**WATR404/604 Assignment #2**

1. Term Project Proposal

Prepare a one-page proposal of describing what you plan to do for the term project, and also what data you think will be required for that. I will review this proposal and provide feedback for you to refine your project.

### Complete the GIS exercise “Hydrology and Water Quality of the Mangatainoka Catchment

* 1. *A plot of E Coli as a function of time for the given data. Determine the mean, median, maximum and minimum value of these data.*
  2. *A plot of rainfall and discharge for a shorter interval so you can see the effect of individual rain events on the discharge at Town Bridge. Plot the Turbidity and Discharge as a function of time so you can see how sediment transport responds to changes in flow. Plot the Water Temperature as a function of time – what is the range of water temperature from summer to winter at this location? Plot the DO saturation as a function of time – what do you notice about the values in the summer?*
  3. *Use Regression to prepare a statistical model for the prediction of E. Coli levels in the Mangatainoka River at Pahiatua Town Bridge. Prepare an estimate of the mean concentration of E. Coli for the year at this location using this model. How does this compare with the mean value calculated from the instantaneous sampled values of E. Coli in (1)? On a daily basis, multiply the discharge and estimated concentration to get an E Coli load value and find mean daily load in CFU/day for this location.*

1. Take the two pdf documents from (1) and (2) and make a single pdf document from them, and submit this to the Learn web site.