

# Multimedia Communications and Networking

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August 2017

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# Course Information

- ▶ Name: Multimedia Communications and Networking
- ▶ Code: INT 3305
- ▶ Instructor: **HOANG Xuan Tung**
  - ▶ Email: [tung.hoang@gmail.com](mailto:tung.hoang@gmail.com), [tunghx@vnu.edu.vn](mailto:tunghx@vnu.edu.vn)
  - ▶ Mobile: [0852465677](tel:0852465677)
  - ▶ Office: 406/408 E3

## Text Books

- ▶ *Salomon, David*. “**A concise introduction to data compression**”. Springer Science & Business Media, 2007.
- ▶ *Sayood, Khalid*, “**Introduction to data compression**” Morgan Kaufmann, 2017.
- ▶ *MacKay, David JC.*, “**Information theory, inference and learning algorithms.**” Cambridge university press, 2003.
- ▶ *James F. Kruso, Keith W. Ross*, “**Computer Networking – A Top-Down Approach**”, Fifth Edition, Chapter 7, Chapter 1

# Schedule, Workload, Policy

## SCHEDULE

- ▶ Class Sessions (13 : 00 ~ 15 : 00) on every Monday.
- ▶ Semester period: 15 weeks
- ▶ You should have your Laptop/PC with you and be ready for quizzes during class time

## WORKLOAD

- ▶ Final exam & homework assignments - 70%
- ▶ Term project : Software development - 25%
- ▶ Attitude : Attendance, participation and others - 5%

# Schedule, Workload, Policy (cont.)

## OTHERS

- ▶ Term project: work in group
- ▶ Understand **in the class**
- ▶ 4 times of absence will disqualify student from class (0 final grade)

# Class content

- ▶ Module 1: Data processing
  - ▶ Probability and Information Theory
  - ▶ Lossless & lossy data compression
  - ▶ Signals, Sampling & Quantization
  - ▶ Transformations: FFT, DCT
  - ▶ 2-D (Image) data processing
  - ▶ Forward Error Correction
- ▶ Module 2: Multimedia Communication Systems
  - ▶ Multimedia applications
  - ▶ QoS guarantee
  - ▶ Application Approach for Multimedia Applications
  - ▶ NAT classification, detection and traversals
  - ▶ Video Conferencing and WebRTC

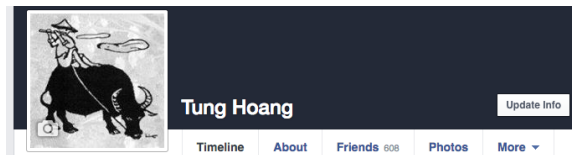
# Sample term project topics

- ▶ Audio filter (Echo cancellation, error concealment, ...)
- ▶ Image filter
- ▶ Object detection
- ▶ Optical Character Recognition
- ▶ Sound generators
- ▶ Video conference
- ▶ Kurento Server Application
- ▶ In-browser Media player
- ▶ ...



# How to communicate ... ?

- ▶ (Method 1) Facebook: Add facebook and join a private group (will be created)



- ▶ (Method 2) SMS / Call
- ▶ (Method 3) Email
- ▶ (Method 4) Via class president
- ▶ (Method 5) Meet in person

# QUESTIONS ...