Columbus State Community College  
Mathematics Department Public Syllabus

Course and Number: MATH 2415 – Ordinary and Partial Differential Equations
Credits: 4  Class Hours per week: 4  Prerequisites: C or higher in MATH 2153

DESCRIPTION OF COURSE (AS IT APPEARS IN THE COLLEGE CATALOG):
A study of the basic concepts and methods of solving ordinary and partial differential equations; slope fields; separable, linear, exact, Bernoulli, and homogeneous first order equations; systems of first order differential equations, homogeneous and nonhomogeneous second order linear equations; Fourier Series, Heat Equation, Wave Equation, and other separable partial differential equations; applications to physical sciences and engineering.

COURSE GOALS:
To acquaint the students with the basic methods of solving elementary ordinary and partial differential equations with an emphasis on applications. To further promote and develop students’ abilities to think and reason mathematically and prepare them for further study in engineering.

SPECIAL COURSE REQUIREMENTS:  None

GENERAL EDUCATION GOALS: This course addresses the following Columbus State general education goals:
Critical Thinking
Quantitative Literacy

TEXTBOOK, MANUALS, REFERENCES, AND OTHER REQUIRED MATERIALS:

CALCULATOR POLICIES
A graphing calculator is recommended.

GENERAL INSTRUCTIONAL METHODS: Lecture, discussion, demonstration, exploration and discovery exercises with the use of visual aids, graphing calculators, and/or computer resources.

STANDARDS AND METHODS FOR EVALUATION:
Grades will NOT be “curved”, “skewed”, or otherwise “inflated” and no retests are to be given. The test schedule listed in this day-by-day is a suggestion only, and will be adjusted as necessary by each instructor.

The final exam should be comprehensive and count between 25-40% of the course grade preferably about  30%.
GRADING SCALE:
Letter grades for the course will be awarded using the following scale:

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\begin{align*}
\geq 90\% & - A \\
80-89\% & - B \\
70-79\% & - C \\
60-69\% & - D \\
< 60\% & - E
\end{align*}
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UNITS OF INSTRUCTION:
Introduction to ODEs
First Order ODEs
Second Order Linear Equations
Partial Differential Equations and Fourier Series
Systems of Differential Equations