COURSE DESCRIPTIONS

MATHEMATICS

MATH 5103: Linear Algebra II
Prerequisite: MATH 4003 or consent of the department of mathematics.
A continuation of MATH 4003 with emphasis on abstract vector spaces, inner product spaces, linear transformations, kernel and range, and applications of linear algebra.
Note: MATH 5103 Linear Algebra II may not be taken for credit after completion of MATH 4103 or equivalent.

MATH 5153: Applied Statistics II
Prerequisite: MATH 3153.
This course is a continuation of Math 3153 with emphasis on experimental design, analysis of variance, and multiple regression analysis. Students will be required to design and carry out an experiment, use a current statistical software package to analyze the data, and make inferences based upon the analysis.
Note: Math 5153 may not be taken for credit after completion of Math 4153 or equivalent.

MATH 5173: Advanced Biostatistics
Prerequisite: An introductory statistics course or permission of instructor.
This course will include analysis of variance, one factor experiments, experimental design with two or more factors, linear and multiple regression analysis, and categorical data analysis.

MATH 5243: Differential Equations II
Prerequisites: MATH 3243 and MATH 4003 or consent of the instructor.
A continuation of MATH 3243 with emphasis on higher order and systems of differential equations.

MATH 5273: Complex Variables
Prerequisite: MATH 2943.
An introduction to complex variables. This course will emphasize the subject matter and skills needed for applications of complex variables in science, engineering, and mathematics. Topics will include complex numbers, analytic functions, elementary functions of a complex variable, mapping by elementary functions, integrals, series, residues and poles, and conformal mapping.
Note: May not be taken for credit after the completion of MATH 4273 or equivalent.

MATH 5343: Introduction to Partial Differential Equations
Prerequisites: MATH 2934 and MATH 3243.
This course is an introduction to partial differential equations with emphasis on applications to physical science and engineering. Analysis covers the equations of heat, wave, diffusion, Laplace, Dirichlet and Neumann equations. Course is suitable for senior level or first year graduate students in Mathematics, Physics, and Engineering.

MATH 6213: Methods in Teaching Middle School Mathematics
Prerequisite: Permission of instructor.
The course is an exploration of inductive teaching models, techniques, strategies, and research for teaching mathematics in the middle school. Emphasis will be placed on constructivist learning.

MATH 6323: Methods in Teaching Secondary Mathematics
Prerequisite: Permission of the instructor.
The course is a study of materials, methods, and strategies for teaching mathematics in the secondary school. Emphasis will be placed on activity-based learning.

MATH 6881: Workshop
Prerequisite: Permission of instructor.
The workshop will require the equivalency of fifteen clock hours of instruction per credit hour.

MATH 6882: Workshop
Prerequisite: Permission of instructor.
The workshop will require the equivalency of fifteen clock hours of instruction per credit hour.

MATH 6883: Workshop
Prerequisite: Permission of instructor.
The workshop will require the equivalency of fifteen clock hours of instruction per credit hour.

MATH 6891: Independent Study
Open to graduate students who wish to pursue individual study or investigation of some facet of knowledge which complements the purpose of the University's graduate program. Students will be required to plan their studies and prepare formal written reports of their findings.
Note: The selected topic may not constitute any duplication of study leading to the accomplishment of a thesis.

MATH 6892: Independent Study
Open to graduate students who wish to pursue individual study or investigation of some facet of knowledge which complements the purpose of the University's graduate program. Students will be required to plan their studies and prepare formal written reports of their findings.
Note: The selected topic may not constitute any duplication of study leading to the accomplishment of a thesis.

MATH 6893: Independent Study
Open to graduate students who wish to pursue individual study or investigation of some facet of knowledge which complements the purpose of the University's graduate program. Students will be required to plan their studies and prepare formal written reports of their findings.
Note: The selected topic may not constitute any duplication of study leading to the accomplishment of a thesis.

MATH 6894: Independent Study
Open to graduate students who wish to pursue individual study or investigation of some facet of knowledge which complements the purpose of the University's graduate program. Students will be required to plan their studies and prepare formal written reports of their findings.
Note: The selected topic may not constitute any duplication of study leading to the accomplishment of a thesis.

MATH 6991: Project or Thesis Research Continuation
This course allows students additional time to research and compose their capstone project/portfolio.