Master VICO - Multimedia communication (MC) - Video Coding part

Courses sequence:

MC Program (Multimedia communication, Video Coding part)

All the resources are disponible in line on the [extradoc](#).

Week number 1

Step 00: Lecture - synchronous mode - duration 1:30

- Presentation of the program

Step 01: Lecture - asynchronous mode (in autonomy) - duration 1:30

- Lecture 1: Basis on image coding
- Literature Basis

Step 02: Lab - synchronous - duration 1:30

- Lab 1a: DPCM: principles
- Lab 1b: DPCM: coding of a grey level image (soft: GNU/octave)

Step 03: Lecture - asynchronous (in autonomy) - duration 1:30

- Lecture 2: MPEG1 & MPEG2
- Literature ME, MPEG

Step 04: Lab - synchronous - duration 1:30

- Lab 2: Block matching, motion estimation (soft: GNU/octave, VCDemo)

Step 05: Lecture - asynchronous (in autonomy) - duration 1:30

- Lecture 3: H.264/AVC
- Literature H.264

Step 06: Lab - synchronous - duration 1:30

- Lab 3: MPEG1 & 2 (soft: VCDemo)
- Lab 4: H.264/AVC (soft: VCDemo)

Step 07: Lecture - asynchronous (in autonomy) - duration 1:30

- Lecture 4: HEVC
- Literature HEVC

Week number 2

Step 08: Lab - synchronous - duration 1:30

- Lab 5: HEVC (soft: HM)
- Exchange: Questions/responses about the Lectures (MPEG)

Step 09: Lecture - asynchronous (in autonomy) - duration 1:30

- Lecture 5: Vector Quantization (VQ)
- Literature VQ (LBG, TSLVQ)

Step 10: Lab - synchronous - duration 1:30

- Lab 6: VQ (LBG, TSLVQ)
- Presentation of the exam (about synthesis by videos)

Step 11: Exams - asynchronous (in autonomy)

- Revision & preparation for the exams

Exam rules (for Video Coding part):

The rules will be given later.

Softwares for the labs:

You will need GNU/octave and VCDemo.

GNU/octave:

- [GNU/Octave](#) is a multi-platform soft.
- you will certainly need to install also these octave packages *image* et *signal*: *octave:1> pkg install -forge signal octave:1> pkg install -forge image*

Note that it exists an online version of GNU/octave: [octave-online](#) (but the memory size is

very limited).

VCDemo:

You can download the [VCDEmo archive](#).

The *VCDemo.exe* works only with the Windows OS, there is an install program in the archive.

After, to configure VCDemo (see in the menu: *Help -> Settings*), all the default directories (but the *Output* one) have to point to the one where you have unarchived the VCDemo files. For the *Output Default Directory* you need to choose one for which you have writing access.

Note 1: (for linux users)

On linux you can install *wine* (32 bits):

- *sudo apt-get install wine*

Then launch the VCDemo binary executable by using:

- *wine /path-to-the-VCDemo-directory/VCDemo.exe*

Note 2: (for Mac OS users [and OS accepting only 64 bits applications])

WCDemo.exe can not work on Mac OS Catalina which permits only 64 bits applications. One possibility is to install a virtual machine like [Virtual Box](#) in order to host Windows after.

Zoom:

[Vincent Ricordel's zoom virtual room](#)

Meeting ID: *204 075 9213*

Password: *2468*