

**Internet, Seguretat i  
Distribució de Continguts Multimèdia  
(Internet, Security &  
Multimedia Content Distribution)  
ISDCM**

2024/25 Q2

***Jaime Delgado***

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DAC - UPC

# Lecturers

- THEORY SESSIONS:

***Jaime Delgado***

- Visiting hours:

- Tuesday from 10:00 to 13:00
- Thursday from 17:00 to 20:00
- Room D6-215 or Google meet:

- [meet.google.com/wtm-udvy-aon](https://meet.google.com/wtm-udvy-aon)

- Previous confirmation ([jaime.delgado@upc.edu](mailto:jaime.delgado@upc.edu))

- LAB SESSIONS:

***Silvia Llorente***

# Schedule

	Mo.	Tu.	We.	Th.	Fr.
<b>14:00 – 15:00</b>		ISDCM- MEI <b>10 T</b> [A6206]		ISDCM- MEI <b>11 L</b> [A5S109] [A6206]	
<b>15:00 – 16:00</b>		ISDCM- MEI <b>10 T</b> [A6206]		ISDCM- MEI <b>12 L</b> [A5S109] [A6206]	
<b>16:00 – 17:00</b>				ISDCM- MEI <b>10 T</b> [A6206]	

6 “L” sessions in classroom (Workshops, Presentations, ...)

# **Internet, Security & Multimedia Content Distribution**

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**Multimedia Content Distribution**

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- Topic 1: Distributed Applications design
- Topic 2: AV content representation
- Topic 3: AV content transmission
- Topic 4: Security

# Contents

1. Distributed Applications design (12 h.)
2. Multimedia content representation (8 h.)
3. Transmission of multimedia content (10 h.)
4. Security in Internet (24 h.)

# Assessment (1/2)

- 40% theory, 25% assignment, 35% laboratory

## Evaluation of theory part ( $N_t$ ):

- A first partial exam of topics 1 to 3 ( $P1$ )
- A second partial exam of topic 4 plus assignments ( $P2$ )
- A final optional exam with two parts:  
topics 1 to 3 ( $F1$ ) and topic 4 plus assignments ( $F2$ )
- Weekly tests ( $T_i$ ) to increment marks if only partial exams ( $Incr$ )
- $Incr = 1 + 0.02 * (\sum(T_i) / \#tests)$
- $N_t = MAX(N_t \text{ with partial exams}, N_t \text{ with final exam})$   
 $N_t \Rightarrow 3.5$
- $N_t \text{ with partial exams} = (P1 + P2) / 2 * Incr$
- $N_t \text{ with final exam} = 0.5 * MAX(P1, F1) + 0.5 * MAX(P2, F2)$



# Assessment (2/2)

- 40% theory, 25% assignment, 35% laboratory

## Evaluation of assignment ( $N_a$ ):

- 1 assignment (presentation, discussion, documentation)

## Evaluation of laboratory part ( $N_l$ ):

- To be presented in “laboratory” sessions

Final grade:  $N_f = (N_t * 0,4) + (N_a * 0,25) + (N_l * 0,35)$

$N_t$ : Theory exams,  $N_a$ : Assignment,  $N_l$ : Laboratory

$N_t \Rightarrow 3.5$

# Assignment

- **25% of the grade**
- Assignment in groups of 3 on a specific subject:
  - ✓ State-of-the-Art, technical details, comparison of alternatives, ...
  - ✓ Problems, solutions, use/market, future, ...
  - ✓ **Discussion**
- Deliver:
  - ✓ Presentation per assignment (15+5 minutes)
  - ✓ Slides + document
- Concepts to evaluate:
  - ✓ Content (30%), Report (20%), Presentation (30%), Discussion (10%), Participation (10%)

# Assignment – possible subjects

- 1) *Tools for DASH (Dynamic Adaptive Streaming over HTTP)*
- 2) *DASH encryption and authentication*
- 3) *Pseudonymization*
- 4) *Anonymization*
- 5) *Advanced/New Access Control mechanisms*
- 6) *Web tracking*
- 7) *Labelling of AI-generated content*
- 8) *Permission languages (ODRL, ...)*
- 9) *Images protection*
- 10) *Video protection*
- 11) *Machine Learning and security*
- 12) *IoT security*
- 13) *eHealth security*
- 14) *Genomic information protection*
- 15) *HL7 security*
- 16) *FHIR security*
- 17) *Homomorphic encryption*
- 18) *Post-quantum encryption*
- 19) *3D images formats*

# Assignment

- **25% of the grade**
  - Assignment in groups of 3 on a specific subject:
    - ✓ State-of-the-art, technical details, comparison of alternatives
    - ✓ Problem solutions, use/market, future
    - ✓ **Discussion**
  - Deliver:
    - ✓ Presentation
    - ✓ Slides + document
  - Concepts to evaluate:
    - ✓ Content
    - ✓ Discussion
- Propose subject and groups by 3rd March (*groups could be later*)**
- Propose at least 7 subjects in order of preference**
- mail to [jaime.delgado@upc.edu](mailto:jaime.delgado@upc.edu)**
- Follow up meetings on 10th April**
- Presentations on 24th April & 8th May**
- Documentation delivery 1 week after presentation**

# Schedule

- Theory sessions in room A6-206
- Laboratory sessions in room C6-S309
- Dates for laboratory sessions in room A6-206 (room to be confirmed) (Workshops, Presentations, ...):
  - T**: 20<sup>th</sup> Feb.; **W11**: 6<sup>th</sup> March; **W12**: 13<sup>th</sup> March
  - P0** (in D6-215): 10<sup>th</sup> Apr; **P1**: 24<sup>th</sup> Apr; **P2**: 8<sup>th</sup> May
- Last class: 29<sup>th</sup> May
- First partial exam: 7<sup>th</sup> April 15:30 (exams period)
- Second partial exam: 27<sup>th</sup> May (class)
- Optional final exam: 10<sup>th</sup> June 15:00
- *No-class period (Easter week): 15<sup>th</sup> & 17<sup>th</sup> Apr*
- *Exams period: 3<sup>rd</sup> & 8<sup>th</sup> April*
- *No class: 1<sup>st</sup> April, 20<sup>th</sup> May*