#### Planning & development of a course -The core elements





## 1. Intended Learning Outcomes at three levels



Example: Problem solving using machine learning algorithms



#### **1. Aligning the three levels**





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## 1. Things to keep in mind when writing course ILOs

- Decide what knowledge is involved: declarative vs. functioning
- Select the topics to teach: Breadth vs. depth
- Define the level of understanding intended: Introductory vs. advanced

Level of understanding (outcome verb)	Content topic	Context
	Level of understanding (outcome verb)	Level of Content topic understanding (outcome verb)

## 2. Planning activities - Learning activities, passive vs. active learning

#### DEFINITIONS

- constructive alignment (planning phase)
- passive learning
- active learning



# 2. Planning activities - Learning activities, passive vs. active learning

#### TYPES OF ACTIVITIES & PERCENTAGE OF RETENTION

- Passive teaching methods:
- 5% lecture
- 10% reading
- 20% audio-visual
- 30% demonstration
- open/participatory/active teaching methods:
- 50% group discussion
- 75% practice -> doing a practice based on the information received
- 90% teaching others

reference: Passive Teaching Methods Vs Participatory Teaching Methods by James Allen Buckley (video)



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## 2. Planning activities - Learning activities, passive vs. active learning

#### TIPS FOR ACTIVATING GROUP

> Have a fun (silly?) interactive moment in pairs right at the beginning of the course to kick off active learning.

Ex: connect the dots drawing in pairs, one person with pencil and eyes closed, the other directs them where to drawing the lines/connect the dots; Get the body moving, energizers like 'Go Bananas\*

> Information doesn't flow one way. Keep it two-way. Ex: Break up your lectures into shorter sections with interactive moments in between.



# 3. Main things to keep in mind when planning a course

Each Aalto School has their own 'Learning Services' -entity

- Learning Services are the first point of contact for teachers
- e.g. ELEC has their own Guide for teachers: https://www.aalto.fi/en/services/guide-for-teachers-sch ool-of-electrical-engineering



# 3. Main things to keep in mind when planning a course — process & schedule (ELEC) The course scheduling in chronological order:

- The departmental Study advisors collect information for the proposed teaching and exam schedules for the Study Services in February/March.
- The Schedule coordinator writes a draft of the schedules in March/April.
- Two correction rounds take place between April/May.
- The final schedule is published in June.



# 3. Main things to keep in mind when planning a course — Teacher resources

https://www.aalto.fi/en/teaching-and-learning

Course implementation from teacher's view

https://www.aalto.fi/en/services/course-implementation-fro m-teachers-view

#### Course practicalities for teachers

https://www.aalto.fi/en/services/course-practicalities



#### **Breakout Discussion (6 min)**

Discuss any or all questions:

1. Discuss how the learning outcomes may vary for a beginner vs. advanced course from your own experience.

2. Discuss the percentages of retention from your own learning experiences. (Learning/Teaching activities)

