

## **GEOM1159 – GIS Fundamentals**

### **MAJOR ASSIGNMENT – Research Report (40%)**

Geographic information systems (GIS) have found widespread use in many diverse applications. The number and range of such applications continues to increase as GIS technology is implemented in new disciplines.

As part of its analysis to implement GIS, an organisation will undertake a system design and development phase to determine how it will establish GIS into the organisation.

#### **Task**

The aim of this project is for you to determine the applicability of a GIS to support an organisation in its decision making processes and general operations.

Discuss the utilisation of geographic information systems (GIS) for a particular application in a subject area or field that you are familiar with/interested in. Example application areas include:

- Forest management
- Urban planning
- Water management
- Emergency management
- Crime prevention
- Agriculture

You **must** structure your report using the following headings and your report **must** have a title that describes your topic area.

#### **Introduction**

In the introduction, you should describe GIS and outline how GIS has been used in the application area you have selected. Many of the applications are very broad, so in your introduction, you should start with describing the broad application area and then narrow it down to a particular topic within the area. You should include here related work – a literature review of how GIS has been applied to similar organisations to your particular application (see below for references).

#### **Data Models**

You should describe whether your application utilises raster data, vector data or a combination of both. You should also explain why these data types are appropriate.

#### **Data sets and data sources**

Describe the types of data that could be used in the application area and where this data can be sourced.

#### **Types of analysis undertaken and products developed**

Describe the types of analytical tasks typically undertaken in the application area and the types of products (maps, tables or any other outputs) typically produced in this application area.

#### **Related Issues**

Describe any possible problems limiting the utilisation of GIS in your chosen application area and any other issues relevant to the particular application.

#### **Conclusions**

Summarise the key points about the use of GIS in your application area.

#### **References**

You must reference all books/websites/articles you use in your assignment, using the Harvard referencing system (author, date). A guide is available on the RMIT library website. At least **six authoritative references must be used**.

#### **Notes**

1. Approximate length 2000 – 2500 words (but not shorter).
2. Books and journals related to GIS can be found in and around call numbers 526 - 526.9 and 910 in the RMIT Central Library (and other libraries). The majority is also available online. There are also a small number of books in the reserve collection at these locations.
3. The assignment must be submitted **online** through Canvas (Assignments) as it will be run through Turnitin.

***Submission date:* Sunday, 3 May 2020 (Week 8), by 11:59pm.**