SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

SAULT STE. MARIE, ONTARIO

COURSE OUTLINE

COURSE TITLE:	CAD/GIS		
CODE NO. :	GIS425	**SEMESTER:**	16F
PROGRAM:	Geographic Information Systems Applications Specialist		
AUTHOR:	Heath Bishop		
DATE:	June, 2016	**PREVIOUS OUTLINE DATED:**	May, 2015
APPROVED:	Colin Kirkwood		June/16
	DEAN		**DATE**
TOTAL CREDITS:	3		
PREREQUISITE(S):	None		
HOURS/WEEK:	3		

I. COURSE DESCRIPTION:

This course investigates the integration between AutoCAD and GIS software packages. The ability to convert data between these packages is essential in many GIS industries, and is therefore a focal point of this course. The students will be using real-world data to solve geo-spatial problems while also learning the intricacies of file conversion and compatibility. Students will gain experience creating spatial data within the AutoCAD and AutoCAD Map environments, and subsequently learn the skills necessary to successfully bring the data into other GIS software packages for further analysis.

II. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:

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

1. Use AutoCAD Software

   Potential Elements of the Performance:
   - Become familiar with the AutoCAD interface
   - Create basic spatial data in AutoCAD such as points, arcs, dimensions, blocks, etc.
   - Input survey plans into AutoCAD

2. Perform Data Integration between AutoCAD and ArcGIS

   Potential Elements of the Performance:
   - Convert AutoCAD DWG and DXF files into GIS files such as shapefiles and geodatabase feature classes
   - Be able to clean CAD data as necessary in order to use it successfully in a GIS environment
   - Overcome the numerous conversion issues that can arise in this process

3. Read and Input Survey Plans

   Potential Elements of the Performance:
   - Read a survey plan and be able to input plans into AutoCAD
   - Interpret arc, line and circle measurements on survey plans
   - Interpret supplementary information supplied on survey plans

4. AutoCAD 3d Map

   Potential Elements of the Performance:
   - Demonstrate functional use of AutoCAD 3d Map as a GIS software
   - Use both CAD data as well as GIS data to undertake spatial analyses in AutoCAD Map 3d

III. TOPICS:

1. AutoCAD Introduction
   - Perform data creation tasks and digitizing in AutoCAD
   - Read a survey plan and reproduce it in AutoCAD

2. Conversion / Integration
   - File format theory and conversion processes
   - Integration of different file formats and software packages
   - Troubleshooting data conversion issues

3. Survey Plans
   - Survey plan introduction and interpretation
   - Survey plan reproduction

4. AutoCAD 3d Map
   - Introduction to the interface
   - Functionality of the software
   - File type interoperability

IV. REQUIRED RESOURCES/TEXTS/MATERIALS:

None

V. EVALUATION PROCESS/GRADING SYSTEM:

Assignments	80%
Midterm Test	20%
Total	100%

Note: Students must achieve an average mark of at least 50% on the Test components AND achieve at least 50% on all of the assignments in order to pass the course.

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 learner 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.