

Embedding the EPFLGraph Video Player into Moodle

Help your students revise the course by quickly navigating your lectures and searching by concepts.

EPFLGraph



Teaching Support Centre (CAPE) / Center for Digital Education (CEDE)

Feedback and Support: flexible-teaching@epfl.ch

More information: <https://go.epfl.ch/flexible-teaching>

How are videos indexed by EPFLGraph ?

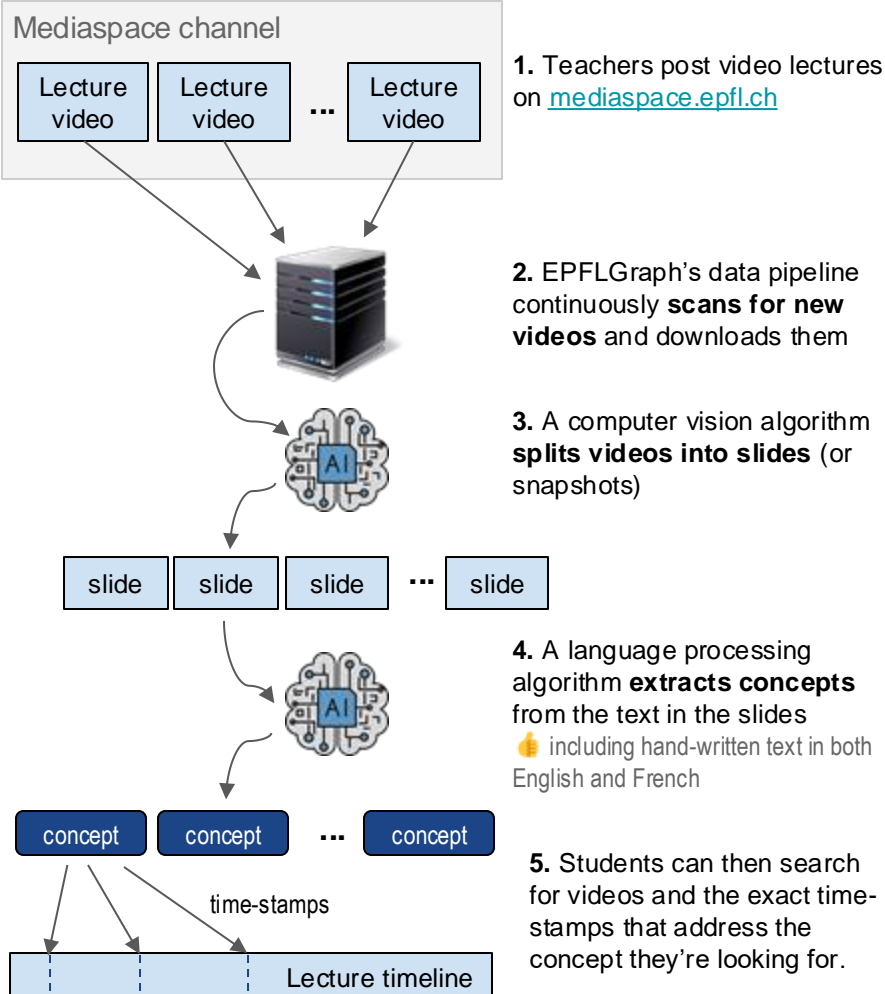
The [EPFL Graph](#) is a search engine that allows students to search for **courses**, **concepts**, and **learning resources**, and discover how they interconnect with each other.

With the advent of flexible teaching, we have added **video lectures** to the list of resources students can access and explore.

By connecting video lectures to our knowledge base—which includes a complete database of scientific concepts taught at EPFL—students can now **search for specific concepts directly on the lecture timeline**.

Concepts are automatically detected and time-stamped though the use of Computer Vision and Language Processing algorithms [see diagram on the right].

You can embed the EPFL Graph’s video player directly in your Moodle course page.



What is the EPFLGraph Video Player ?

