**11 MSt Pollution Comparative Mini Project - Statistics Unit**

Duration 2 weeks beginning 28 Feb, both in and out of class.

Due date: 13 March 2013

Upload final project to Turnitin on or before midnight 13 March.

You have been asked by the Hong Kong government to carry out a study of the air quality, Air Pollution Index (API) in Hong Kong and one other large city in the world. They want to gather all of your findings to create a report that will identify the level of air pollution for 2013 so far. They predict that the report will support their belief that Hong Kong has a far lower API than these other cities.

1. Use the data from the following link for the daily average API for 2013

 ( http://www.epd-asg.gov.hk/download/daily/eng/api2013.csv )

1. choose any other city around the world, find or make up data for the same period (2013)
2. Present the data appropriately for comparison
3. Analyse by comparison using tools that you have learnt this year in statistics
4. Draw conclusions from your analysis
5. Validate the process and data

Your project must include the following sub headings:

* **Introduction** that includes the brief from above and what you will be wanting to achieve
* A **plan** of how you will carry out the project including why you are using the data sources you have chosen
* **Data collection** and appropriate presentation
* **Data analysis** using 2 or more appropriate statistical tools for comparison
* **Conclusions** coming from the results of your data analysis
* **Validation** of the process you went through and the data used
* Bibliography

Assessment Rubric

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| **Criterion A** | **Introduction** |  |
| Ach. Level | Descriptor | Check |
| 0 | No clear statement of the task |  |
| 1 | A clear statement of the task has been written |  |
| 2 | A clear statement of the task has been written with appropriate title and an outline of the project plan |  |

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| **Criterion B** | **Information and Measurement** |  |
| Ach. Level | Descriptor | Check |
| 0 | No relevant data collected or generated |  |
| 1 | Relevant data collected or generated |  |
| 2 | A satisfactory attempt to collect or generate relevant data and organise it appropriately for analysis. It is adequate in quantity and quality |  |
| 3 | Relevant data collected or generated and organised appropriately for analysis. It is sufficient in quantity and quality |  |

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| **Criterion C** | **Mathematical Processes** |  |
| Ach. Level | Descriptor | Check |
| 0 | No attempt to carry out any maths processes |  |
| 1 | Use of simple maths processes only e.g. mean calculations only |  |
| 2 | One sophisticated maths process attempted with some inaccuracies |  |
| 3 | At least one sophisticated and relevant maths process attempted with some accuracy |  |
| 4 | At least one relevant sophisticated and appropriate maths process attempted which is mostly accurate |  |
| 5 | A number of sophisticated maths processes are carried out accurately |  |

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| **Criterion D** | **Interpretation/Analysis of results** |  |
| Ach. Level | Descriptor | Check |
| 0 | No interpretation/analysis or conclusions |  |
| 1 | At least one interpretation/analysis or conclusions |  |
| 2 | At least one interpretation/analysis and/or conclusions consistent with maths processes used |  |
| 3 | Comprehensive discussion of interpretation/analysis and conclusions that are consistent with the maths processes used |  |

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| **Criterion E** | **Validity** |  |
| Ach. Level | Descriptor | Check |
| 0 | No comment made on the maths processes used or interpretations/analysis/ or conclusions |  |
| 1 | An attempt made to comment on the maths processes used on interpretations/analysis or conclusions |  |
| 2 | A serious attempt made to comment on the maths processes used on both interpretations/analysis and conclusions |  |

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| Criterion F | Structure and communication |  |
| Ach. Level | Descriptor | Check |
| 0 | No attempt made to structure the project |  |
| 1 | Some attempt made to structure the project **or** used appropriate notation and terminology |  |
| 2 | Some attempt made to structure the project **and** used appropriate notation and terminology |  |
| 3 | Project is well structured **and** communicated clearly in a coherent way with detailed bibliography |  |

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| **Criterion G** | **Structure and communication** |  |
| Ach. Level | Descriptor | Check |
| 0 | Little or no commitment |  |
| 1 | Satisfactory commitment including independent work, class work |  |
| 2 | Full commitment including independent work, fully engaged in class work, initiative and perseverance |  |

Total /20