

# Epidemiology (EPIJ) - Joint Courses

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## **Epidemiology - Joint (EPIJ) Courses**

**EPIJ 5240 [0.5 credit] (EPI 5240)**

**Epidemiology**

**EPIJ 5241 [0.5 credit] (EPI 5241)**

**Epidemiology II**

**EPIJ 5330 [0.5 credit] (EPI 5330)**

**Vital and Health Statistics**

**EPIJ 5340 [0.25 credit] (5340)**

**Epidemiological Methods**

Major principles of study design and analysis: validity in epidemiologic studies; precision and statistics in epidemiology studies; confounding; additive and multiplicative interaction; stratified analysis; regression models; regression modeling; bias analysis; analytical strategy.

Includes: Experiential Learning Activity

Prerequisite(s): EPI 5240, (EPI 5242 or MAT 5375).

**EPIJ 5344 [0.25 credit] (EPI 5344)**

**Survival Analysis in the Health Sciences**

Types of survival data. Hazard function and its links to incidence rate/density. Nonparametric analysis including actuarial life tables, Kaplan-Meier method and log-rank test. Proportional hazards (Cox regression) modeling. Methods for time varying covariates and non-proportional hazards. SAS software for hands-on modeling.

Includes: Experiential Learning Activity

Prerequisite(s): EPI 5340.

**EPIJ 5345 [0.25 credit] (EPI 5340)**

**Applied Logistic Regression**

Foundation of model estimation: maximum likelihood; 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.

Includes: Experiential Learning Activity

Prerequisite(s): EPI 5340.

**EPIJ 5346 [0.25 credit] (EPI 5346)**

**Applied Longitudinal and Clustered Data Analysis**

Introduction to longitudinal (repeated measures) and clustered data and overview of regression models for correlated data; linear mixed effects models: modelling the mean; modelling the covariance structure; generalized estimating equations and generalized linear mixed effects models; regression diagnostics; missing data and drop-out; case studies.

Includes: Experiential Learning Activity

Prerequisite(s): EPI 5340.

**EPIJ 6178 [0.5 credit] (EPI 6178)**

**Clinical Trials**

**EPIJ 6278 [0.5 credit] (EPI 6278)**

**Advanced Clinical Trials**