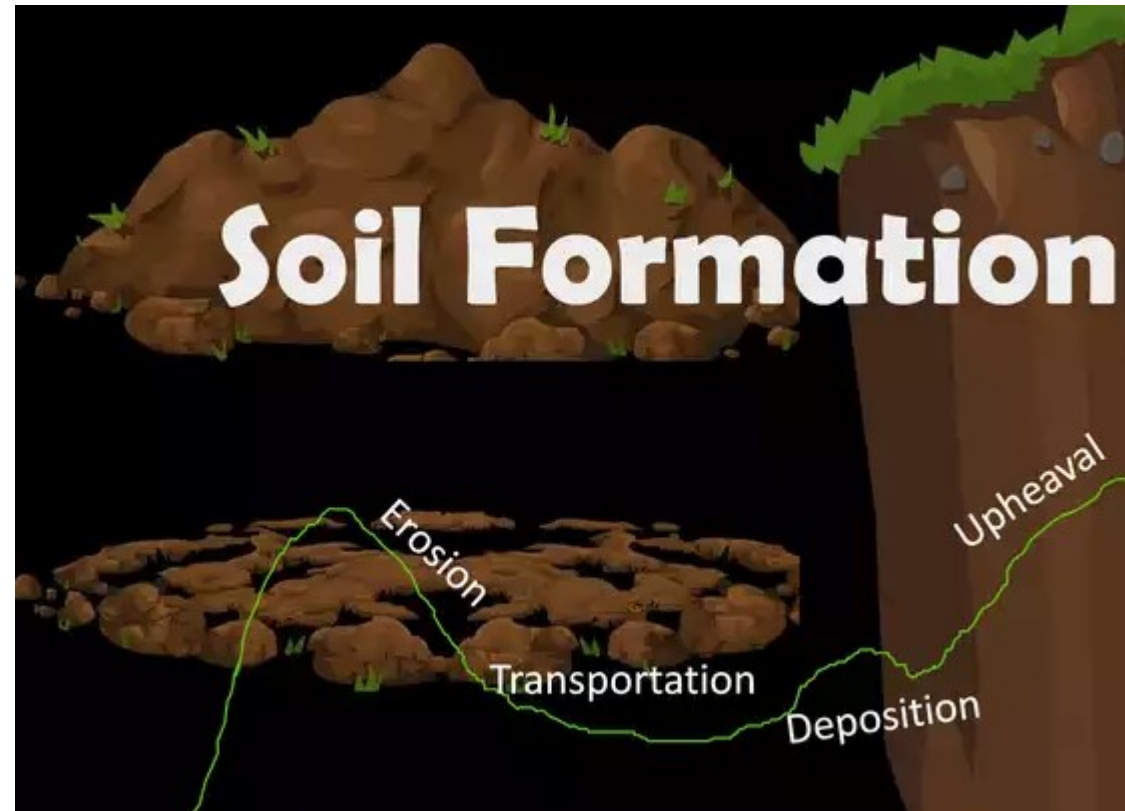
to provide students sufficient knowledge on soil layer formation, soil structure and soil chemical, physical and biological processes.

Tasks

- Study soil chemical, physical and biological compartments,
- Study soil main functions,
- Perform soil quality monitoring through different soil parameters measurement.

Course Prerequisites

Basic knowledge on



Course Comparative Analysis

University of Tuscia (UNITUS) (“Monitoring Soil Quality”)

- The number of ECTS credits is a key factor conditioning the course content.
- Special focus is given to the soils of urban, mining and agricultural areas.

