

SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

SAULT STE. MARIE, ONTARIO



Sault College

COURSE OUTLINE

COURSE TITLE: Research Project / Presentation I

CODE NO. : GIS406 **SEMESTER:** F2003

PROGRAM: Geographic Information Systems Applications Specialist

AUTHOR: Kevin Weaver

DATE: Aug., 2003 **PREVIOUS OUTLINE DATED:** Aug., 2002

APPROVED:

	_____	_____
	DEAN	DATE

TOTAL CREDITS: 4

PREREQUISITE(S): None

HOURS/WEEK: 3

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For additional information, please contact Colin Kirkwood, Dean,
School of Engineering, Technology and Trades
(705) 759-2554, Ext. 688

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. 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

2. 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
- Understand the process of differentially correcting GPS data
- Produce GPS-based map products

3. Understand and use surveying equipment

Potential Elements of the Performance:

- Explain surveying processes and equipment
- Capture surveying data in the field and integrate into a GIS
- Describe the role of Computer-Aided Design (CAD) in GIS applications

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 details on the estimated costs, resources required, and time-frame
- Map geomatics processing procedures
- Present project proposals for review and suggestions

III. TOPICS:

1. Computer presentation applications
 - Computer graphics software
 - Image file sizes and formats
 - Scanning and using documents and images in presentations
 - Graphic design elements and principles in computer presentation
 - PowerPoint presentations
 - Fundamentals of an effective presentation
2. Global Positioning Systems (GPS)
 - GPS defined, GPS components, accuracy and error
 - Differential correction of GPS data
 - Field data collection and computer uploading and downloading
 - Integration of GPS data into GIS
3. Surveying
 - Surveying theory
 - Surveying field data collection
 - Integration of surveying data into a GIS
 - The role of Computer-Aided Design (CAD) in GIS applications
4. GIS Project Design
 - Fundamentals of GIS project management
 - Designing a GIS project and mapping out GIS procedures
 - Preparing a project charter and project plan
 - Presenting a project proposal for review

IV. REQUIRED RESOURCES/TEXTS/MATERIALS:

Martin, P. and K. Tate. 1997. Project Management Memory Jogger. Goal/QPC. 175 pages.

V. EVALUATION PROCESS/GRADING SYSTEM:**Grading System:**

Assignments (4)	60%
Presentations (2)	25%
Test	<u>15%</u>
	100%

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

<u>Grade</u>	<u>Definition</u>	<u>Grade Point Equivalent</u>
A+	90 - 100%	4.00
A	80 - 89%	3.75
B	70 - 79%	3.00
C	60 - 69%	2.00
F (Fail)	59% and below	0.00
CR (Credit)	Credit for diploma requirements has been awarded.	
S	Satisfactory achievement in field /clinical placement or non-graded subject area.	
U	Unsatisfactory achievement in field/clinical placement or non-graded subject area.	
X	A temporary grade limited to situations with extenuating circumstances giving a student additional time to complete the requirements for a course.	
NR	Grade not reported to Registrar's office.	
W	Student has withdrawn from the course without academic penalty.	

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 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 postsecondary institutions.

Plagiarism:

Students should refer to the definition of “academic dishonesty” in *Student Rights and Responsibilities*. Students who engage in “academic dishonesty” will receive an automatic failure for that submission and/or such other penalty, up to and including expulsion from the course/program, as may be decided by the professor/dean. In order to protect students from inadvertent plagiarism, to protect the copyright of the material referenced, and to credit the author of the material, it is the policy of the department to employ a documentation format for referencing source material.

Course outline amendments:

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 professor. Credit for prior learning will be given upon successful completion of a challenge exam or portfolio.

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.