Minnesota State University Moorhead

MATH 336: Intermediate Probability and Statistics II

A. COURSE DESCRIPTION

Credits: 3

Lecture Hours/Week: 3

Lab Hours/Week: 0

OJT Hours/Week: *.*

Prerequisites:
This course requires either of these prerequisites
   MATH 335 - Intermediate Probability and Statistics I
   MATH 435 - Mathematical Statistics I

Corequisites: None

MnTC Goals: None

This course covers the theory and applications of linear regression models, generalization linear models, tree-based models, autoregressive and forecasting time series models. Topics includes parameter estimations, variables selection, model validation and diagnose, statistical inference and predictions. Student will learn basic R programming language and practically implement the models with real data in the actuarial science contexts. The course covers the topics as required in the Statistics for Risk Modeling (SRM) Exam offered by the Society of Actuaries (SOA) and prepare students for the SRM exam.

B. COURSE EFFECTIVE DATES: 02/02/2017 - Present

C. OUTLINE OF MAJOR CONTENT AREAS

1. Linear regression models, generalization linear models, tree-based models, autoregressive and forecasting time series models, parameter estimations, variables selection, model validation and diagnose, statistical inference and predictions

D. LEARNING OUTCOMES (General)

1. Understand and apply the concepts and theories of the various statistical and regression models.
2. Perform data analysis on real data by selecting appropriate mode and providing rational statistical results.
3. Implement and interpret statistical analysis using R4. Be prepared for the SRM exam

E. Minnesota Transfer Curriculum Goal Area(s) and Competencies

None

F. LEARNER OUTCOMES ASSESSMENT

As noted on course syllabus

G. SPECIAL INFORMATION

None noted