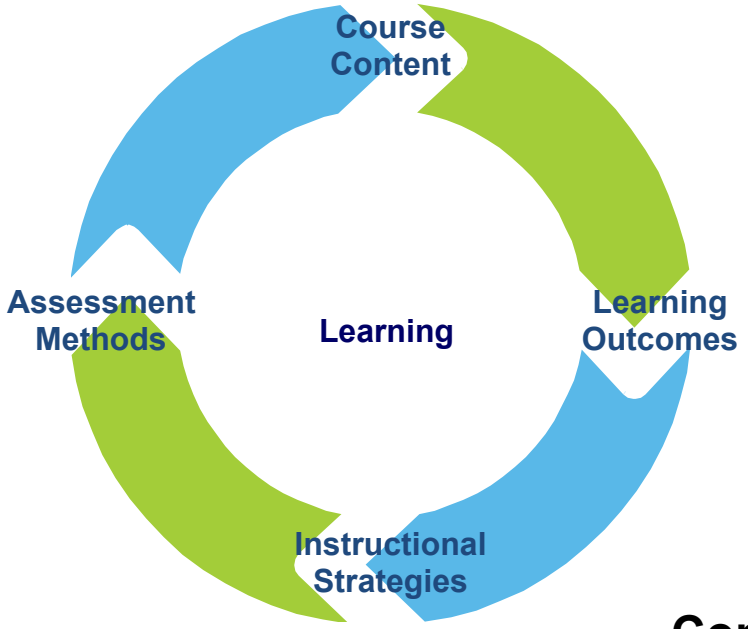
Reflection on University Teaching

MODULE 2:
Learning Outcomes



At the end of Module 2

You should be able to:

- Describe the various domains and levels of learning.
- Explain the role of learning outcomes in teaching.
- Write learning outcomes that are clear, concise, measurable, and learner-centered.
- Appreciate the role of clearly defining learning outcomes in teaching.

Agenda

- Learning outcomes : theory and practice
- Break
- Individual and group activity
- Wrap up

Learning Outcomes

A learning outcome is a clear statement of what the student will be able to do at the end of the class/ course/programm.

➢ What will students learn as **a result of** participating in the class / course / program?

Emphasis is put on :

- Student skills or competencies (what they can do)
- Expected results of instruction (the teaching)

