Blending your education

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Goal

Goals

By the end of this workshop you will be able to:

- develop a sequence of online and offline learning activities for your own campus course.

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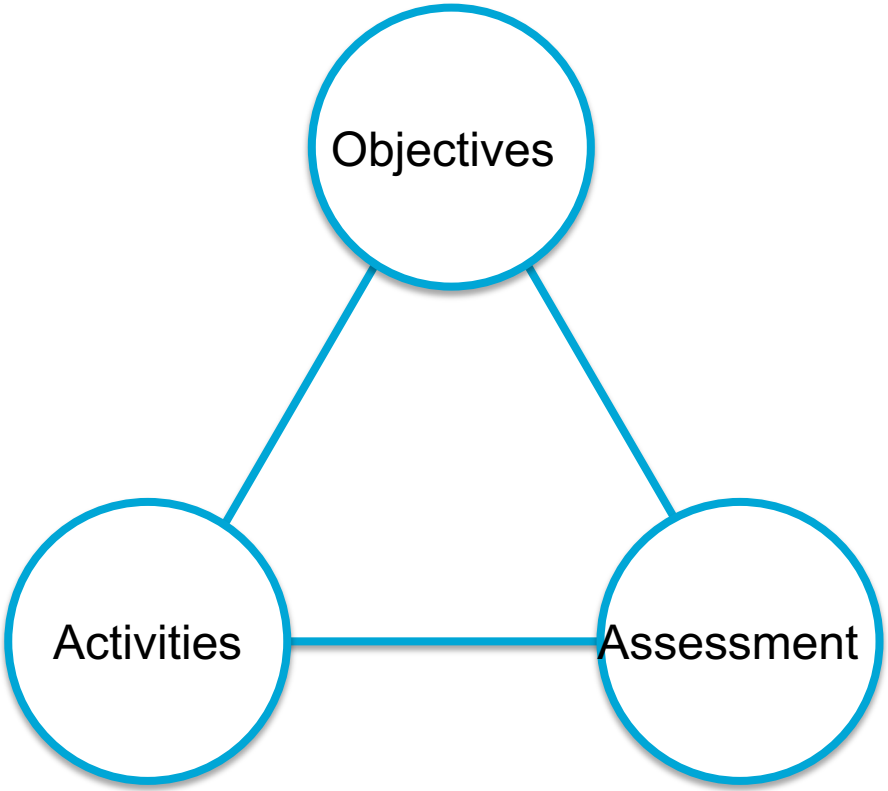
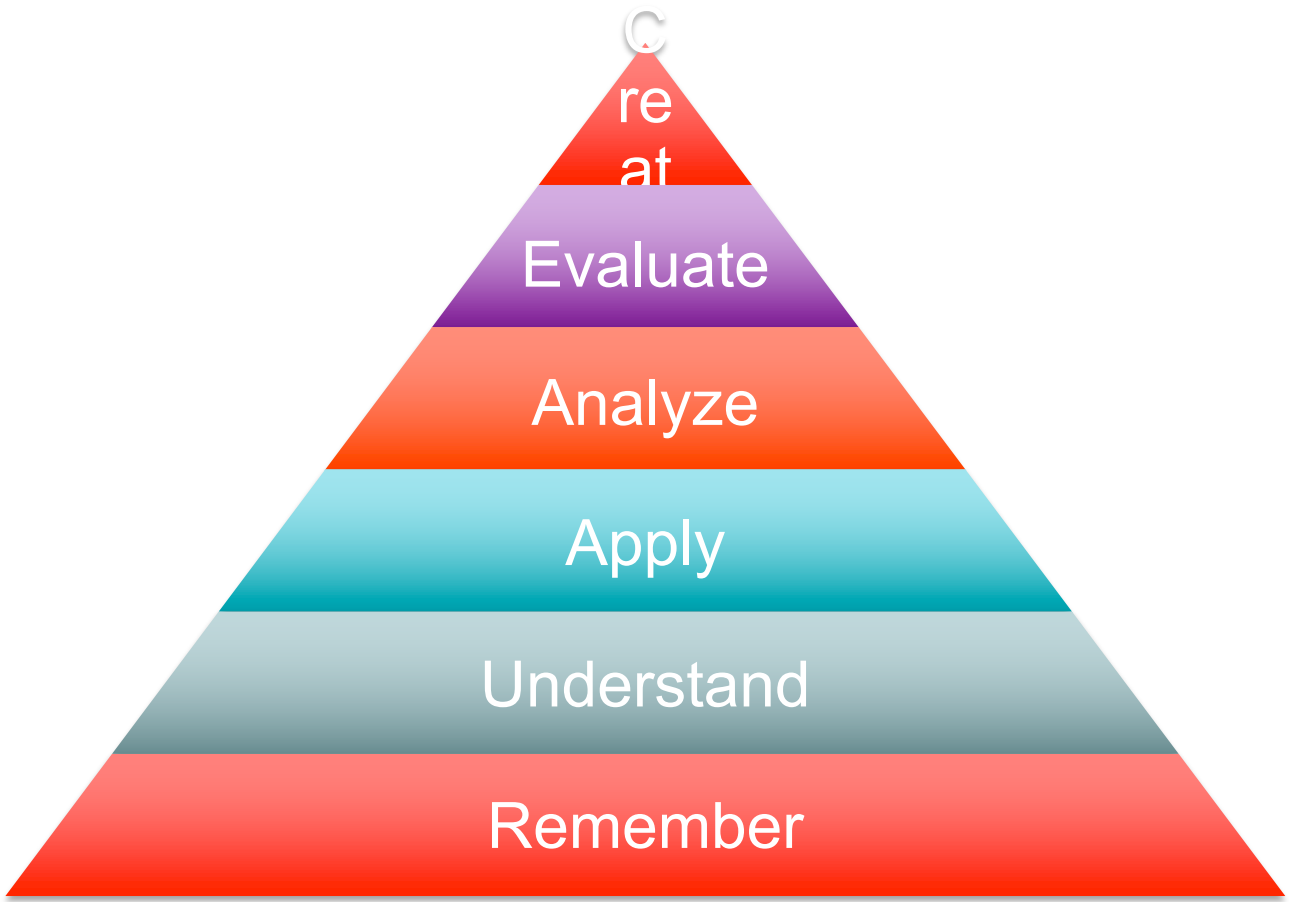
How does it fit?





