SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

SAULT STE. MARIE, ONTARIO

COURSE OUTLINE

COURSE TITLE: Research Project / Presentation 1

CODE NO. : GIS 406 **SEMESTER:** F2001

PROGRAM: Geographic Information Systems Applications Specialist

AUTHOR: Dennis Paradine

DATE: June, 2001 **PREVIOUS OUTLINE DATED:** June 2000

APPROVED:

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DEAN **DATE**

TOTAL CREDITS: 4

PREREQUISITE(S): None

LENGTH OF COURSE: 3 hrs/wk x 10 wks + fieldwork **TOTAL CREDIT HOURS:** 30

I. COURSE DESCRIPTION:

This course will introduce the student to the practical use of field equipment in a GIS environment, to presentation as a method of communication and to the design of research projects. Skills to be gained include the practical use of Global Positioning Systems, surveying equipment and scanners, computer graphic and PowerPoint presentations, and designing research project proposals.

II. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:

Upon successful completion of this course, the student will demonstrate the ability to:

1. Understand and use Global Positioning Systems

   Potential Elements of the Performance:
   - explain how Global Positioning Systems work
   - capture GPS data in the field and integrate into a Geographic Information System
   - differentially correct GPS data
   - produce GPS-based map products

2. Understand and use surveying equipment

   Potential Elements of the Performance:
   - Gain a theoretical understanding of surveying processes and equipment
   - Capture surveying data in the field and integrate into a GIS
   - Understand the role of Computer-Aided Design (CAD) in GIS applications

3. Develop high-quality computer-based presentations

   Potential Elements of the Performance:
   - Create an advanced computer-based presentation using PowerPoint
   - Use computer graphics software packages
   - Recognize different graphics file formats
   - Recognize good graphic presentation practice
   - Scan documents and images

4. Design a GIS Project

Potential Elements of the Performance:

- Describe the fundamentals of project management
- Place the GIS process within a project management framework
- Write a GIS project proposal, including detail on estimated costs, resources required and time-frame
- Map geomatics processing procedures
- Present project proposals for review and suggestions

III. TOPICS:

1. Global Positioning Systems (GPS) (9 hours)
   - GPS theory, field data collection and computer upload
   - Differential correction of GPS data
   - Integration of GPS data into GIS

Laboratory #1. Global Positioning Systems

2. Surveying (6 hours)
   - Surveying theory
   - Surveying field data collection
   - Integration of surveying data into a GIS
   - The role of Computer-Aided Design (CAD) in GIS applications

Laboratory #2. Surveying

4. Computer presentation applications (6 hours)
   - PowerPoint
   - Computer graphics software
   - Graphic design techniques in computer presentation
   - Document layout
   - Scanning and using documents and images in presentations

5. GIS Project Design (9 hours)
   - Fundamentals of GIS project management
   - Designing a GIS project and mapping out GIS procedures

Presentation GIS Project Design Oral Presentation

Laboratory #3. GIS Project Design

IV. REQUIRED RESOURCES/TEXTS/MATERIALS:

Martin, P. and K. Tate. Project Management Memory Jogger. Goal/QPC. 175 pages.

V. EVALUATION PROCESS/GRADING SYSTEM:

Grading System:

Laboratories (3)	80
Presentation	20%
	100%

The following semester grades will be assigned to students in post-secondary courses:

Grade	Definition	Grade Point Equivalent
A+	90 – 100%	4.00
A	80 – 89%	3.75
B	70 – 79%	3.00
C	60 – 69%	2.00
R (Repeat)	59% or below	0.00
CR (Credit)	Credit for diploma requirements has been awarded.	
S	Satisfactory achievement in field placement or non-graded subject areas.	
X	A temporary grade. This is used in limited situations with extenuating circumstances giving a student additional time to complete the requirements for a course (see *Policies & Procedures Manual - Deferred Grades and Make-up*).	
NR	Grade not reported to Registrar's office. This is used to facilitate transcript preparation when, for extenuating circumstances, it has been impossible for the faculty member to report grades.	

VI. SPECIAL NOTES:

Special Needs:
If you are a student with special needs (e.g. physical limitations, visual impairments, hearing impairments, or learning disabilities), you are encouraged to discuss required accommodations with your instructor and/or the Special Needs office. Visit Room E1204 or call Extension 493, 717, or 491 so that support services can be arranged for you.

Retention of course outlines:
It is the responsibility of the student to retain all course outlines for possible future use in acquiring advanced standing at other post-secondary institutions.

The Professor reserves the right to change the information contained in this course outline depending on the needs of the learner and the availability of resources.

Substitute course information is available in the Registrar's office.

VII. PRIOR LEARNING ASSESSMENT:

Students who wish to apply for advanced credit in the course should consult the instructor. Credit for prior learning will be given upon successful completion of the following:

VIII. DIRECT CREDIT TRANSFERS:

Students who wish to apply for direct credit transfer (advanced standing) should obtain a direct credit transfer form from the Dean’s secretary. Students will be required to provide a transcript and course outline related to the course in question.