

COURSE NAME/NUMBER**LEARNING OBJECTIVES / GOALS / OUTCOMES / LEARNING OUTCOMES:**

This course is designed to introduce students to basic techniques and applications of ordinary differential equations. Students will use graphing calculators and computer algebra software to solve realistic problems. The course sequence will be chosen to facilitate the concurrent teaching of Physics 221.

METHODS:

Lectures and computer labs, with considerable use of graphing calculators and mathematical software such as Maple.

PRIOR LEARNING ASSESSMENT RECOGNITION (PLAR):

Credit can be awarded for this course through PLAR (Please check :) Yes No

METHODS OF OBTAINING PLAR:**TEXTBOOKS, REFERENCES, MATERIALS:**

[Textbook selection varies by instructor. An example of texts for this course might be:]

Boyce & DiPrima

SUPPLIES / MATERIALS:**STUDENT EVALUATION:**

[An example of student evaluation for this course might be:]

This will vary somewhat with the instructor, but will typically be as follows:

Assignments and/or projects	20 – 25%
In-class tests	35 – 40%
Final examination	40%

COURSE CONTENT:

[Course content varies by instructor. An example of course content might be:]

1. First-order linear equations: includes separable variables, exact equations, integrating factors (1 week)
2. Second-order linear equations: includes review of complex numbers and Euler's identity, the D-operator, reduction of the order of the DE, variation of parameters (3 weeks)
3. Linear systems: includes sinusoidal forcing terms (2 weeks)
4. Non-linear equations and numerical methods (2 weeks)
5. Series solutions and recurrence relations (1.5 weeks)
6. LaPlace transforms (2 weeks)