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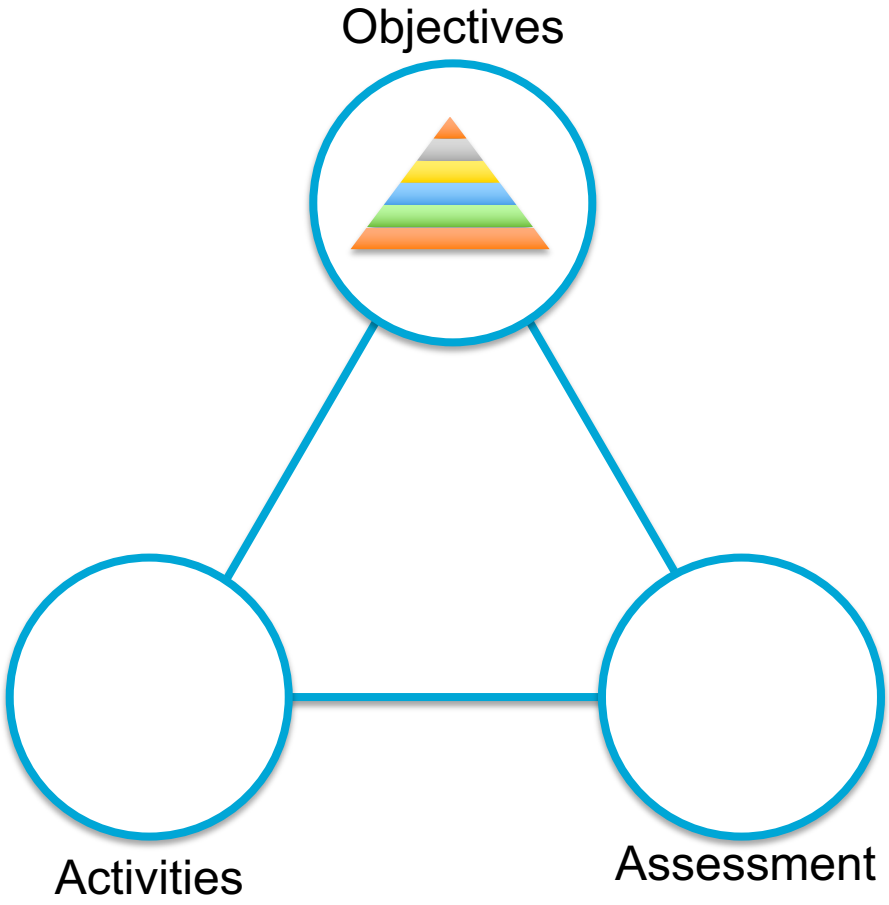

Summative assessment

Formative assessment

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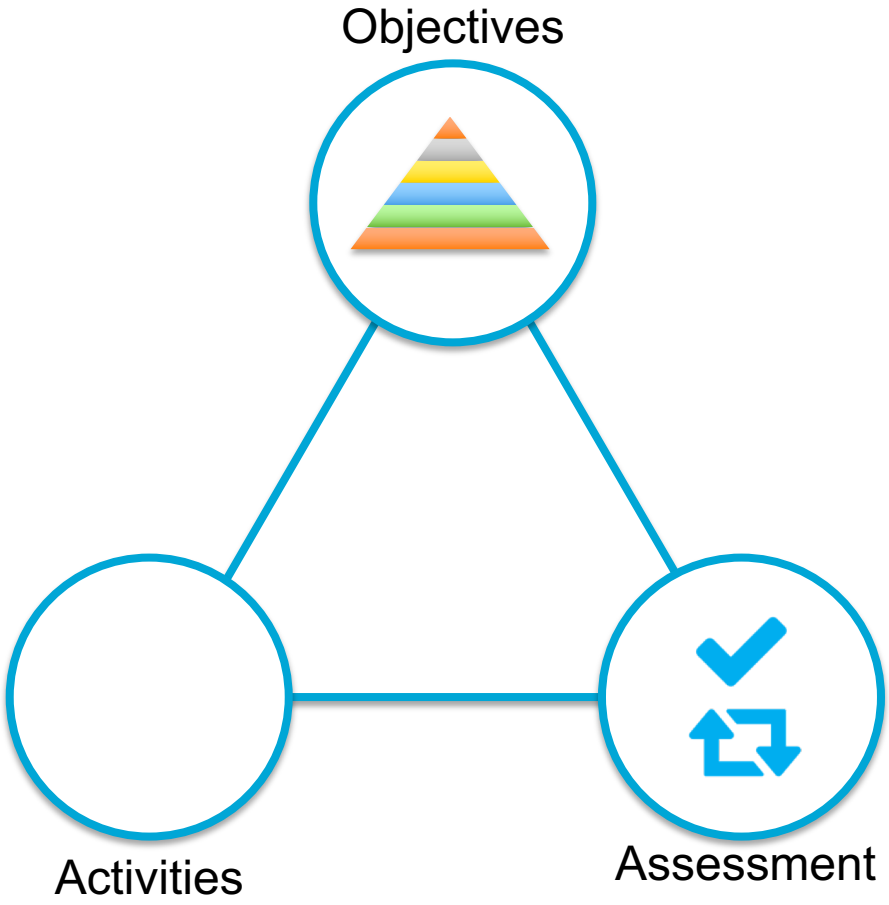

