SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

SAULT STE. MARIE, ONTARIO

COURSE OUTLINE

COURSE TITLE: Research Project / Presentation I

CODE NO. :   GIS406   **SEMESTER:**   16F

PROGRAM: Geographic Information Systems Applications Specialist

AUTHOR: Heath Bishop

DATE: June, 2016   **PREVIOUS OUTLINE DATED:**   May, 2015

APPROVED: Colin Kirkwood   June/16

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                            DEAN   **DATE**

TOTAL CREDITS: 4

PREREQUISITE(S):   None

HOURS/WEEK: 3

I.   COURSE DESCRIPTION:

This course will introduce the student to the practical use of field equipment in a GIS environment, to data manipulation and management, 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, spreadsheet software, 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.   Explain and use Global Positioning Systems

       Potential Elements of the Performance:
       • Describe how Global Positioning Systems work
       • Capture GPS data in the field and integrate into a Geographic Information System
       • Descibe the process of differentially correcting GPS data
       • Produce GPS-based map products
       • Demonstrate how to integrate GPS data into ArcGIS and Google Earth

2.   Develop high-quality computer-based presentations

       Potential Elements of the Performance:
       • Demonstrate appropriate presentation style
       • Apply appropriate content coverage for a presentation
       • Create an advanced computer-based presentation using PowerPoint
       • Recognize proper graphic presentation practice

3.   Gain experience with spreadsheet software

       Potential Elements of the Performance:
       • Perform data manipulation and organization using Microsoft Excel
       • Use formulas\autofills and other various functionality within Excel

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 charter/plan, including details on the estimated costs, resources required, and time-frame
- Present project charter/plan for review and suggestions

5.   Work with ArcExplorer

Potential Elements of the Performance:
- Explain the purpose and appropriate use of ArcExplorer
- Demonstrate how ArcExplorer can be used to share ArcGIS projects with clients that do not have ArcGIS software

III.   TOPICS:

1.   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 and Google Earth

2.   Microsoft Excel

- Introduction to Excel
- Basic Formulas
- Advanced Formulas
- Data manipulation

3.   Computer presentation applications

- Graphic design elements and principles in computer presentation
- PowerPoint presentations
- Fundamentals of an effective presentation

4.   ArcExplorer

- Introduction to ArcExplorer
- Navigating the interface
- Loading, manipulating and saving NMF files
- Exploring the functionality of ArcExplorer

5.   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:

None

V.   EVALUATION PROCESS/GRADING SYSTEM:

Quizzes	15%
Assignments	55%
Presentations	<u>30%</u>
	100%

Note: All assignments are due at the beginning of class on the scheduled due date, or may be subject to a 10% penalty. Each subsequent day that the assignment is not handed in by 9:30am is an additional 10% deduction.

The following semester grades will be assigned to students:

Grade	Definition	Grade Point Equivalent
A+	90 – 100%	4.00
A	80 – 89%	
B	70 - 79%	3.00
C	60 - 69%	2.00
D	50 – 59%	1.00
F (Fail)	49% 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.

If a faculty member determines that a student is at risk of not being academically successful, the faculty member may confidentially provide that student's name to Student Services in an effort to help with the student's success. Students wishing to restrict the sharing of such information should make their wishes known to the coordinator or faculty member.

VI.   SPECIAL NOTES:

Attendance:
Sault College is committed to student success. There is a direct correlation between academic performance and class attendance; therefore, for the benefit of all its constituents, all students are encouraged to attend all of their scheduled learning and evaluation sessions. This implies arriving on time and remaining for the duration of the scheduled session.

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

VII.   COURSE OUTLINE ADDENDUM:

The provisions contained in the addendum located in D2L and on the portal form part of this course outline.