# ICE3111 – Computer Vision – Lab 2 – questionnaire

* (worth 5% of Assignment 1)
* Deadline: 13/10/2022 at 23:59
* Your name: \_\_\_\_\_\_\_\_\_\_\_\_\_
* Your user ID: \_\_\_\_\_\_\_\_\_\_\_\_\_

## Improving the Brightness and Contrast of the Visualisation

1. Nothing to report for this step. Go to next step.
2. Nothing to report for this step. Go to next step.
3. 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]

1. Nothing to report for this step. Go to next step.

## Area Measurements of an Object

1. Nothing to report for this step. Go to next step.
2. What is the area of the entire PMMA block in mm2?
   * Area: \_\_\_\_\_\_\_\_\_\_\_\_\_ [1 mark]
3. 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]
4. Nothing to report for this step. Go to next step.
5. Add a screenshot below of your image after you segmented the PMMA block and removed the text “4cm PMMA” from the selection. [1 mark]
6. Below the histogram in the threshold dialog box, you see a percentage. What is it?

* \_\_\_\_\_\_\_\_\_\_\_\_\_ [1 mark]

1. Estimate the area of the PMMA block in mm2 using this percentage.

* \_\_\_\_\_\_\_\_\_\_\_\_\_ [1 mark]

1. 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

1. Nothing to report for this step. Go to next step.
2. Nothing to report for this step. Go to next step.
3. Nothing to report for this step. Go to next step.
4. Adjust the brightness and contrast so that the image looks nice. Add a screenshot in your lab report. [1 mark]
5. Show evidence that you changed the pixel size. You may use a screenshot of your image. [1 mark]
6. Similarly to what we did last week, use the line selection tool
   1. What is the diameter in um of one of the bright circles
      * \_\_\_\_\_\_\_\_\_\_\_\_\_ [1 mark]
   2. What is the diameter in um of one of the dark circles
      * \_\_\_\_\_\_\_\_\_\_\_\_\_ [1 mark]
   3. What is the size in um of rectangular structure?
   * Width: \_\_\_\_\_\_\_\_\_\_\_\_\_ [1 mark]
   * Height: \_\_\_\_\_\_\_\_\_\_\_\_\_ [1 mark]
7. What is the percentage of the pixels of the image that corresponds to
   1. Tungsten: \_\_\_\_\_\_\_\_\_\_\_\_\_ [1 mark]
   2. Silicon carbide: \_\_\_\_\_\_\_\_\_\_\_\_\_ [1 mark]
   3. Titanium/aluminum/vanadium alloy: \_\_\_\_\_\_\_\_\_\_\_\_\_ [1 mark]