**CSD4040 Advanced Topics in Computer Science**

***Topic 1 Algorithms and Computation***

COURSEWORK 1

Poster Preparation and Presentation

Deadline for electronic submission of posters: Noon, Friday, 27th January 2017

Date of poster presentation: To be confirmed

In groups of three or four, which must be confirmed in advance, create an A2 (landscape or portrait) conference poster on ONE of the topics bellow. Topics will be allocated on a first-come first-served basis and your choice must be confirmed with an email to p.giannopoulos@mdx.ac.uk

1. **‘Comparison-based’ vs ‘Non-comparison-based’ sorting**.

You should cover the following topics:

1. Lower bound for ‘comparison-based’ algorithms.
2. Sorting in linear time: Bucket Sort.
3. **Path finding in a weighted graph**: the algorithm.
4. **Minimum spanning trees**: Kruskal’s algorithm and Prim’s algorithm.
5. **Travelling salesman problem**: Christophides’ approximation algorithm.
6. **Longest common subsequence**: the dynamic programming algorithm.

Your poster should include a description of the algorithm(s), an example with figures, and properties of the algorithm.

When creating your poster please consider your viewers/audience. There might be non-experts attending the poster presentation. What might you need to explain in more detail in order to help them understand the topic?

The poster will be displayed at a future date (to be announced) and the groups will do a short presentation.

* Each group will give a 25 minute presentation of their poster
* The presentations will be appraised by staff (and possibly, peers)
* Each group will reflect on the feedback received

The following website is useful for helping you to plan your poster <http://www.writing.engr.psu.edu/posters.html>

This coursework will carry 25 marks for the module. Submission will be electronic, in the first instance. Instructions for submission will be sent to you closer to the deadline.