Try it here:

<https://graphsearch.epfl.ch/en/embed/course/COM-309>

- The video player displays a playlist with all the lectures available on the right.
 - Below the player there is a search bar (concepts are detected automatically through character recognition).
1. Searching a keyword shows spots on the slider which allows to jump directly to the places where the concept was detected.
 2. The preview shows the frame (or slide) that corresponds to the position in the timeline.
 3. Clicking on the play button launches the video from the corresponding frame.

The screenshot displays the EPFLGraph Video Player interface. The main video area shows a lecture with handwritten notes on a whiteboard. The notes include the Hamiltonian $\tilde{H}(t) = -\frac{\hbar\omega}{2} \sigma_z - \frac{\hbar\omega_0}{2} \sigma_x$ and a discussion of Rabi oscillations. A search bar at the bottom left contains the text "hamiltonien". A timeline at the bottom of the video player shows a play button and a progress bar. On the right side, a playlist of videos is visible, including "Quantum Information: Polarisation and Degrees of Freedom", "Magnetic Moments and Spin", "Quantum Information: Rabi Oscillations", "Polarisation of Photons", "Dirac's Notation, Tensor Product", "Quantum Information: Rabi Oscillations", "Principles of Quantum Mechanics", "Quantum Information: Polarisation", "Quantum Information Principles", and "Principles of Quantum Mechanics".

Handwritten notes on the video frame:

Hamiltonien

$\tilde{H}(t) = -\frac{\hbar\omega}{2} \sigma_z - \frac{\hbar\omega_0}{2} \sigma_x$

$K = \begin{pmatrix} -\frac{\hbar\omega}{2} & 0 \\ 0 & \frac{\hbar\omega}{2} \end{pmatrix} = -\frac{\hbar\omega}{2} \sigma_z$

$H(t) = -\frac{\hbar\omega}{2} \sigma_z - \frac{\hbar\omega_0}{2} \sigma_x$

et maintenant on va explicitement :

$\tilde{H}(t) = \text{independant du temps} = \frac{\hbar\delta}{2} \sigma_z - \frac{\hbar\omega}{2} \sigma_x$

avec $\delta = \omega - \omega_0$

(parametres de detuning : si $\omega = \omega_0$ on parle de "tuning" ω sur ω_0 .)

2. Preview the video frame

3. Watch the video

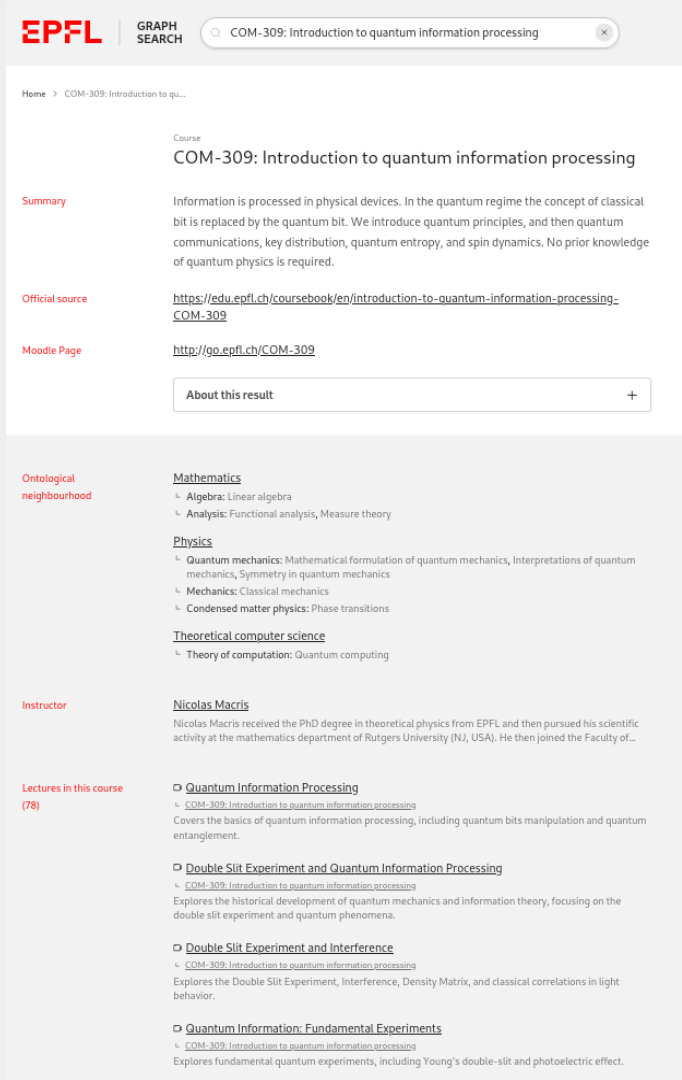
1. Search a concept. Spots show where the concept is present

