**MATH 3210**

**Assignment #7 - Self-Organizing Map Exercise – Titanic Disaster Analysis**

**Scenario:** This exercise will allow you to experiment with a multivariate clustering algorithm. The algorithm that we’ll use is the Self-Organizing Map (SOM) network. You will use the SOM to cluster an unknown dataset in this exercise [Titanic.xls]. After you have finished creating and labeling your SOM, you will analyze the mapped results to determine the profile of a typical survivor and develop your inferences why these profiles fit the culture of that period.

Design and conduct your own experiment to cluster the data in the Titanic.xls spreadsheet using the SOM algorithm. Several components of this exercise are:

* You must convert the categorical data in the dataset into numeric data because SOM can only use numeric data.
* Multivariate analysis is required to develop the profile for a typical survivor.
* The survivor profiles, combined with historical context, should help you infer behavioral decisions that resulted in survival or not.

**Write a COMPLETE Analysis Report describing your analysis and recommendations for your work.**