

# Epidemiology (EPIJ) - Joint Courses

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EPIJ 6178 [0.5 credit] (EPI 6178)  
Clinical Trials

EPIJ 6278 [0.5 credit] (EPI 6278)  
Advanced Clinical Trials

## 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 5345)

### 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.