Online activities

Face to face activities

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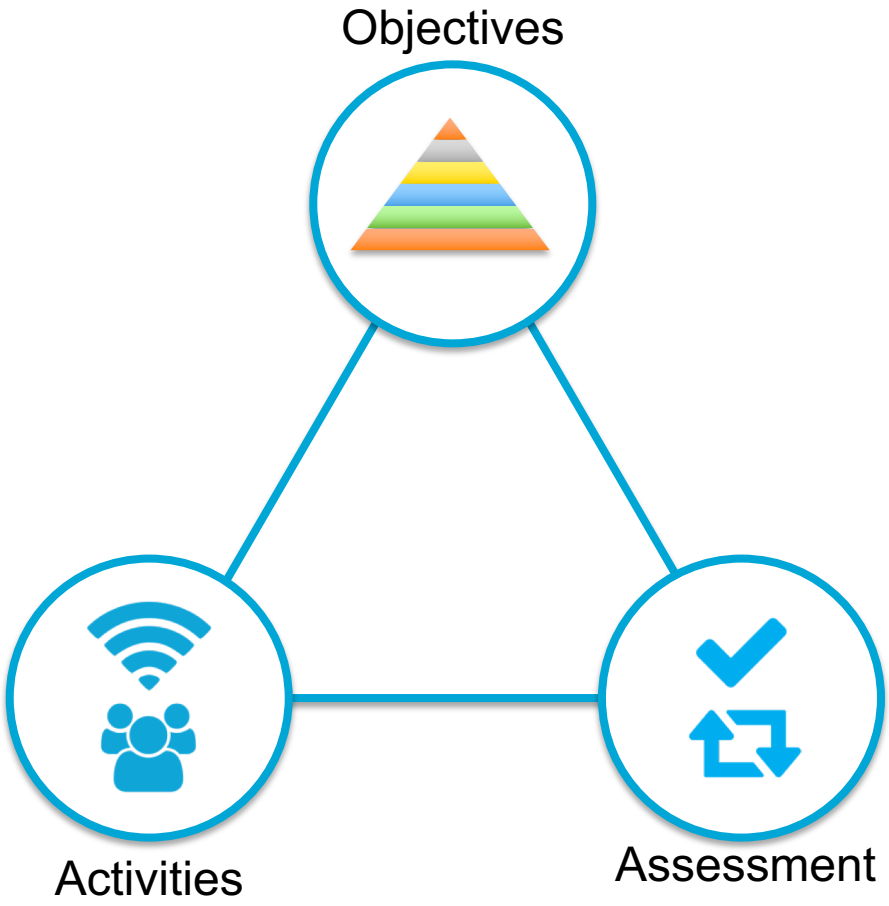