Option 1: Getting the embed link for all videos of a course

1. Go to: <https://graphsearch.epfl.ch/>
2. Search for your course
e.g. **“COM-309: Introduction to quantum information processing”**
3. Copy the URL
e.g. <https://graphsearch.epfl.ch/en/course/COM-309>
4. Modify the URL by adding “/embed”
<https://graphsearch.epfl.ch/en/embed/course/COM-309>

If you don’t find your course, make sure to:

- Use a Mediaspace channel to publish your videos. If you don’t know how, have a look [here](#).
- Include the course code in the name of your Mediaspace channel, e.g. “COM-309”
- Drop us a note (graph-support@epfl.ch) with the link to your Mediaspace channel so we can launch the indexing.



Option 2: Getting the embed link for specific videos

1. Go to: <https://mediaspace.epfl.ch/>
2. Search for your video and open it.
3. Get the video ID. It is in the URL shown in the browser, it starts with "0_" and is located after the title, between 2 "/".

Example:

`https://mediaspace.epfl.ch/media/10%2C+Lecture+10A+Text+Models+1/0_dx8p4wjv/29696`

4. Repeat 2. and 3. for each video you want to include.
5. The embed URL is "https://graphsearch.epfl.ch/en/embed/lecture/" followed by a comma separated list of video IDs you want to include such as:

`https://graphsearch.epfl.ch/en/embed/lecture/0_dx8p4wjv,0_o3oeofek`

EPFL

GRAPH SEARCH

COM-309: Introduction to quantum information processing

Home > COM-309: Introduction to qu...

Course

COM-309: Introduction to quantum information processing

Summary

Information is processed in physical devices. In the quantum regime the concept of classical bit is replaced by the quantum bit. We introduce quantum principles, and then quantum communications, key distribution, quantum entropy, and spin dynamics. No prior knowledge of quantum physics is required.

Official source

<https://edu.epfl.ch/coursebook/en/introduction-to-quantum-information-processing-COM-309>

Moodle Page

<http://go.epfl.ch/COM-309>

About this result

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Ontological neighbourhood

Mathematics

Algebra: Linear algebra

Analysis: Functional analysis, Measure theory

Physics

Quantum mechanics: Mathematical formulation of quantum mechanics, Interpretations of quantum mechanics, Symmetry in quantum mechanics

Mechanics: Classical mechanics

Condensed matter physics: Phase transitions

Theoretical computer science

Theory of computation: Quantum computing

Instructor

Nicolas Macris

Nicolas Macris received the PhD degree in theoretical physics from EPFL and then pursued his scientific activity at the mathematics department of Rutgers University (NJ, USA). He then joined the Faculty of...

Lectures in this course (78)

Quantum Information Processing

COM-309: Introduction to quantum information processing

Covers the basics of quantum information processing, including quantum bits manipulation and quantum entanglement.

Double Slit Experiment and Quantum Information Processing

COM-309: Introduction to quantum information processing

Explores the historical development of quantum mechanics and information theory, focusing on the double slit experiment and quantum phenomena.

Double Slit Experiment and Interference

COM-309: Introduction to quantum information processing

Explores the Double Slit Experiment, Interference, Density Matrix, and classical correlations in light behavior.

Quantum Information: Fundamental Experiments

COM-309: Introduction to quantum information processing

Explores fundamental quantum experiments, including Young's double-slit and photoelectric effect.

Add the video player to your Moodle course

1. Go to your course on: <https://moodle.epfl.ch/>

1. Turn editing on
2. Click on “Add an activity or resource”
3. Select “URL”

1. Choose a name, e.g. “EPFLGraph video player”.
2. Paste the embed URL from the previous step under "External URL"
(<https://graphsearch.epfl.ch/en/embed/course/COM-309>)
3. Under “Appearance” select "Embed".
4. Click “Save and display”.