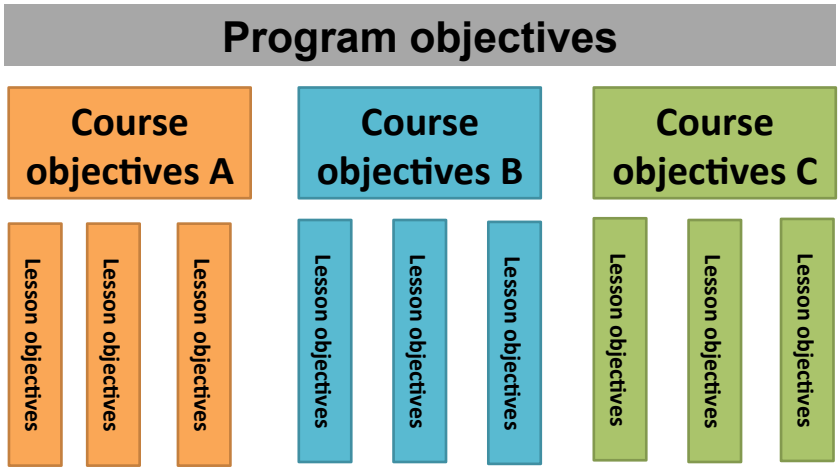
Intentions vs Objectives

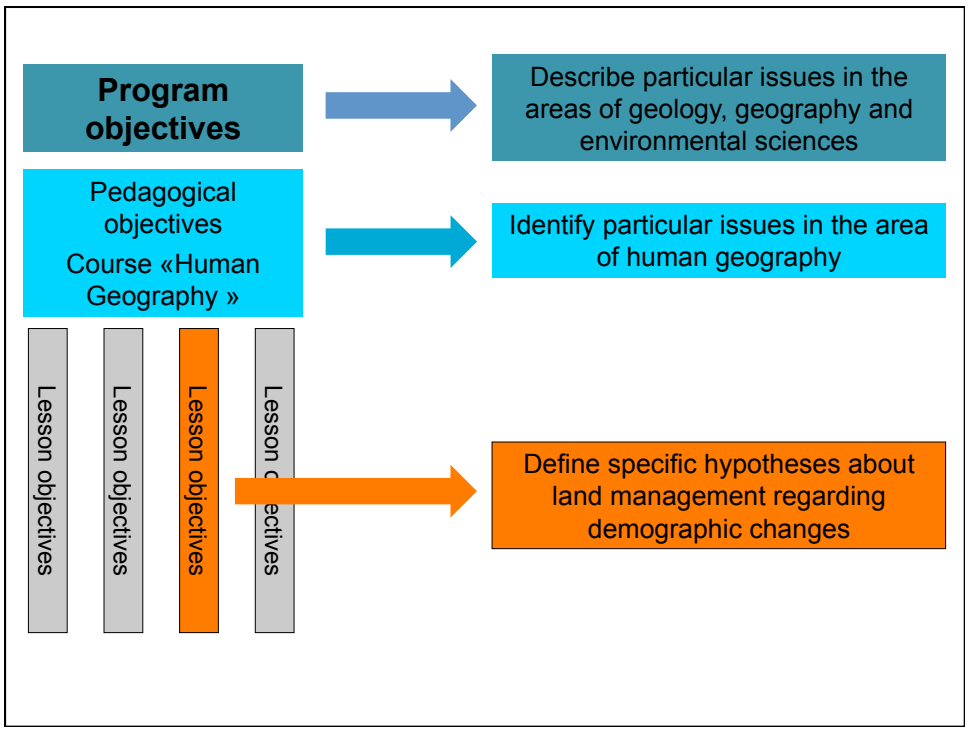
Instructor's intentions	Students' learning outcomes
The content that a teacher will cover. How the session is carried out.	What students shall be able to do with the content covered, once the session is over.
Present different types of flows and methods of compression. The course provides a market-oriented framework for analyzing the major types of financial decisions made by firms.	**Determine if** a given flow can be treated as incompressible. **Develop** an ability to analyze and evaluate firms and investment projects.

Examples

At the end of this…	Students should be able to…
Lab session	…carry out an experiment respecting the protocol
lecture	…define X concepts and compare their properties
program	…propose feasable solutions to an environmental problem using scientific, engineering and technical solutions

Constructive Alignment

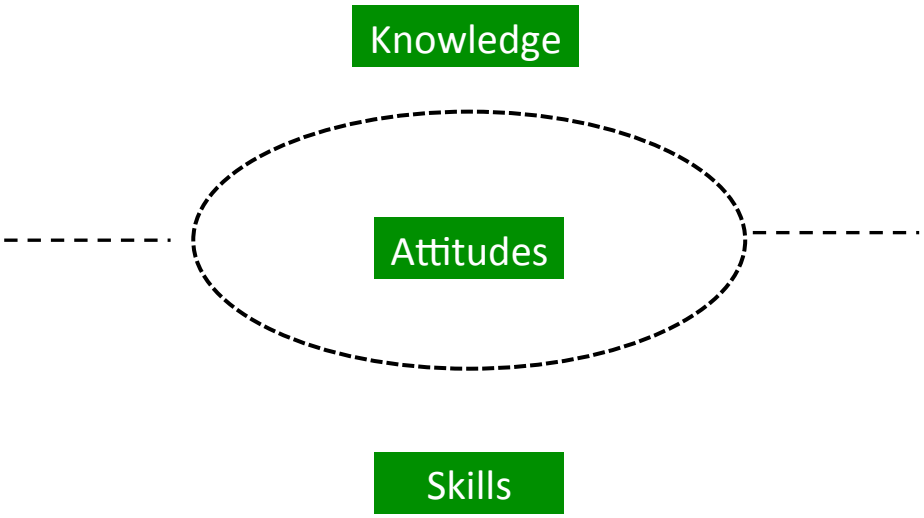



Program objectives
Describe particular issues in the areas of geology, geography and environmental sciences
Pedagogical objectives
Course «Human Geography »
Identify particular issues in the area of human geography
Lesson objectives
Lesson objectives
Lesson objectives
Lesson objectives
Define specific hypotheses about land management regarding demographic changes

