NRI7200 Syllabus: The Role of Information Management in Sustainable Use

Class time: Thursdays 1:30-4:30 p.m.
NRI Seminar room, Room 320
Sinnott Building

Instructor:
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Office Hours: by appointment, Thurs. 4:30-5:30 and Friday 1-4.

Introduction: Scope and Purpose

The 20th century has given rise to the Information Age. Concurrent with this dramatic increase of information has come the need to manage and evaluate data, and subsequently translate data into useful information and, perhaps, knowledge. Resources managers and decision-makers are increasingly expected to understand and effectively use computer technologies in ecosystem research, decision-making, and communication.

This course is an opportunity to explore and critique technologies, as well as build skills. This is a basic "no-anxiety" course in technology, which assumes only a prior knowledge of windows operating systems. The focus of the course will center on three areas gaining prominence in the resource management field: communication; statistical packages; and geographic information systems. Lectures, lab assignments, speakers and group work will introduce or advance current student understanding. Each technology will be grounded by applying it to the process of report writing, data collection, data selection, data analysis, presentation of results, decision-making or research communication. Speakers, working in the resource management field, will discuss and describe the utility of different technologies, as well as their limitations.

Objectives

1. To improve communication skills of research work through technology.
2. To introduce the students to a growing array of tools that will be useful in addressing research goals.
3. To provide new perspectives on resource management through spatial analysis.
4. To critique the uses of technology.
5. To gain practice in using video for appreciative enquiry.

Course Format

This course provides an overview of information technology in order to assist students in developing a critical understanding of technology as a tool for viewing our society and the natural world. Classes will involve short lectures, guest speakers and group work in addition to workshop training on specific computer programs. This course is an opportunity to explore and critique technologies, as well as build computer skills. Participation in class will be required.

Evaluation

Four assignments will constitute 90 percent of the course mark: These involve:

1) Participatory video production -- record and edit at least three minutes of a video by itself or as part of a larger production. Ideally you will as a class work together on: 1) most significant change that occured for alumni, staff and students at NRI (what difference is NRI making in the community and people's lives) for the 40th anniversary. Other topic areas on food security may be available. Communicate your research and message through new media (Utube or podcast or powerpoint or blog or ?) Content – 15%, storyline 10%, style –10% (35%). Due November 27, 2008.
2) Personal or research web page designed by Dreamweaver or a blog (20 percent); Due December 4, 2008.
3) GIS assignment to either: 1) GIS Google Earth map with links to a blog or a video or other information technology. This can be joint or individual but each individual will be required to submit one or two pages (can be in form of a wiki) explaining the theory and application behind their map; or 2) GIS essay of application of GIS in natural resource management (25 percent) or 3) GIS map poster. Due: October 23, 2008
4) Wiki to summarize the contents of one class (5 percent) and participation in other people's wikis (5 percents) (10 percent total). Date chosen by each class member.

Short (less than one-hour) assignments, GIS computer assignments done mostly in class and class participation will make up the remaining 10 percent of the course mark.

Course content

The draft syllabus contains three main areas:

1. Communication
2. Statistical Packages
3. Geographic Information Systems (GIS)

A variety of teaching methods will be used to achieve course objectives including: lectures, class discussions, presentations, readings and group work. Students will demonstrate their graphic design and research communication through posters and multi-media presentations. Statistical packages (Statistical Product and Service Solutions (SPSS), Access and Excel) will be introduced, using applications within the sustainable development framework. Students will become familiar with basic concepts related to geographic information systems and will produce basic maps that adhere to conventional mapping standards.

Communications

Communications today are multimedia. In keeping with the material being studied the course delivery mechanism will be a communications package called WebCT. WebCT will facilitate the distribution of materials and the ability to communicate with each other through chat groups, e-mail and whiteboards. Discussion of the role of the internet and technology in communications and the natural resources management will be discussed.

Formatting posters in Word will be outlined and practiced to help students to meet thesis requirements of the University of Manitoba. Embedding graphics, charts and figures from other software and file formats and scanning will be applied.

Dreamweaver will be used to assist in developing a personal or research web page, which will include graphics and PDF files. However, we will introduce you to blog creation, which could be an alternative vehicle for producing a webpage.

Video production will be a major project focus of the class. We will conduct interviews and other footage to engage in type of participatory video.

Statistical Packages

Excel and SPSS will be profiled and introduced. Students will develop the ability to create and manage relational database systems. Query structures and applications will, also, be addressed.

Geographic Information Systems

Students will be introduced to geographic information systems (GIS) using ESRI ArcGIS products (ArcMap, ArcCatalog, ArcToolbox and ArcEditor 9) and Goggle Earth Plus. Geographical Positioning System (GPS) will be practiced. Basic concepts surrounding GIS and remote sensing models will be introduced. Students will become familiar with linking database structures to digital maps, and will engage in spatial analyses. Applications regarding natural resources will be discussed. Students intending to pursue GIS in their research are encouraged to apply for a full term GIS course to attain a more comprehensive foundation.

Grading

Grade	Marks	GPA
A+	**≥ 90**	**4 (4.5)**
A	**85-89**	**4.0**
B+	**80-84**	**3.5**
B	**75-79**	**3.0**
C+	**70-74**	**2.5**
C	**65-69**	**2.0**
D	**60-64**	**1.0**
F	**>60**	**0.0**

Course Text

Articles and chapters of books will be available through downloading from WebCT. See bibliography for references.

56.720 The Role of Information Management in Sustainable Resource Use

Instructor: **Dr. Shirley Thompson** **Location: Sinnott Bldg, Room 314,**
Phone: 474-7170 **E-mail: s_thompson@umanitoba.ca**

Course Outline

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Sept 4/ Week 1: **Introduction- ICT overview, blogging, WebCT,**
To create a blog go to:
http://ltc.umanitoba.ca/blogs/wp-signup.php?

Sept. 11/ Week 2: **Debate based on assigned Articles: "Is the New Economy/ICT based economy good for the Environment" based on articles.**

Sept. 18/ Week 3: **Visit Oak Hammock marsh (http://www.oakhammockmarsh.ca) and do geocaching – meet with GIS researchers**

Sept. 25/ Week 4: **Community mapping**
GIS Data Sources and the Data Liberation Initiative
Speaker: Larry Laliberte

Oct 2/ Week 5: **Dreamweaver**

Oct 9/Week 6: **Podcasting**

Oct. 16/Week 7 **Studio workshop to finish community mapping exercise and website design.**

Oct 23/Week 7: **New Media, blogs wikis, Utube.**

Oct 30/Week 8: **Access, Excel and SPSS – comparison, uses and basics.**

Nov 6/Week 9: **GIS exercises**

Nov 13/Week 10: **Participatory video theory/Video production -- storyline**

Nov. 20/Week 11: **Video production**

Nov. 27/Week 12: **Video production**

Dec. 4/Week 13: **Showcase and analyze videos for participatory elements with discussion of how these achieved participatory video status.**