

**EPI 5345: Applied Logistic Regression**

**Instructor:** Kathryn Williams [kwilliams@ottawaheart.ca](mailto:kwilliams@ottawaheart.ca) 613-761-4707

**When: Classes:** Thursdays, 9:00-12:00, January 7 to February 18, 2010, Room 2154

**Office Hours:** Thursdays, 12:30-2:30, Computing Lab Room 3140 by appointment

**Prerequisites:** EPI 5340 or permission of instructor

**Required Textbook:** Vittinghoff, E., Glidden, D.V., Shiboski, S.C., McCulloch, C.E. Regression Methods in Biostatistics: Linear, Logistic, Survival, and Repeated Measures Models. Springer Science+Business Media, Inc. 2005 **There is an electronic version through the library online catalogue.**

**Description:** Application of advanced topics in statistical methods for epidemiology data analysis. Modeling dichotomous outcome (dependent) variables: logistic regression; Logistic models with several independent variables; Interpretation of model parameters; Model building strategies; Assessing the fit of the model; Regression diagnostics.

Classes will include hands on modeling examples using SAS statistical software.

The focus of the course will be on practical application rather than theory.

**Format:** Classes will include lecture and hands on SAS instruction.

**Course Evaluation:** The course will be evaluated with 3 small class assignments (20% each) that can be completed collaboratively and 1 large assignment (40%) that must be completed without collaboration.

Small SAS assignment 1-3: Small assignments using SAS to perform logistic regression. Sample SAS programs and details of the assignments will be provided to the students in the class.

Large assignment 4: Conduct a complete logistic regression on a provided data set based on everything you have learned in the course. This final assignment must be completed without collaboration.

**Course Timetable:**

January 7: Introduction to Logistic Regression

January 14: Logistic models with several independent variables

January 21: Model building strategies

January 28: Assessing the fit of the model

February 4: Regression diagnostics I

February 11: Regression diagnostics II

February 18: Regression diagnostics III