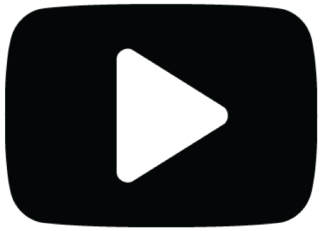

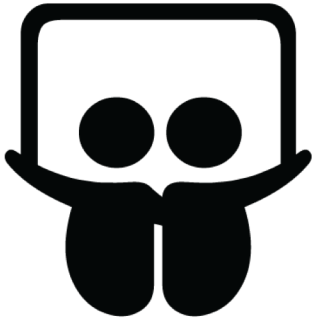

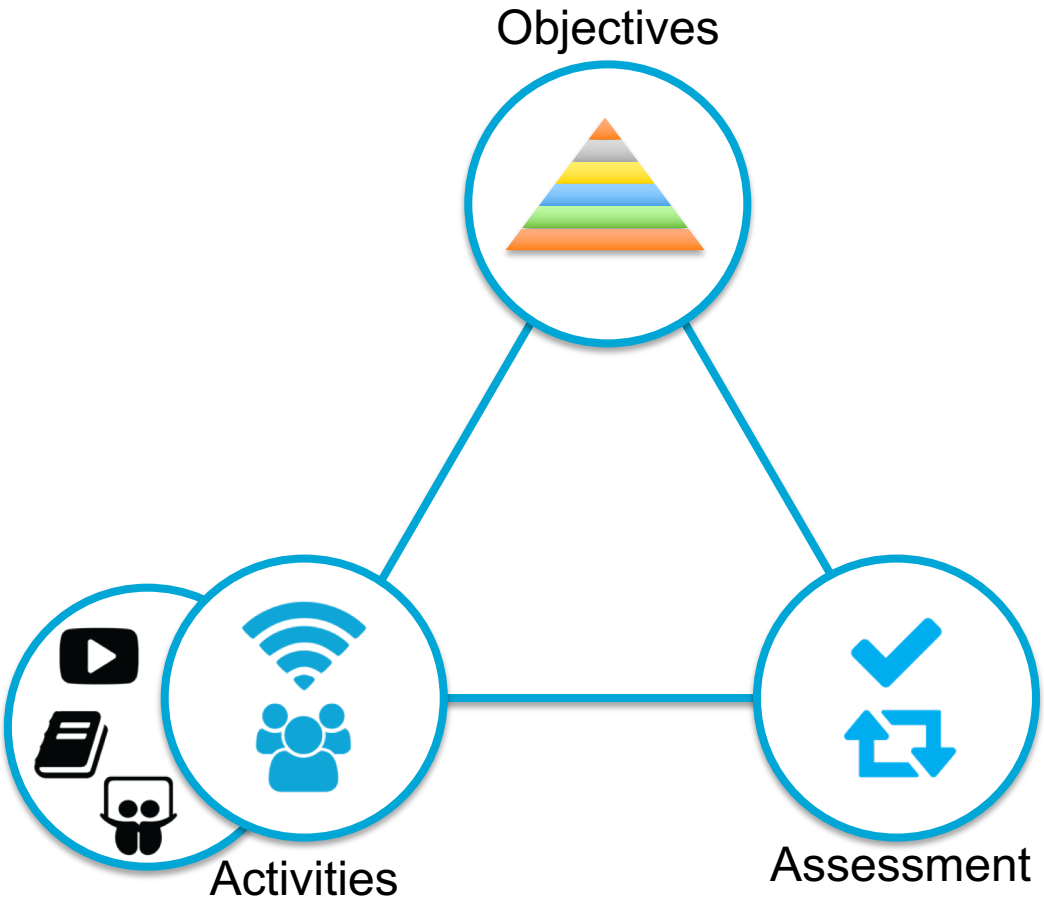

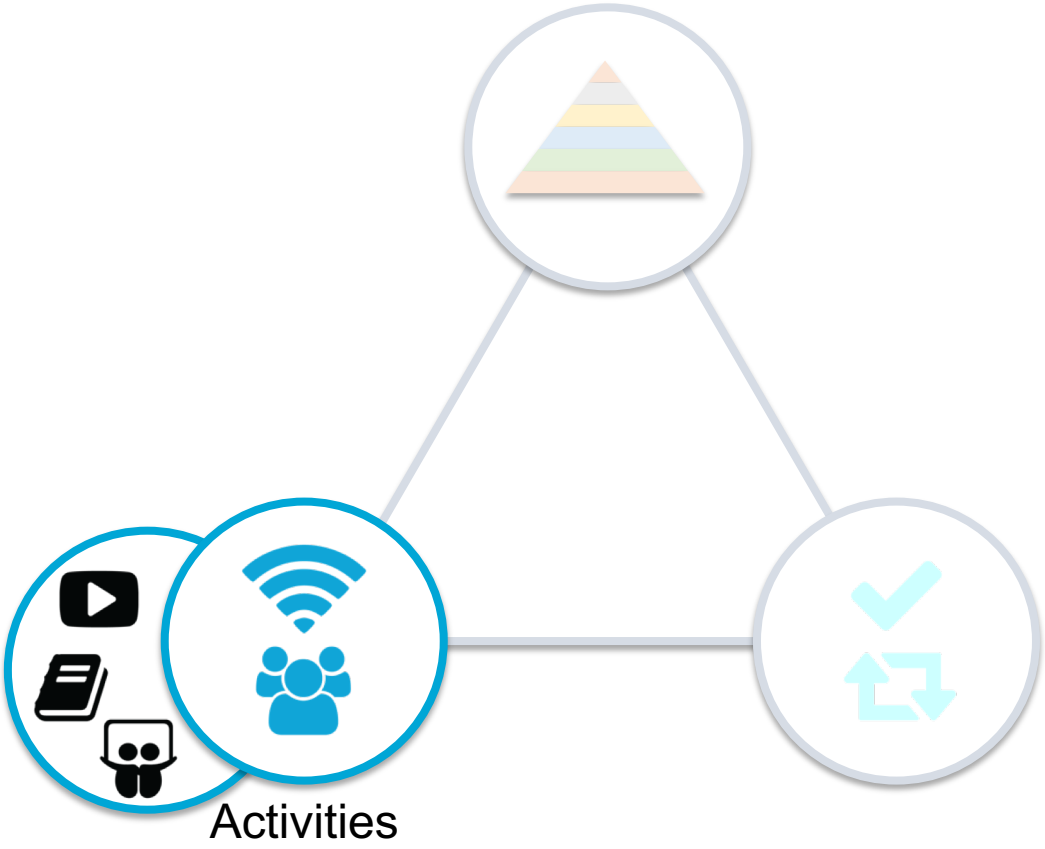

Blended Learning Wave

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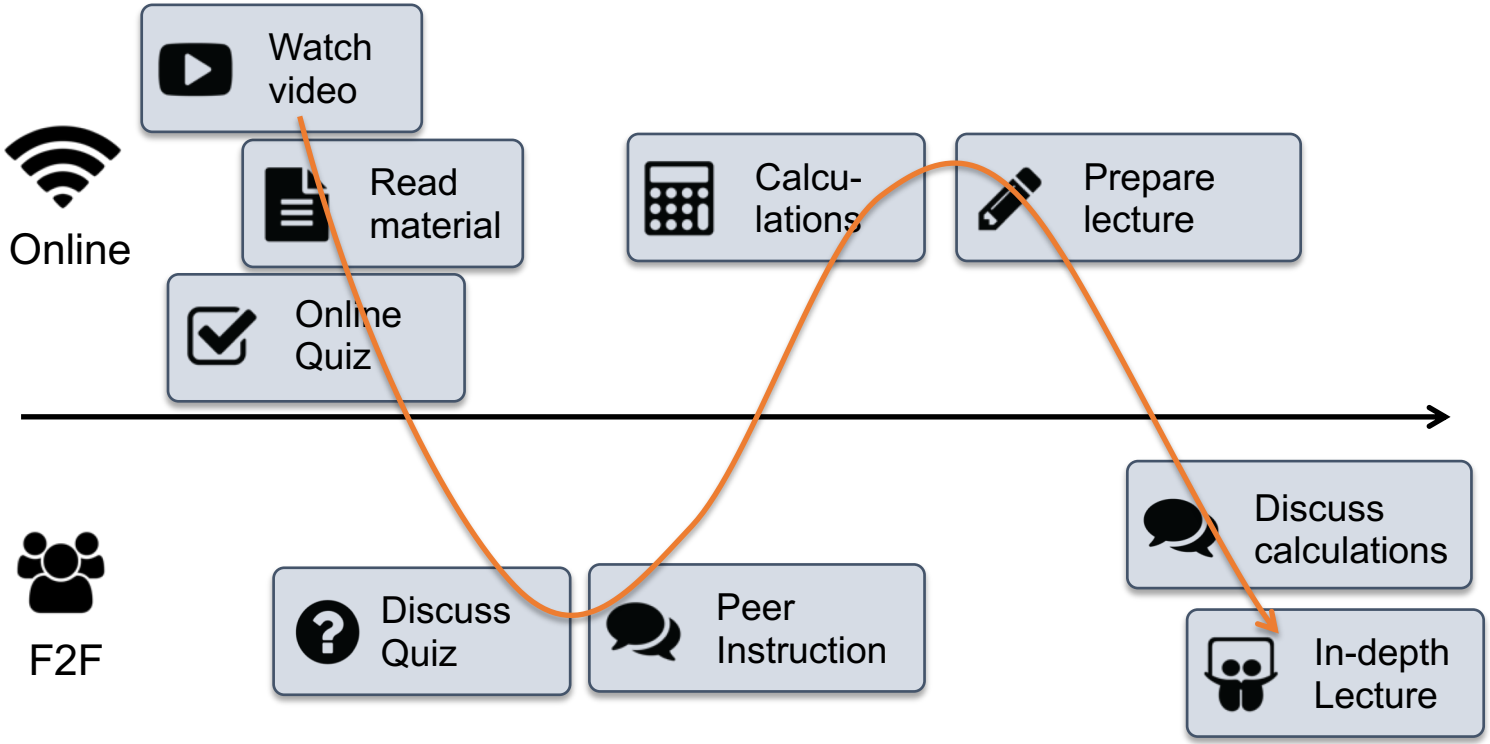
Blended Learning Wave



Examples

PRIME

- **PR**oject **I**nnovation **M**athematics **E**ducation
- Service Education
  1st and 2nd year Math courses
- Team of teachers

