Curriculum for FDU’s concentration in Pharmaceutical Statistics
12 credits from the following courses

Department and Course Number: Mathematics 2337
Course Title: Applied Statistics I
Total Credits: 3

Current Catalog Description: An introductory course that covers basic probability, descriptive statistics, and inferential statistics, with applications in the natural sciences and health care. Topics include an introduction to design, randomization, analysis and interpretation of real experiments and surveys. Analyses focus on test of hypotheses (using normal and binomial methods), correlation, confidence intervals and regression analysis. Prerequisite: None

Sample Textbook: Samuels and Witmer, Statistics for Life Sciences

Department and Course Number: Mathematics 2338
Course Title: Applied Statistics II
Total Credits: 3

Current Catalog Description: This follow-up course to MATH 2337 covers a wider range of applied statistical techniques, including significance tests, confidence intervals, analysis of variance (ANOVA), multiple linear regression, cross-tab and distribution-free analysis. Advanced topics may include modeling, experimental design, error correction, rare events, and graphical methods. Prerequisites: MATH 2337 Applied Statistics I


Department and Course Number: Mathematics 3237
Course Title: Probability and Statistics I
Total Credits: 3

Current Catalog Description: The theory and applications of probability and statistics. Topics emphasize the understanding of discrete and continuous random variables, moments and density functions in one variable and their applications to point and interval estimating. Prerequisite: Math 2202 Calculus II

Sample Textbook: Larsen and Marx, Introduction to Mathematical Statistics and its Applications

Department and Course Number: Mathematics 3238
Course Titles: Probability and Statistics II
Total Credits: 3
Current Catalog Description: A continuation of MATH3237 Probability and Statistics I including Goodness of Fit Tests, Linear Models, Markov Chains, optional topics. Prerequisites: MATH 3237 Probability and Statistics I

Department and Course Number: Mathematics 2243
Course Title: **Statistical Programming**
Total Credits: 3

Current Catalog Description: This is an in-lab SAS programming course, including importing and exporting files, predictive data modeling and exploration (mixed models analyses, multivariate statistical analysis, longitudinal analysis, and survival analysis), and a programming approach to report writing. Prerequisite: CSCI1202 Computer Programming II, Co-requisite MATH 2337 Applied Statistics for Scientists I or its equivalent.

Sample Textbook: Cody and Pass, SAS Programming by Example

Department and Course Number: CSCI 3268
Course Title: **Database Systems**
Total Credits: 3

Current Catalog Description: Overview of the function and architecture of database systems. Study of storage structures and their implementation. Survey of the current types of data models. Examples of data definition and data manipulation languages. Specific database management systems will be studied to support the database concepts. Prerequisite: CSCI 2232 Data Structures

Sample Textbook: Connolly and Begg, Database Systems

Department and Course Number: CSCI 6882
Course Title: **Data Warehousing and Data Mining**
Total Credits: 3

Current Catalog Description: Study of the concepts, design and architecture of the data warehouse. Study of decision-making process using the data warehouse and techniques like on-line analytical process and data mining. Topics also include: relationship between data mining and data warehousing, supporting more complex queries than regular SQL, historical and summary transformations and tools to make crucial business decisions. Prerequisite: CSCI 3268 or CSCI 6623 Database Systems