# ICE3111 – Computer Vision – Lab 2 – questionnaire

(worth 5% of Assignment 1)

Deadline: 13/10/2021 at 23:59

* Your name: \_\_\_\_\_\_\_\_\_\_\_\_\_
* Your user ID: \_\_\_\_\_\_\_\_\_\_\_\_\_

## Improving the Brightness and Contrast of the Visualisation

* Once you’re happy with the brightness/contrast of your image,
  + Write down the numerical values that are below the histogram in the dialogue box (“B&C”).
    - Smallest value: \_\_\_\_\_\_\_\_\_\_\_\_\_ [1 mark]
    - largest value: \_\_\_\_\_\_\_\_\_\_\_\_\_ [1 mark]
  + Put a screenshot of your image below: [1 mark]

## Area Measurements of an Object

* What is the area of the entire PMMA block in mm2?
  + Area: \_\_\_\_\_\_\_\_\_\_\_\_\_ [1 mark]
* Look at your histograms from last week’s report.
  + What was the max pixel value of the background? \_\_\_\_\_\_\_\_\_\_\_\_\_ [1 mark]
  + What was the min pixel value of the PMMA block? \_\_\_\_\_\_\_\_\_\_\_\_\_ [1 mark]
  + What is the pixel value in the middle? \_\_\_\_\_\_\_\_\_\_\_\_\_ [1 mark]
* Add a screenshot below of your image after you segmented the PMMA block and removed the text “4cm PMMA” from the selection. [1 mark]
* Below the histogram in the threshold dialog box, you see a percentage. What is it?
  + \_\_\_\_\_\_\_\_\_\_\_\_\_ [1 mark]
* Estimate the area of the PMMA block in mm2 using this percentage.
  + \_\_\_\_\_\_\_\_\_\_\_\_\_ [1 mark]
* How does it compare with your previous estimation?
  + Error in %: \_\_\_\_\_\_\_\_\_\_\_\_\_ [1 mark]
  + Looking at the segmented image, explain in your own words why the value you computed is greater than 0. [3 marks] \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

## Simulated microtomography of a tungsten fibre

* Show evidence that you changed the pixel size. You may use a screenshot of your image. [1 mark]
* What is the diameter in um of one of the bright circles
  + \_\_\_\_\_\_\_\_\_\_\_\_\_ [1 mark]
* What is the diameter in um of one of the dark circles
  + \_\_\_\_\_\_\_\_\_\_\_\_\_ [1 mark]
* What is the size in um of rectangular structure?
  + Width: \_\_\_\_\_\_\_\_\_\_\_\_\_ [1 mark]
  + Height: \_\_\_\_\_\_\_\_\_\_\_\_\_ [1 mark]
* What is the percentage of the pixels of the image that corresponds to
  + tungsten: \_\_\_\_\_\_\_\_\_\_\_\_\_ [1 mark]
  + silicon carbide: \_\_\_\_\_\_\_\_\_\_\_\_\_ [1 mark]
  + titanium/aluminium/vanadium alloy: \_\_\_\_\_\_\_\_\_\_\_\_\_ [1 mark]