In statistical reliability (or survivability), engineers are concerned with optimizing the probability that some mechanical system is reliable and of estimating the mean life length and the life length distribution of components or systems. Biomedical scientists have similar motives in terms of the probability of biological survivability or the life length of a human or animal. In statistical quality control, economists, engineers and businessmen are concerned with the assurance of quality of their industrial products. In this course, we would like students to become acquainted with some fundamental statistical methods in reliability and quality control.

Text. The following books are recommended:


Calendar description. *3570 Reliability and Quality Control* covers an introduction to reliability, parallel and series systems, standard parametric models, estimation of reliability, quality management systems, introduction to statistical process control, simple quality control tools, process control charts for variables and attributes, process capability, cumulative sum chart, exponentially weighted moving average chart, acceptance sampling plans, measurement system analysis, continuous improvement and six sigma methodology.

Prerequisites: Either Statistics 3411 or both Mathematics 1001 and one of Statistics 2501 or 2560 or the former 2511.

Offered. Occasionally