The picture on the right shows how the link is displayed in the [Moodle Activity Reference](#) course.

The screenshot shows the Moodle interface for the 'Moodle Activity Reference' course. The top navigation bar includes the EPFL logo, the word 'MOODLE', and language options (FR, EN, DE) along with a user profile for Patrick Jermann. A red sidebar on the left contains a list of activities: Activity Reference, Participants, Grades, and several folders like 'What is the purpose of your course's Moodle site?', 'Communicating with your students', 'Setting up office hours', 'Getting feedback from your students', 'Helping students track their progress', 'Providing feedback to your students', 'Evaluating your students', 'Formatting your content', 'Linking to Videos' (highlighted in red), 'Getting started', and 'Managing your course page'. The main content area is titled 'Moodle Activity Reference' and shows a breadcrumb trail: Dashboard > My courses > Activity Reference > Linking to Videos > EPFLGraph Video Player (via a link). Below this, there is a red button labeled 'Moodle Docs for this page'. The central part of the page displays the 'EPFLGraph Video Player (via a link)' which is a large video player showing a yellow screen with a play button. To the right of the video player is a list of activities, each with a thumbnail and title, such as 'Quantum Information Processing', 'Double-Slit Experiment and Quantum Information Processing', 'Double-Slit Experiment and Interference', 'Quantum Information: Fundamental Experiments', 'Quantum Information: Young's Double-Slit Experiment', 'Maxwell's Demon: Information', 'Polarization Split of Photons', 'Introduction to Quantum Information', 'Polarization of Photons', and 'Polarization Split of Photons'.

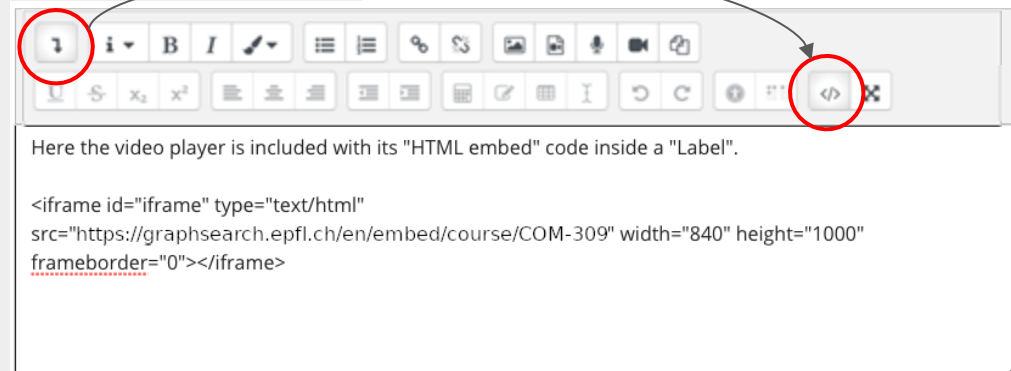
Alternative: Embed the player into any webpage (or Moodle “Page” or “Label” resource).

1. With the embed URL from the previous step
<https://graphsearch.epfl.ch/en/embed/course/COM-309>
2. Use the following HTML code to embed the player anywhere:

```
<iframe id="iframe" type="text/html"
src="https://graphsearch.epfl.ch/en/embed/course/COM-309" width="840"
height="1000" frameborder="0"></iframe>
```

3. For example in a “Label” or a “Page” in Moodle, or in any content management system that allows you to edit HTML code.

Adding HTML code to a Moodle Page or Label ...



The screenshot shows the Moodle editor toolbar with two red circles highlighting the 'Source' (code) icon on the left and the 'HTML' icon on the right. Below the toolbar, the text area contains the HTML code for embedding the video player.

Here the video player is included with its "HTML embed" code inside a "Label".

```
<iframe id="iframe" type="text/html"
src="https://graphsearch.epfl.ch/en/embed/course/COM-309" width="840" height="1000"
frameborder="0"></iframe>
```

EPFLGraph is in development, feedback welcome !

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