

<b>Institution:</b>	University of Sunderland
<b>Programme:</b>	MSc Environmental Management
<b>Module:</b>	Geographical Information Systems
<b>Activity:</b>	Developing skills in GIS within the context of the workplace
<b>Level:</b>	(Postgraduate)
<b>Learning hours:</b>	150

### **Work-related learning outcome(s)**

On completion of the module students will have gained an:

- appreciation of the value of the work they are doing and the skills they are developing;
- understanding of the concept of the appropriate level of precision which will depend on the particular piece of work in hand;
- insight into the workplace environment and the context within which GIS are applied.

### **Description of the teaching activity which achieves the learning outcome(s)**

Skills in using GIS are very valuable to many employers. This module enables students to become competent in the application of GIS technologies within the broad realm of environmental management at an introductory level, the level at which most GIS activity occurs. Students use GIS software and hardware to undertake typical workplace exercises and assignments, including:

- data entry – both from tabular data and digitising of map-based data;
- data exploration, interpretation and presentation;
- database query and manipulation in the context of feasibility studies and environmental investigations.

### **Rationale for the selection of the teaching activity**

Developing these skills in the context of real-life needs of local organisations for example data acquisition or processing, is far more valuable than practising them in the isolation of the classroom.

Over the past two years several organisations have identified immediate needs for existing paper-based data to be digitised, and a significant portion of the required work has been carried out by students as exercises and assignments forming part of their GIS module work.

To encourage the collaborative link between the external organisation and the students, a representative from the organisation gives a short introductory talk, either in the classroom or at the employer's premises, to set the context of the required work and to explain what exactly has to be done.

This approach has many benefits.

The students gain:

- an insight into at least one workplace where GIS is used;
- an appreciation of the value of the work they are doing and the skills they are developing;
- an understanding of the concept of the *appropriate level of precision* which will depend on the particular piece of work in hand;
- an increase in motivation towards the subject-matter of the module;
- insights into the world of work and the employment market;
- increased employability.

The module:

- is linked to and exposed to the world of the workplace;
- is tested for its relevance;
- gains an enhanced image.

The employer gains:

- valuable work carried out at minimum cost;
- useful links with the University.

### **Assessment – approach and detail**

Each student's work must be completed to a degree of accuracy acceptable to the organisation. The required level of accuracy is defined, explained and demonstrated by the external organisation during the initial briefing session. This definition of accuracy then forms the basis by which the students' work is assessed. The module leader, and not the organisation, assesses the students' work.

### **Future developments**

The intention is to incorporate other activities involving employer collaboration, such as data processing and analysis, whenever possible.

### **Contact details**

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