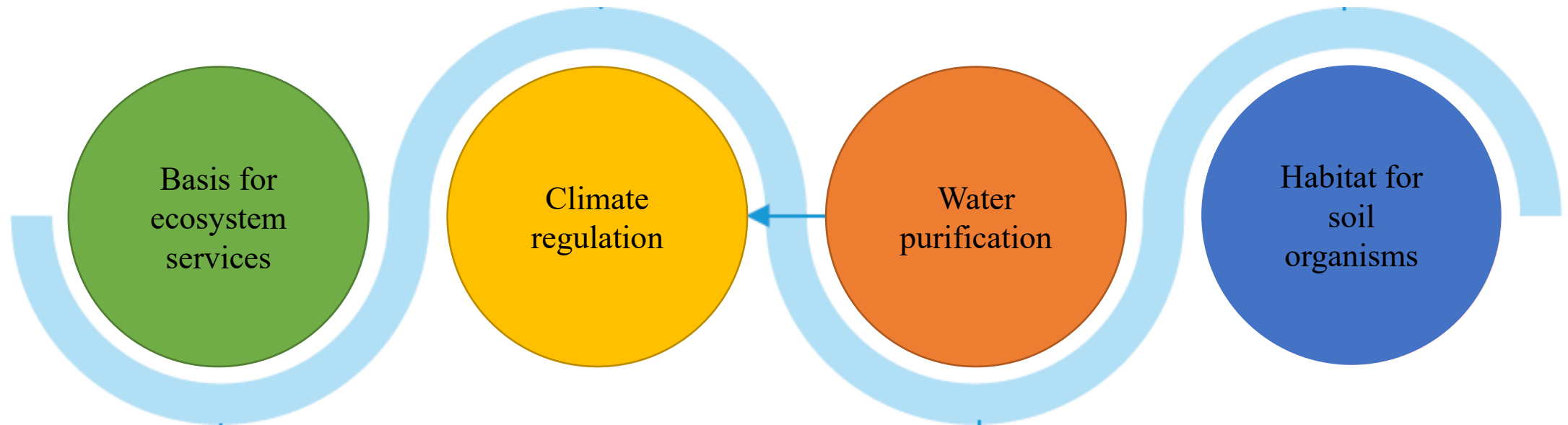


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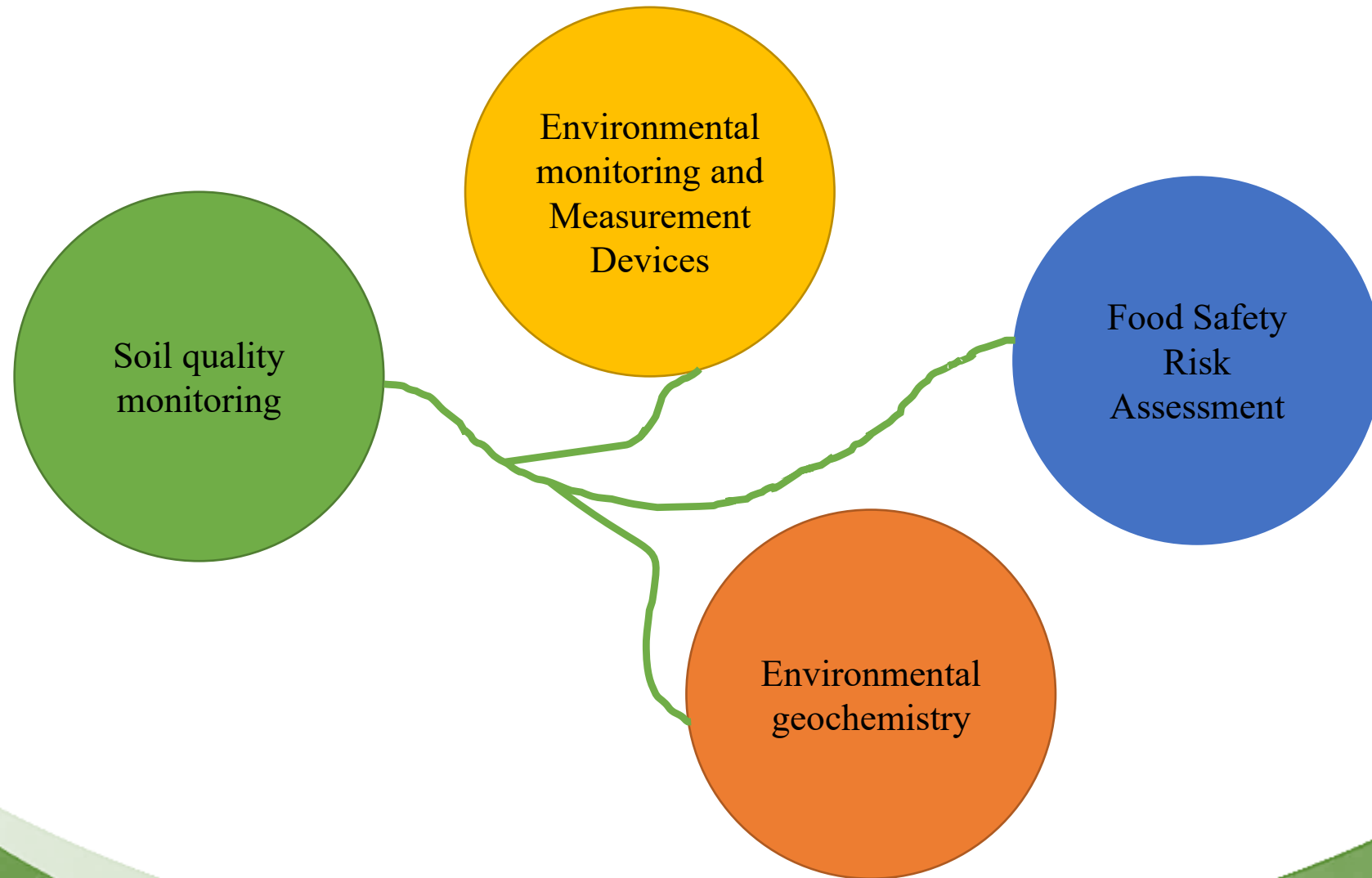


Course Outcomes

- knowledge on soil features of urban, mining and agricultural areas
- knowledge on the main soil functions
- practical skills for soil quality monitoring



Interdisciplinary Connections With Other Courses



ERLEP Laboratory Involvement in the Course Curricula

Analytical scale



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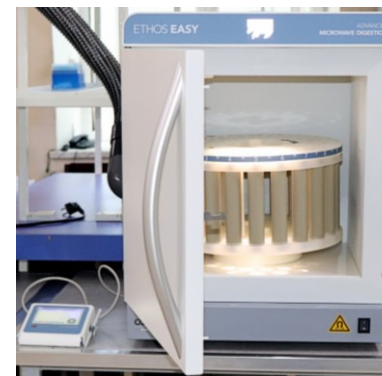
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THANK YOU !

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