

**Introduction to Media Informatics, Spring 2022**  
**Assignment 2**

*Submission: Monday 30 May, 11:59 pm*

**Submission guidelines:**

- This is an individual assignment, please submit to the following email: [incs409.giu@gmail.com](mailto:incs409.giu@gmail.com)
- The subject should be A2\_T[xx]\_[id] Ex. : A2\_T1\_401234
- The submission email should contain one zip file named as the subject.
- Your zip file should contain:
  1. Your python code (.ipynb)
  2. The output images from your code (.png or .jpeg)
- If the size is large, upload the archive to a cloud storage and submit the link.
- Good luck! :)

---

**Evaluation:**

After submission, you will be evaluated individually during your regular lab slot (Sunday 5 May or Tuesday 7 May). The evaluation will be a small task on the code you submitted. Attending the evaluation is mandatory or you will lose the whole percentage of the assignment.

---

**Chroma Subsampling:**

On the mandrill image, you are required to perform the first step of JPEG compression which is chroma subsampling:

- a) Convert the given image from RGB to YCbCr colorspace.
- b) Display the three components of the image in three separate images.
- c) Apply a 4:2:2 subsampling to the YCbCr components above.
- d) Display the images after subsampling.
- e) What are the resolutions of each of the three components before and after subsampling? (Add your calculations and comments as a text in your google colab/jupyter notebook)