

BURLINGTON COUNTY COLLEGE

COURSE INFORMATION FORM

This form must be completed, using MS Word, for all new and modified courses offered for credit, including experimental courses. (Form expands to allow full details in each category.)

I. Course Prefix and number: MTH 280

II. Course Title: Biometry

III. Lecture Hrs.3

Clinical Hrs. 0

Credit Hrs. 4

Studio Hrs. 0

Lab Hrs. 3

Recitation Hrs. 0

IV. Course Fee: \$80

V. Prerequisite(s): BIO 103, BIO 104, BIO 107, BIO 108, MTH 118

VI. Co-Requisite(s): None

VII. Division Dean Approval: _____ Edem Tetteh _____ Date: 2/37/17

VIII. Is this eligible for Perkins Funding? Yes No

IX. New Course: Modified Course: Experimental Course:

(if modified course explain changes and list old course designator and number)

X. Semester and Year Course will first be Offered (or, if a modified course, semester and year when revised course will first be offered): Fall 2017

XI. Relation of Course to Curriculum(s):
 Program requirement
 General Education requirement
 Elective
 Developmental course requirement

XII. General Education Designator (if course is intended to satisfy a general education requirement check appropriate designator):

GCOM = Communications

GMAT = Mathematics

GDIV = Global and Cultural Awareness

GSCL = Science

GHIS = History

GSOC = Social Science

GHUM = Humanities

GTEC = Technological Competency

XIII. Catalog Description:

This course considers elementary data analysis, probability and sampling distributions. It uses the normal and t-distributions to introduce estimation and hypotheses testing. It includes descriptive techniques and inference for simple linear regression and correlation. Analyses of variance, nonparametric tests and Chi-Square tests are covered in this course. Emphasis is placed on experimentation and the application of statistical methods to the biological sciences. Computer software is used regularly in data manipulation, statistical analyses, and formal presentation of results.

XIV. Course Objectives (Learning Outcomes):

The student will be able to

- organize and summarize empirical data for biological studies.
- conduct and interpret results of inferential statistical data analysis for biological studies.
- conduct and interpret in linear regression and correlation analyses for biological studies.
- conduct and interpret nonparametric statistical analyses for biological studies.

XV. Textbook(s): Statistics for the Life Sciences, 5th Edition, Samuels, Witmer & Schaffner, ©2016, ISBN-13: 9780133940787

XVI. Other Course Materials to be supplied by Student: Laboratory notebook, lab coat, permanent black marker, black ink pen (not gel ink), calculator.

XVII. Grading Policy (number and weight of papers, quizzes, examinations, and rubrics)

Lab Reports (2 reports)	11%
Lab Assignments (12 labs)	20%
Lab Participation	2%
Homework	5%
Exam 1	20%
Exam 2	20%
Exam 3	20%
Lecture Participation	2%

XVIII. Detailed Description of Project Final Examination (if applicable): N/A

XIX. Schedule of topics to be covered in Course:

Types of Data and Graphical Techniques
Distributions and Histograms
Measures of Center and Variability
The Normal Distribution
Scatterplots
Correlation
Least Squares Line and Descriptive Simple Linear Regression
Basic Probability (complementary events and the additive rule)
Conditional Probability and Independence
Random Sampling
Sampling Distributions
The Central Limit Theorem
Confidence Intervals for Means
Type I and Type II Errors
Tests for Normality
Confidence Intervals and Hypothesis Tests for Population Proportions
One Sample, Two Sample, and Paired t-tests
Chi Square Tests (Goodness of Fit, Independence, and Homogeneity)
Inference in Simple Regression
One-way ANOVA
Nonparametric Tests

XX. Schedule lab exercises (if applicable):

One-variable plots
Measures of Center & Variability; Boxplots
Two-variable Plots & Random Sampling
Experimental Design
Common Distributions in Biology
One-sample Confidence Intervals
Two-sample Confidence Intervals
T-tests
Blocking and Paired T-tests
Simple Linear Regression
One-way ANOVA
Non-Parametric Statistics
Chi-Square Tests

IAC Chair Approval Signature _____ Date: _____