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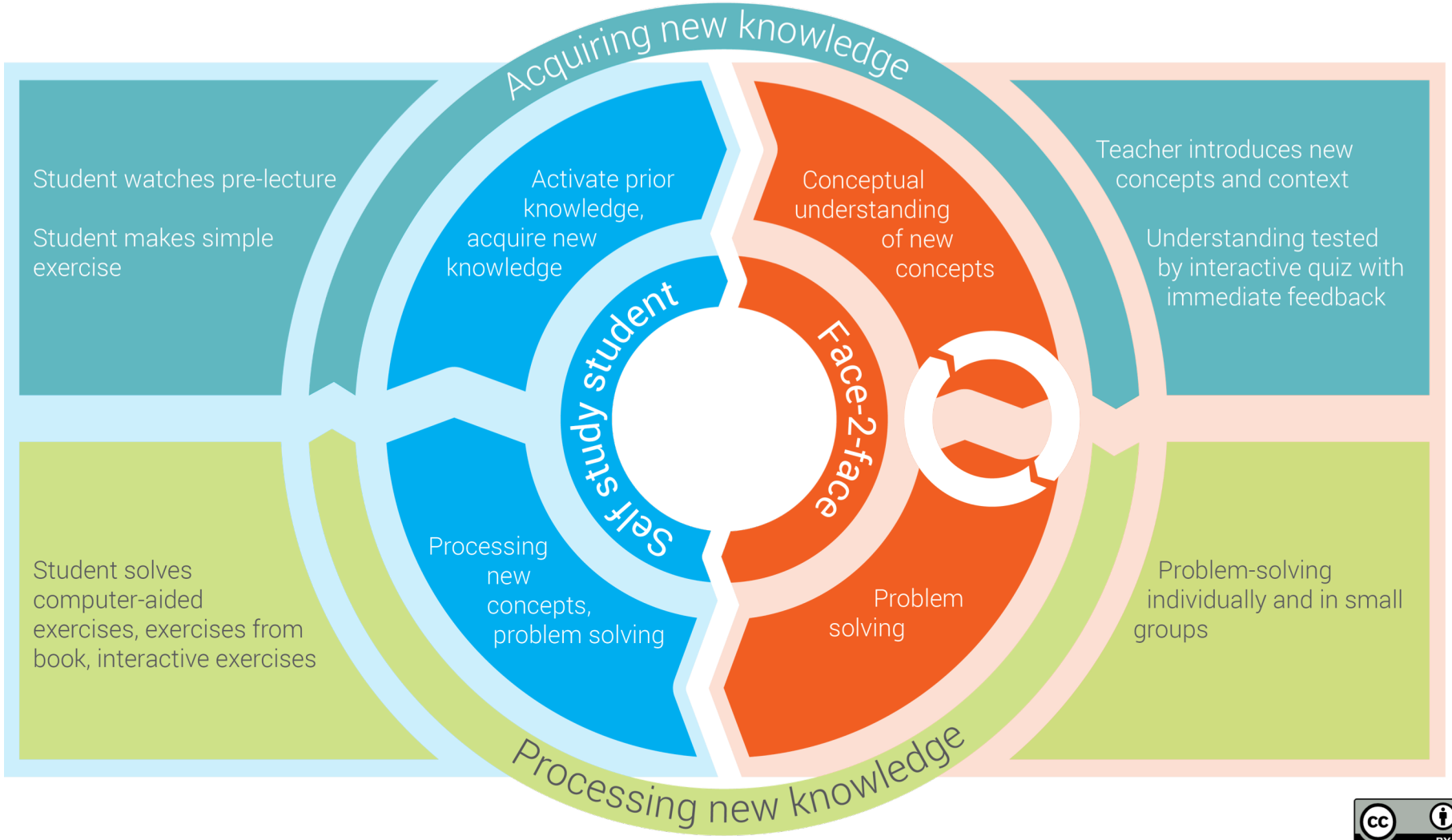
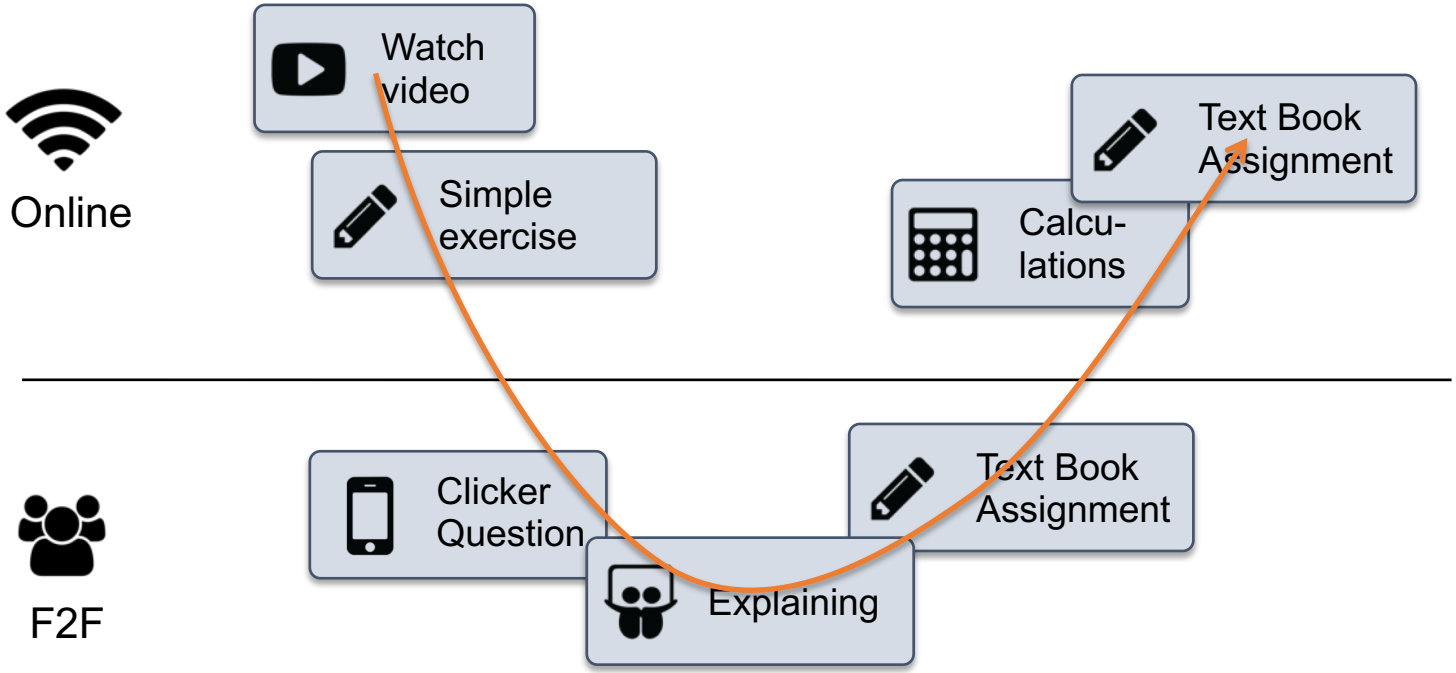

