MOOCs Media Template

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Layouts and “mise en slides”

- Three shots
  1. Full Shot (with and without title)
  2. Split Shot
  3. Thirds Shot

- Components
  - Video of the professor
  - Handwriting
  - Figures, images and formulas
  - Additional videos

Build a scenario for the video (7-12 minutes)

1. Welcome (Full shot with professor, Split shot with TOC)
   - Explain what the lesson is about

2. Development / Example (1/2, 1/3 or full shot of content)
   - Develop explanations => Explain by handwriting
   - Illustrate theory with examples => Include videos
   - Use contrasting cases => Side by side examples

3. Add interactivity
   - Ask questions before giving answers => Quizzes
   - Give a short task to do => Stop the video and resume

4. Conclusion / Goodbye (Full Shot)
   - Summary
   - Introduction to exercises
Welcome (Full Shot)
Salutation and Goodbye

Split Shot with professor + content
- Look straight into the camera
- Use this shot when you address the audience directly. For example when you salute, or when you say goodbye.
- You have to know your text by heart.

Use it also to encourage, or for transitions, to conclude an explanation.
Explanations (Split shot)

- Referring and explaining
- Split Shot with professor profile
  - Look at the iMac (screen placed on the side of the camera)
  - This will result in a 2/3 shot that gives the impression that the teacher is looking at the content.
- For Bullets and Video
  - Use this shot when commenting static content (an image, graphics, a schema) or a video
Explanations (Split shot)

THE LAW of ERROR
(Normal Distribution)
## Complementary representations (Split shot)

<table>
<thead>
<tr>
<th>Notation</th>
<th>$\mathcal{N}(\mu, \Sigma)$</th>
</tr>
</thead>
</table>
| **Parameters** | $\mu \in \mathbb{R}^k$ — location  
$\Sigma \in \mathbb{R}^{k \times k}$ — covariance (nonnegative-definite matrix) |
| **Support** | $x \in \mu + \text{span}(\Sigma) \subset \mathbb{R}^k$ |
| **PDF** | $\frac{1}{|2\pi \Sigma|} e^{-\frac{1}{2}(x-\mu)'\Sigma^{-1}(x-\mu)}$, exists only when $\Sigma$ is positive-definite |
| **CDF** | (no analytic expression) |
| **Mean** | $\mu$ |
| **Mode** | $\mu$ |
| **Variance** | $\Sigma$ |
| **Entropy** | $\frac{1}{2} \ln |2\pi e \Sigma|$ |
| **MGF** | $\exp\left(\mu' t + \frac{1}{2} t' \Sigma t\right)$ |
| **CF** | $\exp\left(i\mu' t - \frac{1}{2} t' \Sigma t\right)$ |

**THE LAW of ERROR**

(Normal Distribution)

- Frequency
- No of Standard Deviations
Handwriting and reference (Split shot)

\[ \exp \left( \mu't + \frac{1}{2} t' \Sigma t \right) \]
Explanations
(Third shot)

- Referring and explaining
- Profile Shot
  - Look at the iMac (screen positioned on the side).
  - This will result in a 2/3 shot that gives the impression that the teacher is looking at the content.
- For Bullets and Video which fit well into 4:3
  - Use this shot when commenting static content (an image, graphics, a schema) or a video.
  - During recording:
    - Use the space left either to write down your notes and replace them at editing time with the video of the professor.
    - Use the space left to draw a complement to the content presented on the right pane.
Figure & Handwriting
(Third shot)

\[
\begin{align*}
\begin{cases}
\frac{u_{n+1} - u_n}{h} = f(t_n, u_n) & \text{pour } n = 0, 1, 2 \ldots \\
u_0 = y_0
\end{cases}
\end{align*}
\]
\( t_n = n \Delta t \quad n = 0, 1, 2, \ldots \)  
Calculer \( u^{n} \) de \( u(t_n) \)

À partir de \( u^0 = u_0 \), on va calculer
\[
\begin{align*}
\frac{u^{n+1} - u^{n}}{\Delta t} &= f(u^n, t_n)
\end{align*}
\]

méthode de marche en temps.

Schéma d’Euler progressif:
\[
\frac{u^{n+1} - u^n}{\Delta t} = f(u^n, t_n)
\]

origine? on écrit l'éq. diff. temp. \( t_n \):
\[
\frac{u(t_n) - u(t_{n-1})}{\Delta t} = f(u(t_{n-1}), t_n)
\]

on utilise une formule de déplacements progressifs
pour approcher \( u(t_n) \)  
chap 2

\[
\frac{u(t_{n+1}) - u(t_n)}{\Delta t} = f(u(t_n), t_{n+1}) + O(\Delta t)
\]
on remplace \( u(t_n) \) par \( u^n \)

avantage: schéma explicite:
\[
u^{n+1} = u^n + \Delta t f(u^n, t_n)
\]
facile à programmer

inconvénients
Try to avoid this

This is a layout that you would use if you have long text in bullets
  - But this might be difficult to read
  - And looses a lot of white space

The best use of this template is to use it to present images or videos
  - The layout allows to have a title, logo, page number around the content.
  - Another advantage compared to the Blank Page Layout is that the content placed in a box:
    - Will be replaced and sized when you change the layout for the slide
    - Will survive the transition to another template in the future.
Graphical elements

Texte Arial Narrow Bold  Texte Arial Narrow  Texte Arial Narrow Bold couleur