

## CTSC 5650

### Survival Analysis

**Faculty:** Jun (Vivien) Yin, Ph.D

**Credits:** 1

**Quarter:** Spring

**Prerequisites:** CTSC 5600, CTSC 5601 and CTSC 5610

#### Overview

The goal of this course is to introduce students to methods for summarizing and analyzing time-to-event data, which commonly occur in clinical trials and epidemiological studies. Topics covered include basic quantities, non-parametric and parametric approaches for estimating quantities, associated tests to compare event times, semi-parametric Cox proportional hazards regression model and related topics, and power and sample size calculations for planning studies will be discussed. Software packages demonstrated will include JMP and R, while other web-based resources and topics may be included in computer lab sessions.

#### Objectives

- To describe when to appropriately use the most common statistical methods for survival analysis
- To perform survival analyses using a statistical software package
- To interpret the results of survival analyses
- To explain the assumptions required to appropriately use common statistical methods for time-to-event data
- To write and review common statistical analyses of survival data appearing in medical literature

#### Evaluation

Students will be evaluated on a three-part final project and three lab assignments. Students may be eligible for extra credit based on perfect attendance.

Students will be expected to spend approximately two to four hours per week on content from this 1-credit course.

Additional online modules related to this topic are available on the [Continuous Professional Development website](#).

For specific dates and times this course is provided, please see the [quarterly detailed course schedule](#).