Acquiring new knowledge
Student watches pre-lecture
Student makes simple exercise
Activate prior knowledge, acquire new knowledge
Conceptual understanding of new concepts
Teacher introduces new concepts and context
Understanding tested by interactive quiz with immediate feedback
Self study student
Face-2-face
Processing new knowledge
Student solves computer-aided exercises, exercises from book, interactive exercises
Processing new concepts, problem solving
Problem solving
Problem-solving individually and in small groups

PRIME



QUESTION 1

SKIP

Write the following product with a single base. Do not simplify further.

$$\left((2t)^5\right)^3$$

Check my answer

QUESTION 1

SKIP

Write the following product with a single base. Do not simplify further.

$$\left((2t)^5\right)^3$$

Your answer: $(2t)^8$

Your answer is incorrect.

retry

Use the power rule to simplify the expression

QUESTION 1

SKIP

Write the following product with a single base. Do not simplify further.

$$\left((2t)^5\right)^3$$

Your answer: $(2t)^{15}$

Yeah! That's right. The correct answer is $(2t)^{15}$

retry

Use the power rule to simplify the expression

$$\left((2t)^5\right)^3 = (2t)^{5\cdot 3} = (2t)^{15}$$

Railway Engineering

- Redesign 5 master course
- All blended

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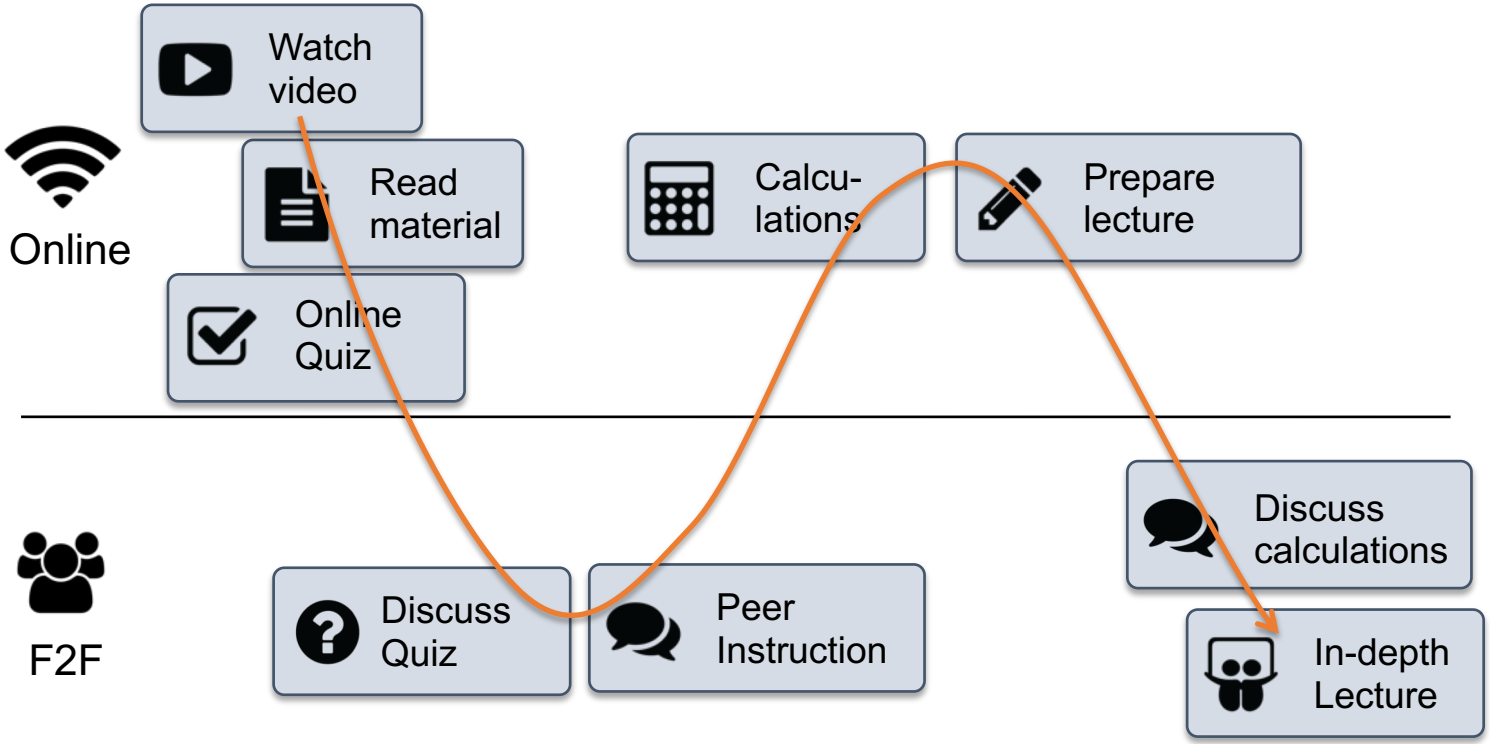
Railway Engineering