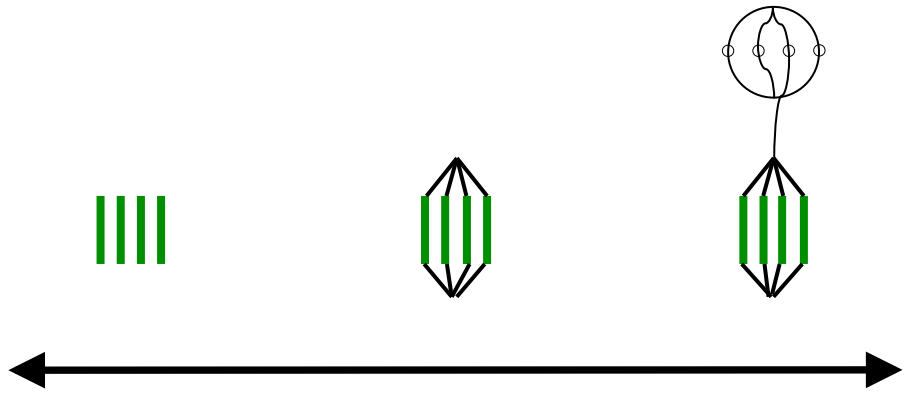
Characteristics of successful Learning Outcomes

- Objective & measurable
- Learner-centered
- Clear and precise
- Related to the subject
- Realistic
- Presented

Domains of learning



Levels of learning



Lower

Cognitive Level

Higher

cognitive Level

Verbs for the levels of learning

Cognitive Level	
Higher cognitive Level (Evaluating and Creating)	Assess, construct, create, critique, design, develop [a rule, model or system], generalize, formulate, hypothesize, infer, propose, synthesize, systematize, theorize, argue, choose [an appropriate method], select [an appropriate material], critique, defend, evaluate, judge, justify, advice, formalize
Mid-range cognitive Level (Applying and Analyzing)	Apply, calculate, compute, conduct [an experiment], carry out, demonstrate, derive, use, implement, manipulate, modify, model, operate, perform, solve, analyze, categorize, compare, contrast, differentiate, discriminate, distinguish, explore, investigate, test, translate
Lower cognitive level (Knowing and Understanding)	Arrange, define, label, list, match, name, order, recognize, recall, restate, represent, draw, classify, complete, describe, discuss, establish, explain, present, express, identify, illustrate, quote, give an example

Domains and levels of learning

Domains of learning	Levels of learning
Knowledge	
Skills	
Attitudes	

Examples

- The course focuses on the culture of the cauliflower in the XIXth Century.
- To be aware of the plurality of points of views on Ressources Management.
- Design the data collection on a particular action of NGOs, collection and analysis of results.

Examples

- Explain the impact of biology for our society.
- Formulate hypotheses about rain predictions.
- Analyze data with appropriate qualitative and quantitative techniques.
- Recognize any risks or safety aspects that may be involved in the operation of computing equipment within a given context.

Individual Exercise

(20 minutes)

1. Write 5-6 learning outcomes related to the content of your course (concept map)
2. For each learning outcome, indicate:
   - The domain of learning (knowledge/attitudes/ skill)
   - the level of learning for subject competences (higher, mid, lower)

Peer Feedback Exercise

(20 minutes)

1. Examine your colleague's learning outcomes and:
   - Indicate if you agree with the domain and level of learning (and discuss the issue if you do not agree)
2. Try to determine if the learning outcomes are:
   - easily measurable
   - centered on the learner
   - clear and concise
   - linked to the content (the concept map)
   - realistic

Individual Exercise

(15 minutes)

Establish the sequence of your teaching session(s) in connection with teaching content and learning outcomes.

One minute paper

Take a minute to think and write down :

- What advices would you give to someone who would be hesitating to define learning outcomes ?
- Compare your responses and discuss it with a colleague.

To learn more…

- Curzon, L.B. (1997) "The Utilization of Learning Objectives – a Behavioural Approach" in *Teaching in Further Education, an outline of principles and practices, fifth edition. London: Cassell. (p.158- 181).*
- Krathwohl, D.R. (2002) A Revision of Bloom's Taxonomy, An Overview. *Theory into Practice*, Vol. 41, No. 4, pp. 212-218