STATISTICS (STAT)

STAT 514
Applied Computational Statistics for Analytics
Generating actionable insights from data relies heavily on proper usage of analytics. The foundation of this process consists of two key ingredients: fundamental statistical concepts and corresponding computational tools. This course covers the topics from statistics and programming necessary to understand how such concepts come about, why the algorithms work the way they do, and how to use these in practice. The emphasis is on implementing the foundational procedures in industry-standard programming languages.
Lecture: 3 **Lab:** 0 **Credits:** 3

STAT 539
Network modeling and statistics
Networks are a fundamental structure in a variety of settings such as biology, transportation, and telecommunication. In this course, students will learn how to represent and analyze networks. Students will also learn how to build networks from data using software and utilize network algorithms. Applications include social, biological, and technological networks. Topics covered include graph representations, random network models, modeling techniques, spectral analysis and clustering, and dynamics on networks.
Lecture: 3 **Lab:** 0 **Credits:** 3

STAT 573
Statistical Consulting
Statistical Consulting is a course in applied statistics, providing training in statistical consulting. Applications of commonly encountered statistical methods are explored in the consulting environment. Written and oral communication skills are emphasized, and ethical aspects of consulting are introduced. The course provides students with an opportunity to gain practical experience in consulting through various projects with synthetic and real data in simulated and client-facing scenarios. Basic proficiency or working knowledge of statistical software packages, such as R or python, is expected.
Prerequisite(s): MATH 563 with min. grade of B or MATH 564 with min. grade of B
Lecture: 3 **Lab:** 0 **Credits:** 3