Peer Instruction

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Herman Russchenberg

- Climate physics
- Using MIT MOOC materials

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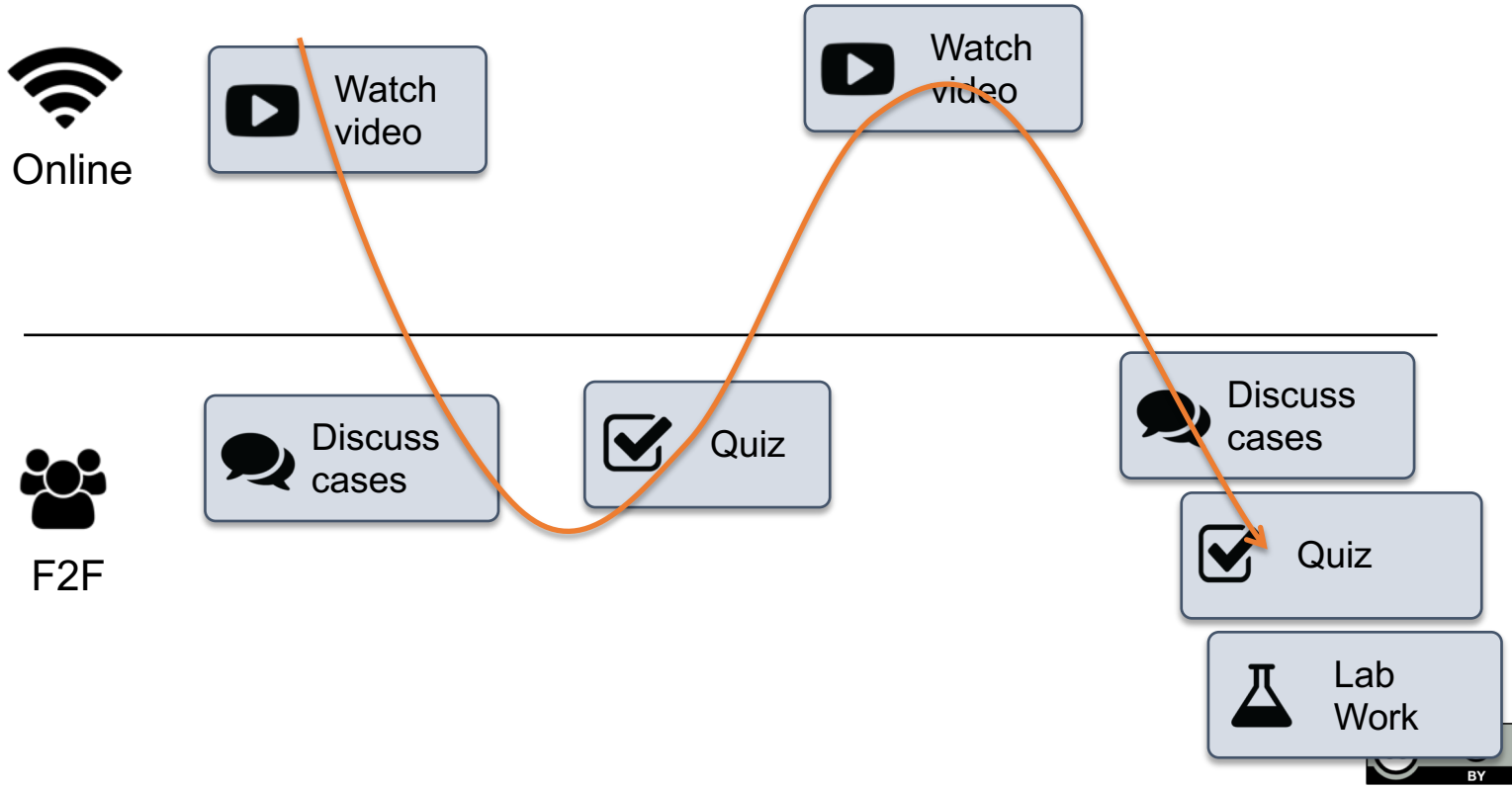
Climate physics



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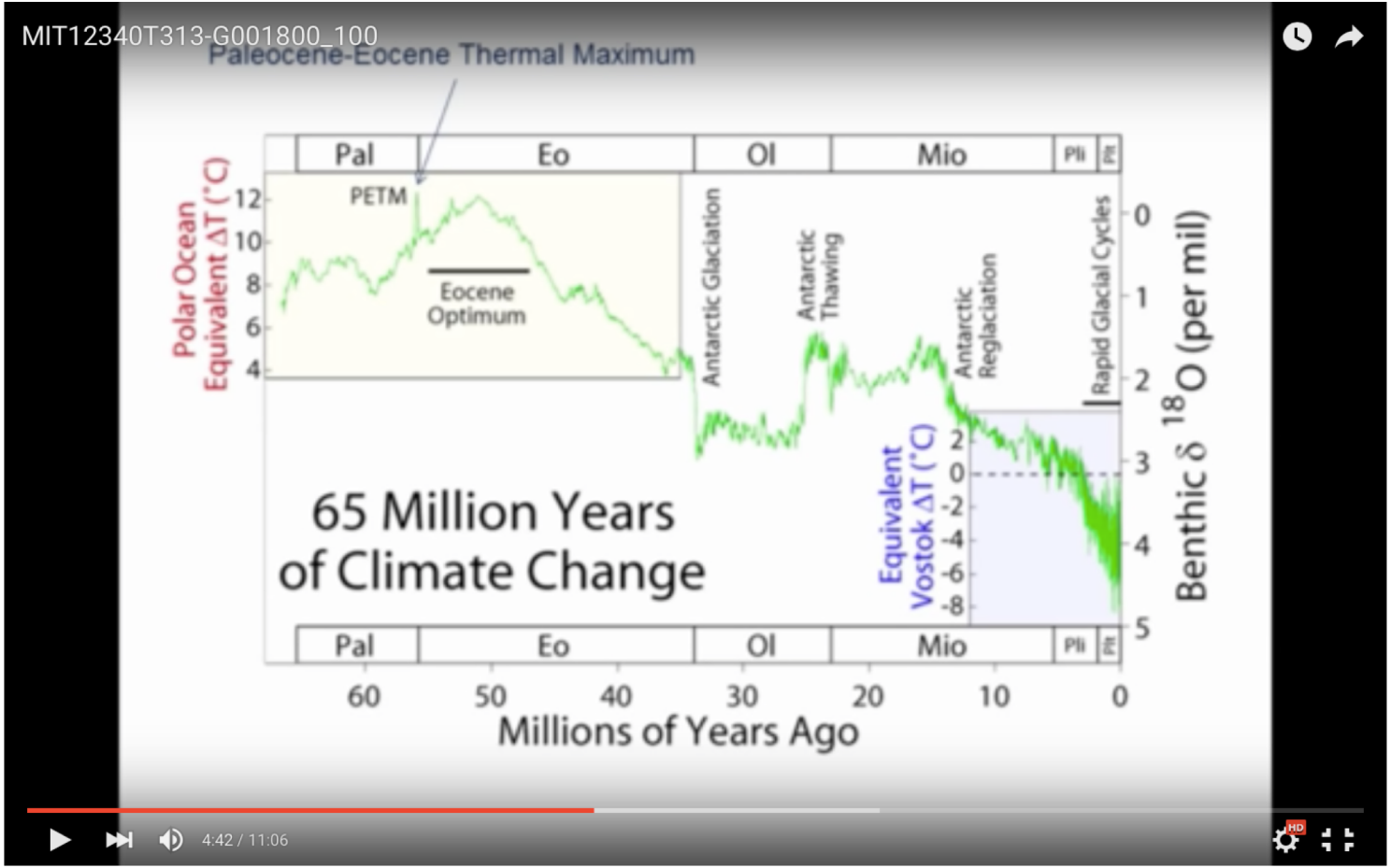

