

**MEMORIAL UNIVERSITY OF NEWFOUNDLAND
Department of Computer Science**

**Computer Science 4767 – Information Visualization and Applications
Winter Semester 2009**

Instructor: **Dr. Orland Hoerber**
Lectures: **T/Th 2:00 PM – 3:15 PM (S-2064)**
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Office Hours: **T/Th 3:30 PM – 5:00 PM**
W 1:00 PM – 3:00 PM (other times by appointment only)

Note: There is a **Computer Science Student Help Centre** located in EN-2031C. Please check the Computer Science home page <http://www.cs.mun.ca/> for hours of operation each semester.

Course Prerequisite

COMP 2760 and COMP 3719

Course Objectives

Information Visualization and Applications focuses on the design and implementation of interactive visualization techniques for the analysis, comprehension, exploration, and explanation of large collections of abstract information. Topics to be covered include principles of visual perception, information data types, visual encoding of data, representations of relationships, interaction methods, understanding user goals and tasks, and evaluation techniques. Case studies of accepted techniques and the current state-of-the-art in information visualization will be presented.

Textbook

Spence, R. Information Visualization: Design for Interaction, 2nd Edition, Prentice Hall, 2007. (ISBN-13: 9780132065504)

Evaluation

The final grade in the course will be determined as follows:

Assignments	4 x 10%	40%
Midterm Exam	Feb 19	20%
Final Exam	TBA	40%
Total		100%

***You must pass the final exam to pass the class.**

Format

Lectures, three hours per week (T/Th 2:00 PM – 3:15 PM; S-2064). All lecture notes and assignments will be posted on Desire2Learn (<https://online.mun.ca/>).

The lectures and displays (and all material) delivered or provided in COMP 4767 (Information Visualization and Applications), including any visual or audio recording thereof, are subject to copyright owned by Dr. Orland Hoerber (and in some cases, the authors of the textbooks used in the course). It is prohibited to make recordings or copies by any means, in any format, openly or surreptitiously, in whole or in part, in the absence of express written permission from Dr. Orland Hoerber, of any of the lectures or materials provided or published in any form during or from the course.

Course Schedule & Topics

Week	Date	Topics
0	January 8	<ul style="list-style-type: none"> • Readings: Ch 1 • What is InfoVis
1	January 13/15	<ul style="list-style-type: none"> • Readings: Ch 2 • Issues in InfoVis
2	January 20/22	<ul style="list-style-type: none"> • Readings: Ch 3.1 • Encoding Value • KML and Google Earth Tutorial
3	January 27/29	<ul style="list-style-type: none"> • Encoding Value (continued)
4	February 3/5	<ul style="list-style-type: none"> • Dashboard Design • Programming with Prefuse Tutorial • Assignment 1 is due (Feb 3)
5	February 10/12	<ul style="list-style-type: none"> • Readings: Ch 3.2 • Encoding Relations
6	February 17/19	<ul style="list-style-type: none"> • Encoding Relations (continued) • Assignment 2 is due (Feb 17) • Midterm Exam (Feb 19)
7	February 26 (Midterm Break: February 23 – 25)	<ul style="list-style-type: none"> • Information Visualization Exercise
8	March 3/5	<ul style="list-style-type: none"> • Reading: Ch 4 • Presentation
9	March 10/12	<ul style="list-style-type: none"> • Presentation (continued) • Evaluating InfoVis Systems
10	March 17/19	<ul style="list-style-type: none"> • Readings: Ch 5 • Interaction • Assignment 3 is due (Mar 17)

Week	Date	Topics
11	March 24/26	<ul style="list-style-type: none">• Interaction (continued)
12	March 31/April 2	<ul style="list-style-type: none">• Readings: Ch 6; Hoerber et al., 2007• Case Studies• Assignment 4 is due (Mar 31)
13	April 7	<ul style="list-style-type: none">• Final Review

The Office of the Registrar will schedule the **Final Exam** between Wednesday, April 13 and Friday, April 22, 2009. The exam will be comprehensive, with extra weight given to the topics covered after the midterm.

All assignments are due prior to the beginning of the class on the specified dates. Late submissions will not be accepted. Each assignment may have two parts: a physical submission that must be handed in prior to the beginning of class, and an electronic submission that must be submitted online.

For the written submission, please be sure to follow the instructions on each assignment. Source code for the assignments must be zipped into a single file, and submitted online. Source code should be commented in a reasonably informative manner (JavaDoc formatting is recommended). You are responsible for ensuring that your code compiles and executes within the LabNet environment.

All electronic assignment submissions are to be submitted via Desire2Learn (<https://online.mun.ca/>).

All grades will be assigned according to the 2008/2009 University Calendar (Section 4.8 under General Regulations).

- "A" (80 – 100%) indicates excellent performance with clear evidence of:
 - comprehensive knowledge of the subject matter and principles treated in the course,
 - a high degree of originality and independence of thought,
 - a superior ability to organize and analyze ideas, and
 - an outstanding ability to communicate.
- "B" (65 – 79%) indicates good performance with evidence of:
 - substantial knowledge of the subject matter,
 - a moderate degree of originality and independence of thought,
 - a good ability to organize and analyze ideas, and
 - an ability to communicate clearly and fluently.
- "C" (55 – 64%) indicates satisfactory performance with evidence of:
 - an acceptable grasp of the subject matter,
 - some ability to organize and analyze ideas, and
 - an ability to communicate adequately.
- "D" (50 – 54%) indicates minimally acceptable performance with evidence of:
 - rudimentary knowledge of the subject matter,
 - some evidence that organizational and analytical skills have been developed, but with significant weaknesses in some areas, and
 - a significant weakness in the ability to communicate.
- "F" (below 50%) indicates failing performance with evidence of:
 - an inadequate knowledge of the subject matter,
 - failure to complete required work,
 - an inability to organize and analyze ideas, and
 - an inability to communicate.