Stat 6021: Assumptions in Simple Linear Regression

In Section 2.1, the simple linear regression model is $y = \beta_0 + \beta_1 x + \epsilon$, where ϵ are the errors. The errors are assumed to have mean 0 and unknown variance σ^2, and are uncorrelated.

In a regression setting, the response variable is viewed as a random variable for each fixed value of the predictor. So $E(y|x) = \beta_0 + \beta_1 x$ and $Var(y|x) = \sigma^2$, and the responses are also uncorrelated.