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Image and Video Coding

Introduction

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Learning pyramid



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Image and video coding

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- Master 1st or 3rd semester
- 4 hours per week
 - 8 Lecture sessions (32 hours)
 - 5 laboratory sessions (20 hours)
 - Mini-project presentations (15 hours of preparation)



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Organisation

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- Date
 - Scheduled on every Wednesday
 - 8h15 to noon
- Venue
 - Lectures: BC04
 - Laboratories: TBA
- Web site
 - <http://moodle.epfl.ch> (EE-569)
- Teaching assistants:
 - Yuhang Lu, Davi Lazzarotto, Evgeniy Upenik

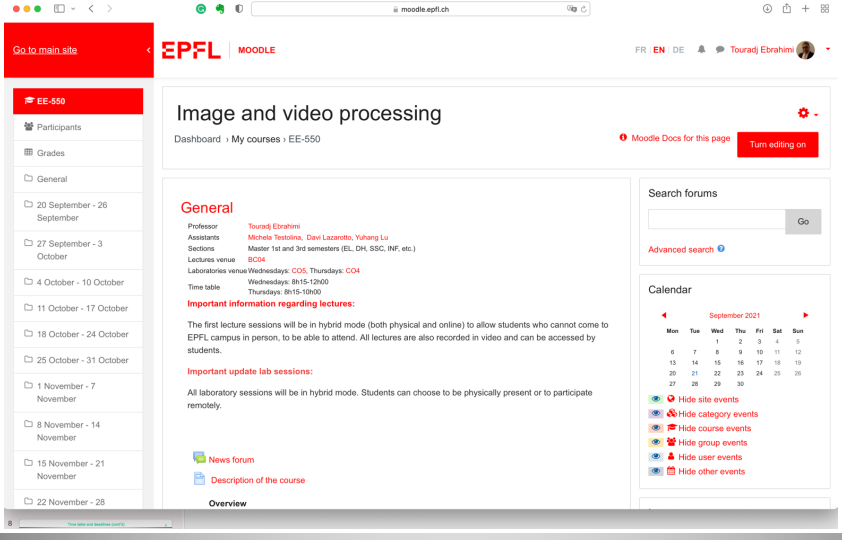


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Moodle



EE-550

Image and video processing

Dashboard > My courses > EE-550

General

Professor: [Touradj Ebrahimi](#)
 Assistants: [Michelle Testolina](#), [David Lazzarotto](#), [Yuhang Lu](#)
 Sections: Master 1st and 3rd semesters (EL, DH, SSC, INF, etc.)
 Lectures venue: [SC04](#)
 Laboratories venue: [CO05](#), [CO04](#)
 Time table: [Wednesdays: 8h15-12h00](#), [Thursdays: 8h15-10h00](#)

Important information regarding lectures:

The first lecture sessions will be in hybrid mode (both physical and online) to allow students who cannot come to EPFL campus in person, to be able to attend. All lectures are also recorded in video and can be accessed by students.

Important update lab sessions:

All laboratory sessions will be in hybrid mode. Students can choose to be physically present or to participate remotely.

[News forum](#)
[Description of the course](#)

Calendar

September 2021

Mon	Tue	Wed	Thu	Fri	Sat	Sun
	1	2	3	4	5	
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

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Timetable and milestones

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Date	Type	Subject	Duration (Time)
11 Sep. 24	Lecture	Introduction, Fundamental notions	4h
18 Sep. 24	Lecture	Fundamental notions	4h
25 Sep. 24	Lecture	Basics of image and video coding	4h
2 Oct. 24	Lecture	Subjective and objective quality assessment	4h
9 Oct. 24	Laboratory	Lab 1	4h
16 Oct. 24	Lecture	Image compression standards I	4h

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Timetable and milestones (cont'd)

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Date	Type	Subject	Duration (Time)
30 Oct. 24	Laboratory	Lab 2	4h
6 Nov. 24	Laboratory	Lab 3	4h
13 Nov. 24	Lecture	Image compression standards II	4h
20 Nov. 24	Lecture	Video compression standards I	4h
27 Nov. 24	Laboratory	Lab 4	4h
4 Dec. 24	Lecture	Video compression standards II	4h



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Timetable and milestones (cont'd)

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Date	Type	Subject	Duration (Time)
11 Dec. 24	Laboratory	Lab 5	4h
18 Dec. 24	Mini-project	Mini-projects presentations	4h



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Laboratory sessions

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- Report should be prepared, and submitted two weeks after each Lab session (noon)
- Each report will be corrected and marked
- List of marks available on the web (via <http://moodle.epfl.ch>)
- Lab sheets and generic corrections will be also made available on the web after deadline for report submission
- Average of 5 laboratory marks (0 to 6) counts as $1/4^{\text{th}}$ of the final mark



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Laboratory sessions (cont'd)

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- Electronic reports returned by the deadline indicated in the timetable on moodle
 - Electronic submission using moodle platform
 - Will be explained during the first laboratory session



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Mini-projects

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- Mini-projects are made available for a more in-depth study of specific aspects of image and video processing
 - Bibliographical research, and analysis/synthesis on specific topics, hands-on experimentations, data collection, etc. followed by a short presentation
- The mini-projects topics are selected from a list of pre-defined topics available on moodle
- Each topic can be selected by a single student on a first come, first served basis
- Mini-projects selections start from 25 September 2024 and should be done by 2 October 2024
- Mini-projects are individually prepared and individually presented orally + Q&A session
- A presentation is delivered during the last session(s) of the course in December 2024. (detailed schedule communicated later)
- Attendance to ALL mini-projects presentations is mandatory for all students
- Mini-projects final presentations will be marked (0 to 6) and will be counted as 1/4th of the final mark



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List of mini-projects

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1. GIF image compression
2. PNG image compression
3. AVIF image compression
4. SVG image compression
5. AV1 video compression
6. AVS video compression
7. MPAA-EVC video compression
8. MPAA-EEV video compression



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Questions

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- Preferred method
 - Ask during lecture or laboratory sessions
 - Use the moodle discussion forum included in every lecture week to ask your questions
- Other alternatives
 - Send an email to the professor and/or teaching assistants with your question
 - Send an email to the professor and/or teaching assistants to ask for an appointment for a more interactive discussion to help answering to your question



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Support materials

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- Copies of slides and pre-recorded lectures available on the web prior to the scheduled lectures:
 - <http://moodle.epfl.ch>
- Additional recommended readings on specific topics of the course will be communicated throughout the lectures



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