Erik Offerman – 3ME

- Materials Sciences
- Online exam questions
- Condensed Lecture
- Problem solving

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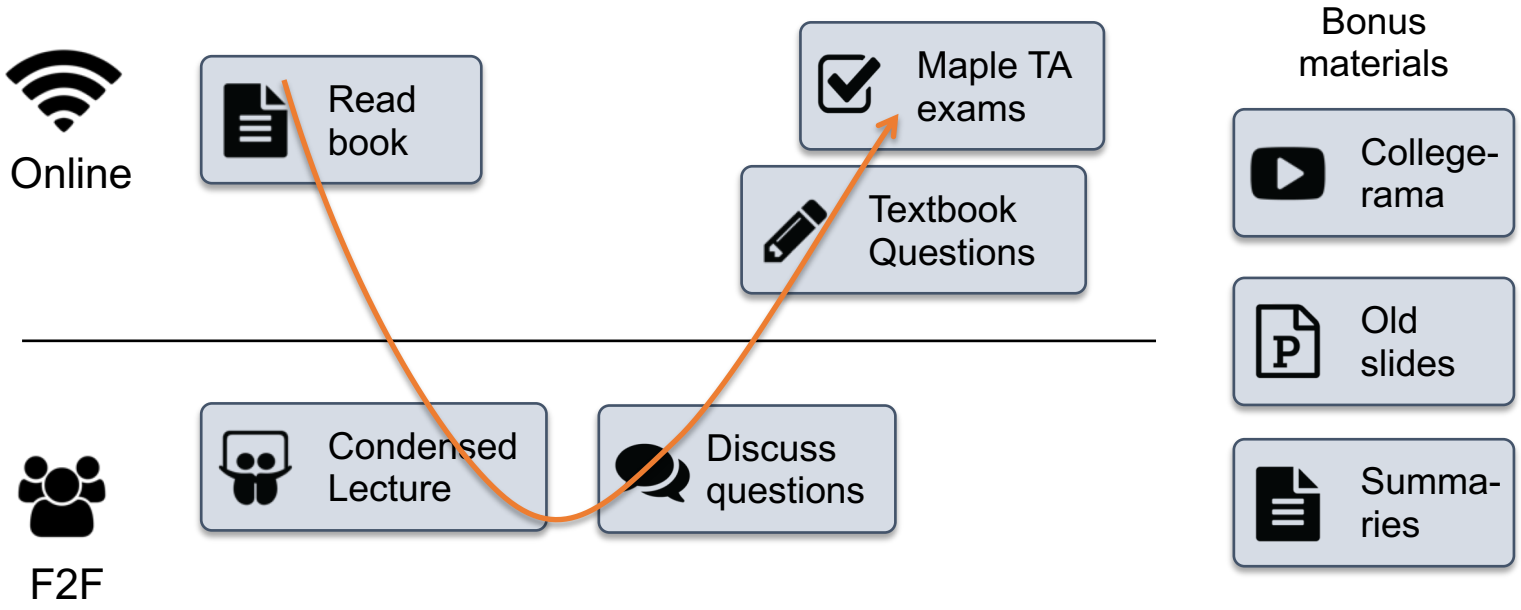
Erik Offerman – 3ME



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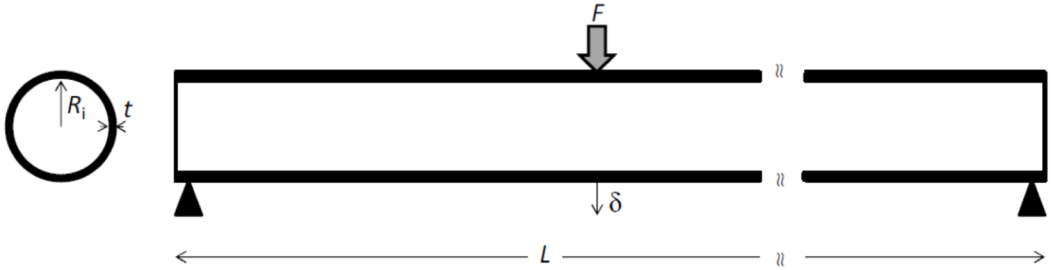
Question 1

1 point

Na de hoofdvraag krijg je nog 3 vragen waarmee je je antwoord onderbouwt.

Een lange, dunwandige buis met een gegeven lengte L en een gegeven inwendige straal R_i wordt op buiging belast door een centraal aangebrachte kracht F, zie figuur.



De buis wordt aan de uiteinden ondersteund zoals aangegeven in de figuur. De elastische uitwijking van de buis mag maximaal gelijk zijn aan δ .

De wanddikte van de buis, t, is tot op zekere hoogte een vrij te kiezen parameter. De enige beperking is dat de wanddikte van de buis veel kleiner moet zijn dan de inwendige straal: $t << R_i$.

De volgende benaderingen moeten toegepast worden (waar relevant):

$$R_u = R_i + t \approx R$$
$$R_u^2 - R_i^2 \approx 2\,\mathrm{Rt}$$
$$R_u^4 - R_i^4 \approx 4\,R^3 t$$

waarin R (m) de effectieve straal van de buis is. Gebruik deze benaderingen in de uitwerking van de vraag. Gebruik de effectieve straal R en niet R_i en R_u in de uitwerking.

How can you start?

Online

Watch video

Discussion board

Assign-ments

Interactive Video/PDF

Peer feedback

Concept Map

Read Chapter

Online quiz

Online brainstorm

Blog

Case study

Virtual Reality

F2F

In depth lecture

Lab Work

Problem solving

Clickers

Student presentations

Game

Peer instruction

Guest lecture

Excursion

Difficult exercises

Discussion

One minute paper

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It’s your turn

Create your own ‘wave’ of blended activities

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Design Questions

What is the added value of the teacher?

How (often) do you communicate with your students?

How can you integrate feedback?

How much hours can students spend per week?

How do you use online activities as input?

“THE MOST VALUABLE TIME

IS THE TIME

WITH OUR STUDENTS”

SALMAN KHAN